

Ref: AIL/DHJ/DIA/ENV/25-26/006
Date: 21.05.2025

ID: 58381

To,
Deputy Director General of Forests
Integrated Regional Office (IRO)
Ministry of Environment, Forest & Climate Change (MoEF&CC)
KARMAYOGI BHAWAN, Block-3, F-2 Wing, 5th Floor,
Near CH-3 Circle, Sector - 10A, Gandhinagar - 382010

Subject: Half Yearly Environment Clearance conditions compliance report for the period of October-2024 to March-2025.

Reference:- 1) Environment Clearance letter no SEIAA/GUJ/EC/5(f)/192/2023 dated 14/02/2023

Respected Sir,

In reference to the above mentioned subject, Unit is enclosing herewith the compliance Report for the period of October-2024 to March-2025 in respect to the above mentioned references of Environment Clearance and its Amendments for Expansion of Synthetic organic chemicals industry (dyes & dye intermediates) manufacturing unit located at Plot No. Z/103/C, Dahej SEZ-II, Tal. Vagra, Dist. Bharuch, Gujarat.

The unit has obtained and implemented below mentioned ECs and submitted condition wise compliance for the same.

1) Environment Clearance letter no SEIAA/GUJ/EC/5(f)/192/2023 dated 14/02/2023

Thanking You
Yours faithfully,

For Aarti Industries Limited

Authorized Signatory

Encl: EC Compliance with Annexures.

COPY TO:

1. The Member Secretary, GPCB, Gandhinagar
2. Email to The Regional Director, CPCB, Vadodara
3. Email to SEIAA, Gujarat
4. Uploaded in MOEF&CC(Parivesh) Portal

www.aarti-industries.com | CIN : L24110GJ1984PLC007301

Regd. Office : Plot No. 801, 801/23, IIrd Phase, GIDC Vapi-396195, Dist - Valsad. INDIA. T : 0260-2400366

Factory : Plot No. Z/103/C, Dahej Sez II, Tal. Vagra, Dist. Bharuch, Gujarat - 392130. INDIA.

Admin. Office : 71, Udyog Kshetra, 2nd Floor, Mulund Goregaon Link Road, Mulund (W), Mumbai - 400080, INDIA.

T : 022-67976666, F : 022-2565 3234 | E : info@aarti-industries.com

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

Compliance report of Environmental Clearance File No. SEIAA/GUJ/EC/5(f)/192/2023 Dated. 14/02/2023, Oct-24 to Mar-25

Sr. No .	Product Name	CAS No.	Quantity in MT/Annum				End Use of Product	Status															
			As per Existing EC	As per CCA Amendment No. AWH-11393 1 & AWH-11393 2	Proposed Change/Additional	Total After Expansion																	
A	Organic Chemicals																						
I	Hydrogenation Products & their Derivatives (43200 MT/Annum)																						
1	2, 5 Dichloro Aniline (2,5 DCA) And/Or	95-82-9	21780					<div>Complied</div> <table><tr><th rowspan="2">Month</th><th>Production (MT)</th></tr><tr><th>2, 5 Dichloro Aniline</th></tr><tr><td>Oct -24</td><td>874</td></tr><tr><td>Nov -24</td><td>235</td></tr><tr><td>Dec-24</td><td>795</td></tr><tr><td>Jan -25</td><td>1008</td></tr><tr><td>Feb-25</td><td>608</td></tr><tr><td>Mar -25</td><td>905</td></tr></table> <div>All products are under prescribed limits.</div>	Month	Production (MT)	2, 5 Dichloro Aniline	Oct -24	874	Nov -24	235	Dec-24	795	Jan -25	1008	Feb-25	608	Mar -25	905
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Oct -24	874																						
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Mar -25	905																						
2	2. 5 Dichloro Aniline (Crude) (2,5 DCA) And/Or	95-82-9	0																				
3	3,4 Di Chloro Aniline (3,4 DCA) And/Or	95-76-1																					
4	3,4 Dichloro Aniline (Crude) (3,4 DCA) And/Or	95-76-1																					
5	3,5 Dichloro Aniline (3,5 DCA)	626-43-7																					

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

	And/Or							
6	3,5 Dichloro Aniline (Crude) (3,5 DCA) And/Or	626-43-7						
7	Para Chloro Aniline (PCA) Either/Or	106-47-8						
8	Para Chloro Aniline (Crude) (PCA) And/Or	106-47-8						
9	2,4,5 Tri Chloro Aniline (2,4,5 TCA) And/Or	636-30-6						
10	2,4,5 Tri Chloro Aniline (Crude) (2,4,5 TCA) And/Or	636-30-6						
11	2,4 Di Chloro Aniline (2,4 DCA)/2, 6 Di Chloro Aniline (2,6 DCA) And/Or	554-00-7/ 608-31-1						


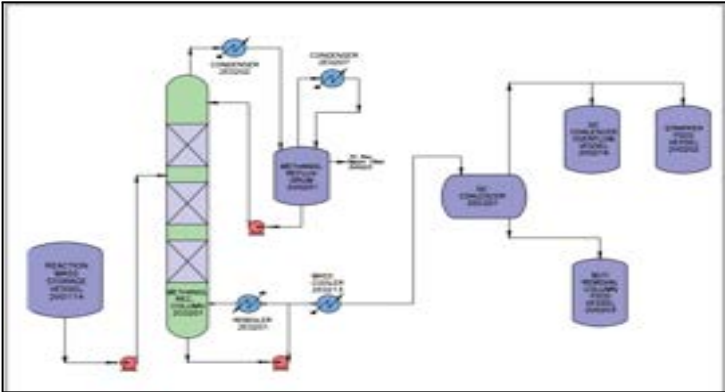
M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

12	Mixture of Di Chloro Aniline And/Or	Multiple 554-00-7 & 95-82-9 & 608-31-1																					
13	2,4 Di Chloro Aniline (2,4 DCA)(Crude)/2,6 Di Chloro Aniline (Crude)(2,6 DCA) And/Or	554-00-7/608-31-1																					
14	3-Chloro Ortho Toludine (3-COT) And/Or	87-60-5																					
15	3-Chloro Ortho Toludine (Crude) (3-Cot)	87-60-5																					
II	Diazotization Products & their derivatives (22380) MT/Annum)																						
1	2,5 Di Chloro Phenol (2,5 DCP) And/Or	583-78-8	18000	15600	4380	19980	Di Chloro Phenols are used as intermediates in the manufacture of more complex chemical compounds. It will be used as a raw material for chemical intermediates.	<div>Complied</div> <table><thead><tr><th rowspan="2">Month</th><th>Production (MT)</th></tr><tr><th>2, 5 Dichloro Phenol</th></tr></thead><tbody><tr><td>Oct -24</td><td>281</td></tr><tr><td>Nov -24</td><td>52</td></tr><tr><td>Dec-24</td><td>233</td></tr><tr><td>Jan -25</td><td>207</td></tr><tr><td>Feb-25</td><td>122.9</td></tr><tr><td>Mar-25</td><td>160</td></tr></tbody></table> <div>All products are under prescribed limits.</div>	Month	Production (MT)	2, 5 Dichloro Phenol	Oct -24	281	Nov -24	52	Dec-24	233	Jan -25	207	Feb-25	122.9	Mar-25	160
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2	2,3 Di Chloro Phenol (2,3 DCP) And/Or	576-24-9	0																				

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch


3	Crude of 2,5/2,3	583-78-8/ 576-24-9	0	0	19980			Dyes, Dyes intermediates, Basic Pharma, Intermediates, Pigments, Polymers																							
4	3,5 Dichloro Nitro benzene (3,5 DCNB) and/Or	618-62-2	0	2400	0	2400																									
5	Crude 3,5 Dichloro Nitro benzene (3,5 DCNB) and/Or	618-62-2	0	0	2400																										
A	Total of Organic Chemicals (A)		39870	39780	25800	65580																									
Inorganic Chemicals																															
1	Nitrosyl Sulphuric Acid	7782-78-7	17640	70620	13380	84000	Used in organic chemistry to prepare diazonium salts from amines	<div>Complied</div> <table><thead><tr><th rowspan="2">Month</th><th colspan="2">Production (MT)</th></tr><tr><th>NSA</th><th>H2SO4</th></tr></thead><tbody><tr><td>Oct -24</td><td>685</td><td>1776</td></tr><tr><td>Nov -24</td><td>939</td><td>294</td></tr><tr><td>Dec-24</td><td>729</td><td>1472</td></tr><tr><td>Jan -25</td><td>342</td><td>1100</td></tr><tr><td>Feb-25</td><td>506.992</td><td>871.2</td></tr><tr><td>Mar -25</td><td>315</td><td>1088</td></tr></tbody></table> <div>All products are under prescribed limits.</div>	Month	Production (MT)		NSA	H2SO4	Oct -24	685	1776	Nov -24	939	294	Dec-24	729	1472	Jan -25	342	1100	Feb-25	506.992	871.2	Mar -25	315	1088
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2	Sulphuric Acid (above 90% Concentration)	7664-93-9	28200	31320	56592	87912	Used in chemical industry for production of basic synthetic organic chemicals																								
B	Total of Inorganic Chemicals (B)		45840	101940	69972	171912																									
A+B	Total of Organic and inorganic Chemicals		85620	141720	95772	237492		Complied Average production of 4010 MT/Month in the compliance period (Oct 2024 to Mar 2025)																							

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Sr. No.	Points	Compliance
A. CONDITIONS:		
A.1 SPECIFIC CONDITIONS		
1	Unit shall install CEMS [Continuous Emission Monitoring System] in line to CPCB directions to all SPCB vide letter no B29016/04/06PCI-1/5401 dated 05.02.2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [For small/large/Medium/ (Red category) & Whichever (Air emission & Effluent Discharge) is applicable].	<p>Compiled</p> <p>Unit has provided a Continuous Monitoring System (CEMS) for wastewater discharge (COD, BOD, TSS, pH & Flow) and the same has been connected to GPCB & CPCB Server. The unit does not have a boiler. Hence, no OCEMS for air emission.</p> 
2	Close loop solvent recovery system with an adequate condenser system shall be provided to recover solvent vapors in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.	<p>Complied</p> <p>Unit has provided a close loop solvent recovery system with an adequate condenser system to recover solvent vapors. The PFD of solvent recovery system is as follows:</p> 

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

3	Leak detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.	<p>Complied</p> <p>As per CPCB guidelines, Unit has installed Instrumental methods for measurement of VOC detection at various locations to identify leak detection in plant areas to arrest on priority basis.</p> <p>We have different Instruments for the measurement of the VOC detection at the plant of different Places and all detectors are set as per the desired set point all are connected to the Hooter & DCS System.</p> <p>Hydrogen Detector System, Methanol Detector System, SO2 Detector System & Xylene Detector system.</p> <p>ANNEXURE-1</p>								
4	The National Ambient Air Quality Emission Standards issued by the ministry vide G.S.R No 826 (E) dated 16th November, 2009 shall be complied with.	<p>Complied</p> <p>The unit is carrying out Ambient Air monitoring as per the National Ambient Air Quality Standards (NAAQS) at upwind and downwind location by approved NABL / GPCB/MOEF&CC authorized party..</p>								
5	National Emission Standards for organic chemicals manufacturing industry issued by the ministry vide G.S.R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.	<p>Complied</p> <p>The unit is carrying out Process Stack Monitoring by an approved NABL / GPCB/MOEF&CC authorized party.</p>								
6	Unit Shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.	<p>Complied</p> <p>Unit has provided a Continuous Monitoring System (CEMS) for wastewater discharge (COD, BOD, TSS, pH & Flow) and the same has been connected to GPCB & CPCB Server.</p>								
7	All measures shall be taken to avoid soil and groundwater contamination within premises.	<p>Complied</p> <p>Unit has taken all necessary precautions and monitored the soil from time to time to eliminate soil & water contamination, all process areas are provided with proper flooring and catchment pit so that spills, if any, gets collected, transferred and properly treated in inhouse treatment systems. RCC flooring is provided for prevention of Soil contamination.</p>								
8	<p>Safety & Health:</p> <table><tr><td>A.</td><td>PP shall obtain Peso Permission for the storage and Handling of hazardous chemicals.</td></tr><tr><td>B.</td><td>PP shall provide Occupational Health Centre (OHC) as per the provision under the Gujarat Factories Rule 68-U.</td></tr></table>	A.	PP shall obtain Peso Permission for the storage and Handling of hazardous chemicals.	B.	PP shall provide Occupational Health Centre (OHC) as per the provision under the Gujarat Factories Rule 68-U.	<table><tr><td>A.</td><td><p>Complied</p><p>The Unit has obtained necessary approvals from the Chief Controller of Explosives and Concerned Government authorities as per MSIHC Rules 1989. PESO Certificate attached in ANNEXURE-II</p></td></tr><tr><td>B.</td><td><p>Complied</p><p>Unit has also developed OHC with all medical facilities with a factory medical officer and Staff Nurse.</p></td></tr></table>	A.	<p>Complied</p> <p>The Unit has obtained necessary approvals from the Chief Controller of Explosives and Concerned Government authorities as per MSIHC Rules 1989. PESO Certificate attached in ANNEXURE-II</p>	B.	<p>Complied</p> <p>Unit has also developed OHC with all medical facilities with a factory medical officer and Staff Nurse.</p>
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	C.	PP shall obtain fire safety certificate/Fire No-Objection Certificate (NOC) from the concern authority as per the prevailing Rules/Gujarat Fire Prevention and Life Safety Measures Act, 2106.	C.	Complied Unit has the Provisional Fire No Objection Certificate (NOC) and applied for the final NOC. ANNEXURE-III
	D.	Unit shall adopt functional operations /process automation system including emergency response to eliminate risk associated with the hazardous processes.	D.	Complied Unit had the automation system and the whole process was controlled by the DCS system.
	E.	PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.	E.	Complied Mock drill was conducted in every quarter by the safety dept and evacuation plan and emergency exit all are displayed in the manufacturing area.
	F.	PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.	F.	Complied
	G.	PP shall take all the necessary steps for control of storage Hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.	G.	Complied Unit has been constructed as per prevailing rules of government authorities for storage of flammable chemicals. Photographs has been attached as below: 
	H.	PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker /employee or labour within premises.	H.	Complied Unit has provided Proper PPE to the worker/employee and regularly training is provided.
	I.	Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.	I.	Complied Unit has installed flameproof electrical fittings in the plant premises.
	J.	Unit shall provide effective isolation for process area and storage of hazardous chemicals..	J.	Complied Unit has a proper isolated tank farm area for the storage of the Hazardous chemical and also the dyke pit constructed to control spillage of any chemicals.
	K.	Unit shall provide water sprinkler to the ammonia storage cylinder.	K.	Noted
	L.	Unit shall never store drum/barrels/carbous of incompatible material/chemical together.	L.	Complied Unit has a proper isolated tank for the storage of the materials/chemicals
	M.	Unit shall provide effective fire hydrants, water monitors & Foam application system at solvent storage area and unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire		

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

	<table><tr><td></td><td>emergency in solvent storage area.</td></tr><tr><td>N.</td><td>Unit shall provide effective isolation for process area and storage of Hazardous chemicals.</td></tr></table>		emergency in solvent storage area.	N.	Unit shall provide effective isolation for process area and storage of Hazardous chemicals.	<table><tr><td>M.</td><td>Complied Unit have the Effectively fire hydrants, water monitors & Foam application system at solvent storage</td></tr><tr><td>N.</td><td>Complied Unit has a proper isolated tank farm area for the storage of the Hazardous chemical and also the dyke pit constructed to control spillage of any chemicals.</td></tr></table>	M.	Complied Unit have the Effectively fire hydrants, water monitors & Foam application system at solvent storage	N.	Complied Unit has a proper isolated tank farm area for the storage of the Hazardous chemical and also the dyke pit constructed to control spillage of any chemicals.
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N.	Unit shall provide effective isolation for process area and storage of Hazardous chemicals.									
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A.2 WATER

9	<p>Total water requirement for the project shall not exceed 2433 KL. Unit shall reuse 438 KLD of treated industrial Effluent within premises. Hence, fresh water requirement shall not exceed 1995 KLD and it shall be met through GIDC water supply only. Prior permission from the concerned authority for withdrawal of water shall be obtained.</p>	<p>Complied</p> <p>Total Water Requirement is not exceeding 2433 KL/Day and fresh water requirement is not exceeding 1995 KL/Day and Recycle water is 438 KL/Day. Water consumption is under the prescribed limit.</p> <p>WATER CONSUMPTION DETAILS</p> <table><tr><th>Particular</th><th>Unit</th><th>Oct 24</th><th>Nov24</th><th>Dec24</th><th>Jan25</th><th>Feb25</th><th>Mar25</th></tr><tr><td rowspan="2">Fresh Water Consumptions (1253 KLD)</td><td>Total KL/Month</td><td>15358</td><td>12552</td><td>11279</td><td>12601</td><td>10422</td><td>13287</td></tr><tr><td>Average KLD</td><td>495.4</td><td>418.4</td><td>363.8</td><td>406.4</td><td>372</td><td>428.6</td></tr></table> <p>Water consumption is under the prescribed limit.</p>	Particular	Unit	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25	Fresh Water Consumptions (1253 KLD)	Total KL/Month	15358	12552	11279	12601	10422	13287	Average KLD	495.4	418.4	363.8	406.4	372	428.6
Particular	Unit	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25																		
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	Average KLD	495.4	418.4	363.8	406.4	372	428.6																		
10	<p>The industrial effluent generation from the project shall not exceed 359 KLD after expansion.</p> <p>No. SEIAA/CUJ/EC/5(f) /138/2024 Date - 01/02/2024</p> <p>Condition no. 10 shall now be read as under:</p> <p>Additional Condition:</p> <p>1. 448 KLD is total of 2 different effluent streams i.e., 255 KLD (197 From Manufacturing Process + 25 KLD from Scrubber + 33 KLD from Washing) and 193 KLD (164 KLD from cooling tower + 29 KLD Boiler Blowdown). As per SEAC recommendation 448 KLD may be typographical mistake and this condition shall be replace as Follows:</p> <p>a. Condition No. 11 of EC Order - 667 KLD i.e. 320 KLD (249 From Manufacturing Process + 38 KLD from Scrubber + 33 KLD from Washing) and 308 KLD (164 KLD from cooling tower + 29 KLD Boiler Blowdown + 82 KLD Softener Reject + 72 DM Reject).</p> <p>b. Total 359 KLD effluent (255 KLD partially treated effluent from manufacturing process, Scrubber and</p>	<p>Complied</p> <p>The effluent generation of the Unit is not exceeding 359 KL/Day. Waste Water generation and discharge is under the prescribed limit.</p> <p>EFFLUENT GENERATION DETAILS</p> <table><tr><th>Particular</th><th>Unit</th><th>Oct 24</th><th>Nov24</th><th>Dec24</th><th>Jan25</th><th>Feb25</th><th>Mar25</th></tr><tr><td rowspan="2">Industrial Effluent Generation)</td><td>Total KL/Month</td><td>4540</td><td>4295</td><td>5221</td><td>5526</td><td>4542</td><td>4763</td></tr><tr><td>Average KLD</td><td>146.45</td><td>143.16</td><td>168.41</td><td>178.25</td><td>162.21</td><td>153.64</td></tr></table>	Particular	Unit	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25	Industrial Effluent Generation)	Total KL/Month	4540	4295	5221	5526	4542	4763	Average KLD	146.45	143.16	168.41	178.25	162.21	153.64
Particular	Unit	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25																		
Industrial Effluent Generation)	Total KL/Month	4540	4295	5221	5526	4542	4763																		
	Average KLD	146.45	143.16	168.41	178.25	162.21	153.64																		

	<p>Washing + 104 KLD RO Reject) will be discharged to CETP, Dahej confirming to inlet norms of CETP.</p> <p>c. Total 308 KLD effluent (243 RO Recycle + 60 KLD MEE Condensate + 5 MT MEE Salt).</p> <p>Condition no. 10 shall now be read as under</p>																								
11	<p>Management of Industrial effluent shall be as under after expansion:</p> <ul style="list-style-type: none">➤ 255 KLD effluent generated (197 KLD from process, 25 KLD from scrubbers and 33 KLD from washing) shall be treated into in-house ETP plants (ETP-1 & ETP-2) and shall be taken into tertiary ETP.➤ 193 KLD effluent (164 KLD from cooling Blow down and 29 KLD from Boiler Blow down) shall be treated into inhouse ETP plant (ETP- and RO plant. RO reject (104 KLD) and shall be treated in tertiary treatment. <p>(Refer condition number 10 above as per received EC Corriganum as per file number No. SEIAA/CUJ/EC/5(f) /138/2024 Date - 01/02/2024)</p> <ul style="list-style-type: none">➤ Thus total 359 KLD treated effluent shall be discharge into CETP-Dahej after complying with the inlet norms of CETP prescribed by GPCB and ultimately disposal into the sea through GIDC drainage pipeline.	<p>Complied Refer compliance of condition no. 10 above.As per latest received EC Corriganum as per file number No. SEIAA/CUJ/EC/5(f) /138/2024 Date - 01/02/2024)</p> <p>EFFLUENT Discharge DETAILS</p> <table><tr><th>Particular</th><th>Unit</th><th>Oct 24</th><th>Nov24</th><th>Dec24</th><th>Jan25</th><th>Feb25</th><th>Mar25</th></tr><tr><td rowspan="2">WasteWater Discharge (KLD)</td><td>Total KL/Month</td><td>4732</td><td>4867</td><td>4898</td><td>5295</td><td>4621</td><td>4386</td></tr><tr><td>Average KLD</td><td>152.64</td><td>162.23</td><td>158</td><td>170.80</td><td>165.0</td><td>141.5</td></tr></table>	Particular	Unit	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25	WasteWater Discharge (KLD)	Total KL/Month	4732	4867	4898	5295	4621	4386	Average KLD	152.64	162.23	158	170.80	165.0	141.5
Particular	Unit	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25																		
WasteWater Discharge (KLD)	Total KL/Month	4732	4867	4898	5295	4621	4386																		
	Average KLD	152.64	162.23	158	170.80	165.0	141.5																		
12	<p>Domestic wastewater generation shall not exceed 57 Kl/Day for proposed project and it shall be treated in STP. It shall not be disposed off into a soak pit. Treated Sewage shall be utilized for gardening and plantation purpose within the premises after achieving on-land discharge norms prescribed by the GPCB.</p>	<p>Complied</p> <p>Domestic wastewater is treated in STP. Treated water used for gardening/cooling tower purposes.</p> <p>Domestic Waste Water Generation</p> <table><tr><th>Particular</th><th>Unit</th><th>Oct 24</th><th>Nov24</th><th>Dec24</th><th>Jan25</th><th>Feb25</th><th>Mar25</th></tr><tr><td rowspan="2">Domestic WasteWater (57 KLD)</td><td>Total KL/Month</td><td>596</td><td>567</td><td>736</td><td>562</td><td>430</td><td>419</td></tr><tr><td>Average KLD</td><td>19.22</td><td>18.9</td><td>23.74</td><td>18.12</td><td>15.35</td><td>13.51</td></tr></table>	Particular	Unit	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25	Domestic WasteWater (57 KLD)	Total KL/Month	596	567	736	562	430	419	Average KLD	19.22	18.9	23.74	18.12	15.35	13.51
Particular	Unit	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25																		
Domestic WasteWater (57 KLD)	Total KL/Month	596	567	736	562	430	419																		
	Average KLD	19.22	18.9	23.74	18.12	15.35	13.51																		
13	<p>During monsoon season when treated sewage effluent may not be required for the plantation/Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of wastewater outside the premises in any case.</p>	<p>Complied</p> <p>The treated STP water is being used for green belt and gardening development.</p>																							
14	<p>Unit shall provide a buffer water storage tank of adequate capacity for storage of treated wastewater during rainy days.</p>	<p>Complied</p> <p>Unit has an adequate buffer with two water storage tanks each of 300 kl capacity for holding the treated wastewater during the rainy days.</p>																							

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15	Unit shall discharge wastewater to CETP only after complying with norms prescribed by GPCB in order to achieve no adverse impacts on Environment and human health.	Complied Unit has the permission for the deep sea discharge through the GIDC pipeline. Before discharge, ensuring the norms as prescribed by the GPCB.
16	The PP shall ensure to dispose off waste water to the common facilities having valid CTO of GPCB.	Noted Currently the unit has the permission for the deep sea discharge through the GIDC common pipeline.
17	Treated wastewater shall be sent to CETP-Dahej only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.	Noted Unit has the permission for the deep sea discharge through the GIDC common pipeline.
18	The Unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.	Complied Unit has provided a metering facility at the Inlet and outlet of ETP and maintain records for the same.
19	Proper logbooks of ETP; reuse/recycle of treated/untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.	Complied Unit is maintaining a logbook of ETP, chemical consumption, quantities and qualities of effluent discharge and reuse, power consumption etc, and is furnished to the GPCB from time to time.

A.3 AIR

20 Unit shall not exceed fuel consumption for steam boilers and DG sets as mentioned below.

Sr. No	Stack Attached to	Stack Height in Meter	Fuel Consumption	Air Pollution Control System
Existing				
1	D.G. Set (3 Nos.) Capacity : 2000 KVA each	33	Diesel 1800 L/Hr	Stack with 33 M Height
Proposed Additional Total				
1	D.G. Set (1 Nos.) Capacity : 2000 KVA each	33	HSD 600 L/Hr	Stack with 33 M Height
2	D.G. Set (2 Nos.) Capacity : 2500 KVA each	33	HSD 1500 L/Hr	Stack with 33 M Height
3	Boiler (30 TPH)	48	Coal 6 MT/Hr	Dry Scrubber (Lime Dosing along with coal) + ESP
Total after Proposed Expansion				
1	D.G. Set (4 Nos.) Capacity : 2000 KVA each	33	HSD 2400 L/Hr	Stack with 33 M Height

Complied
Records of diesel consumption month-wise given as below:

Diesel Consumption

Month	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25
Limit	1800 Lit/Hr					
Total Diesel Consumption (Litre/Month)	480	465	495	565	430	*2356
Diesel Consumption (Litre/Hr)	0.65	0.65	0.67	0.78	0.64	3.17

*2356 Ltrs diesel consumption because of power grid issue in Dahej division on March month 2025.

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	<table><tr><td>2</td><td>D.G. Set (2 Nos.) Capacity : 2500 KVA each</td><td>33</td><td>HSD 1500 L/Hr</td><td>Stack with 33 M Height</td></tr><tr><td>3</td><td>Boiler (30 TPH)</td><td>48</td><td>Coal 6 MT/Hr</td><td>Dry Scrubber (Lime Dosing along with coal) + ESP</td></tr><tr><td colspan="5">Note: At present, 30 TPH steam is being taken from M/s. Aarti Industries Limited (unit-1), SEZ-II , Dahej (ID: 41201) and after expansion 70 TPH steam shall be taken from sister concern unit M/s. Aarti Industries Limited (Unit-1), Sez-II, dahej (ID: 41201)</td></tr></table>	2	D.G. Set (2 Nos.) Capacity : 2500 KVA each	33	HSD 1500 L/Hr	Stack with 33 M Height	3	Boiler (30 TPH)	48	Coal 6 MT/Hr	Dry Scrubber (Lime Dosing along with coal) + ESP	Note: At present, 30 TPH steam is being taken from M/s. Aarti Industries Limited (unit-1), SEZ-II , Dahej (ID: 41201) and after expansion 70 TPH steam shall be taken from sister concern unit M/s. Aarti Industries Limited (Unit-1), Sez-II, dahej (ID: 41201)								
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3	Boiler (30 TPH)	48	Coal 6 MT/Hr	Dry Scrubber (Lime Dosing along with coal) + ESP																
Note: At present, 30 TPH steam is being taken from M/s. Aarti Industries Limited (unit-1), SEZ-II , Dahej (ID: 41201) and after expansion 70 TPH steam shall be taken from sister concern unit M/s. Aarti Industries Limited (Unit-1), Sez-II, dahej (ID: 41201)																				
21	Unit shall provide Adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.	Complied. Unit has provided adequate stack height around 33 meter DG stack for flue gas emission.																		
22	Unit shall provide Adequate APCM with Process gas generation sources as mentioned below. <table><tr><td>Stack No.</td><td>Stack attached to</td><td>Stack Height in Meter</td><td>Air Pollution Control Measure (APCM)</td><td>Parameter</td><td>Permissible limit</td></tr><tr><td colspan="6">Existing As per CCA-AWH-113931</td></tr><tr><td>1</td><td>Scrubber Connected to Sulphur Dioxide reaction and</td><td>30</td><td>Alkali Scrubber</td><td>SO2 Acid mist/Sulphur trioxide (for plant Capacity per 100%</td><td>1250 mg/N m3 (2kg/ MT of 100% Conc. acid production)</td></tr></table>	Stack No.	Stack attached to	Stack Height in Meter	Air Pollution Control Measure (APCM)	Parameter	Permissible limit	Existing As per CCA-AWH-113931						1	Scrubber Connected to Sulphur Dioxide reaction and	30	Alkali Scrubber	SO2 Acid mist/Sulphur trioxide (for plant Capacity per 100%	1250 mg/N m3 (2kg/ MT of 100% Conc. acid production)	Complied Unit has an adequate scrubber as APCM with the process gas generation sources. Monthly Monitoring are carried out by an approved NABL / GPCB/MOEF&CC authorized party All parameters well within the limit ANNEXURE IV .
Stack No.	Stack attached to	Stack Height in Meter	Air Pollution Control Measure (APCM)	Parameter	Permissible limit															
Existing As per CCA-AWH-113931																				
1	Scrubber Connected to Sulphur Dioxide reaction and	30	Alkali Scrubber	SO2 Acid mist/Sulphur trioxide (for plant Capacity per 100%	1250 mg/N m3 (2kg/ MT of 100% Conc. acid production)															

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	Sulphuric Acid Plant			Concentration of Sulphuric acid (<300 Tone /Day)	70 mg/N m ³
2	Scrubber Connected to NSA	11	Alkali Scrubber	SO ₂	40 Mg/N m ³
3	Scrubber Connected to DCP	11	Alkali Scrubber	NO _x	25 Mg/N m ³
4	Scrubber Connected to tanks	11	Alkali Scrubber	VOC	–
5	Scrubber Connected to tanks	11	Alkali Scrubber	VOC	–
6	Common alkali scrubber for SO ₂ tank Farm	11	Alkali Scrubber	SO ₂	40 mg/N m ³
7	DCA plant vacuum storage pump	11	Water Scrubber	VOC	–
8	HNO ₃ tank	11	3 stage lime	NO _x	25 Mg/N m ³

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			scrub ber		
9	Liq SO3 and 25% oleum tank	11	Acid Scrub ber	SO2	40 mg/N m3
10	Sulph uric Acid Conce ntratio n plan (SAC)	11	Alkali Soray scrubb er	SO2 VOC	40mg/ Nm3 –
11	DCP plant: DCA Sulph ate Vent	11	Ventur i water scrubb er	SOZ VOC	40 mg/N m3 –
Proposed Total after Expansion					
1	Scrub ber Conne ctedto Sulph ur dioxid e reacti on and Sulhur ic Acid plant	30 (Com mon stack)	Alkali Scrub ber	SO2 Acid mist/S ulphur trioxid e (for plant Capac ity per 100% Conce ntratio n of Sulph uric acid (<300 Tone /Day)	1250 mg/N m3 (2kg/ MT of 100% Conc. acid produ ction) 70 mg/N m3
2	Scrub ber Conne cred to NSA		Alkali Scrub ber	SO2	40 Mg/N m3


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3	Scrubber Connected to DCP	11	Alkali Scrubber	NO _x	25 Mg/N m ³
4	Scrubber Connected to tanks	11	Alkali Scrubber	VOC	–
5	Scrubber Connected to tanks	11	Alkali Scrubber	VOC	–
6	Common alkali Scrubber for SO ₂ Tank Farm	11	Alkali Scrubber	SO ₂	40 mg/N m ³
7	DCA plant vacuum pump storage tank	11	Water Scrubber	VOC	–
8	HNO ₃ Tank Farm	11	3 Stage Alkali scrubber	NO _x	25 Mg/N m ³
9	Liq SO ₃ and 25% oleum tank	11	Acid Scrubber	SO ₂	40 mg/N m ³
10	Sulphuric Acid Concentration plan	11	Alkali Spray Scrubber	SO ₂ VOC	40mg/ Nm ³ –

	<table><tr><td></td><td>(SAC)</td><td></td><td></td><td></td><td></td></tr><tr><td>11</td><td>DCP Plant: DCA sulphate vent</td><td>11</td><td>Ventury Water Scrubber</td><td>SO2 VOC</td><td>40 mg/N m3 –</td></tr><tr><td>12</td><td>DCP Drum filling Scrubber</td><td>11</td><td>Alkali Scrubber</td><td>VOC</td><td>–</td></tr></table>		(SAC)					11	DCP Plant: DCA sulphate vent	11	Ventury Water Scrubber	SO2 VOC	40 mg/N m3 –	12	DCP Drum filling Scrubber	11	Alkali Scrubber	VOC	–	
	(SAC)																			
11	DCP Plant: DCA sulphate vent	11	Ventury Water Scrubber	SO2 VOC	40 mg/N m3 –															
12	DCP Drum filling Scrubber	11	Alkali Scrubber	VOC	–															
23	Unit shall use approved fuels only as fuel in boilers and DG set.	Complied Unit has used approved fuels only in DG sets..																		
24	<p>The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of industry Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.</p> <ul style="list-style-type: none">➤ Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.➤ Air Borne dust shall be Controlled with water sprinklers at suitable location in the plant.➤ A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.	<p>Complied Unit has followed below guidelines to reduce the fugitive emissions in the work zone.</p> <ul style="list-style-type: none">➤ Internal roads have been concreted. Photograph of the same is given in Point No. 7➤ Water sprinklers have been provided at suitable locations in the plant. <div></div>																		



		<p>➤ Green belt has been developed in and around the plant boundary and roads to mitigate fugitive & transport dust emission.</p> 
25	Regular Monitoring of volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.	<p>Complied</p> <p>Unit is doing regular monitoring Volatile Organic Compounds carried out in the work zone area and ambient air</p>
26	<p>For control of Fugitive emission,VOCs, following steps shall be followed:</p> <ul style="list-style-type: none"> ➤ Closed Handling and charging system shall be provided for chemicals. ➤ Reflux condenser shall be provided over Reactors /Vessels. ➤ Pumps shall be provided with mechanical seals to prevent leakages. ➤ Air Borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures. 	<p>Complied</p> <ul style="list-style-type: none"> ➤ Closed handling and charging systems have been provided for chemicals. ➤ Reflux condenser has been provided over Reactors / Vessels. ➤ Pumps have been provided with mechanical seals to prevent leakages. ➤ The plant is operated by a DCS system. ➤ Unit has provided an enclosure system for air borne dust at all transfer operations.

		
26	<p>Solvent Management shall be carried out as follows:</p> <ul style="list-style-type: none"> ➤ Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvent shall be minimum. All venting equipment shall have vapour recovery system. ➤ Reactor shall be connected to adequate chilling system to condensate solvent vapor and reduce solvent losses. ➤ Reactor and solvent handling pump shall have mechanical seals to prevent leakages. ➤ The Condensers shall be provided with sufficient HTA and residence time so as to achieve maximum solvent recovery. ➤ Solvents shall be stored in a separate space specified with all safety measures. ➤ Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. ➤ Solvent storage and handling area shall be flame proof the solvent storage tanks shall be provided with breather valve to prevent losses. 	<p>Complied</p> <ul style="list-style-type: none"> ➤ Unit has the proper solvent recovery system and to avoid the emission process running in a closed loop system. ➤ Reactors connected with the chilling system to condensate the solvent vapor and reduce the vapor losses. ➤ Pumps have been provided with mechanical seals to prevent leakages. ➤ The condenser has the proper adequate HTA area with residence time to achieve Maximum Solvent Recovery System. ➤ Unit has provided a dedicated storage space area for the Solvent Storage tank. ➤ Unit has provided the proper earthing with all electrical equipment wherever solvent handling is done. ➤ All the solvent storage area has been flame proof with the breather Valve to prevent losses.
28	<p>Regular Monitoring of Ground level concentration of PM10, PM2.5, SO2, NOx, and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.</p>	<p>Complied</p> <p>The unit is carrying out Ambient Air monitoring as per the National Ambient Air Quality Standards (NAAQS) at upwind and downwind location by approved NABL / GPCB/MOEF&CC authorized party ANNEXURE V..</p>
A.4 SOLID/HAZARDOUS WASTE:		

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All the Hazardous/Solid waste management shall be taken care as mentioned below:

Sr. No	Name of Hazardous Waste	category	Source of Waste Generation	Quantity in MT/year Except for Batteries in Nos.				Hazardous Waste Disposal & Management Facility
				Existing as per EC	Existing as Per CCA	Proposed Change/Additional	Total After EC Expansion	
1	ETP Waste	35.3	From ETP	4800	4800	3376	8176	Collection, Storage, Transportation and Disposal to TSD F/Co-processing.
2	Distillation residue	26.1	From Processes	4200	4074.48	6045.52	10120	Collection, Storage, Transportation Disposal at CHW IF/Pre-Processing/Co-processing.
3	Gypsum	B2080	-	7200	7200	-7200	0	NA Discontinue
4	Sulphur Sludge	B2040	From Processes	84	84	488	572	Collection, Storage, Transportation Disposal at

Complied

Annual Generation & Disposal Quantity of Hazardous/Solid waste management is as Follows:

Waste	Limit (MT)	Oct 24	Nov24	Dec24	Jan25	Feb25	Mar25
		Disposal					
Distillation Residue	10120	10.08	30.31	51.94	32.51	38.24	38.38
ETP Waste	8176	17.68	0	48.6	44.87	64.5	18.65
Used Oil	30	0	0	0	0.830	0	0
Insulation Waste	40	0	0	4.16	0	0	2.12
NRP waste	60	0	0	0	0	0	0
Discarded Containers/Bags	100	0	0.94	0	0.92	1.710	0
Spent Carbon	120	10.29	45.06	50.24	4.470	0.00	0.00
MEE Salt	1825	0.00	0.00	8.01	9.56	0.00	0.00

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								TSD F/CH WIF/ Co-pr ocess ing.
5	Discar ded Contai ners/B ags	33.1	From Plant	Whats oever Gener ated	Whats oever Gener ated	100	100	Colle ction, Stora ge, Deco ntami natio n,Tra nspor tation , Dispo sal by Sold to autho rize recyc lers or Colle ction, Stora ge, Trans portat ion, Dispo sal of Conta minat ed Bags/ Conta iners to TSD F/CH WIF/ Pre-p roces sing/ Co-pr ocess ing.
6	Used Oil	5.1	From plant	6	6	24	30	Colle ction, Stora ge, Trans

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								portat ion, Dispo sal by sellin g to regist ered repro cesso rs.
7	Insulat ion Waste	S1	From Plant	Whats oever Gener ated	Whats oever Gener ated	40	40	Colle ction, Stora ge, Trans portat ion,D ispos al by TSD F Site.
8	No Recycl able plastic waste/ PPE/B ags/Co tton Waste	S4	From Plant	25	25	35	60	Colle ction, Stora ge, Deco ntami natio n,Tra nspor tation , Dispo sal by Sold to autho rize recyc lers or Colle ction, Stora ge, Trans portat ion, Dispo sal of Conta minat ed Bags/

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

								Containers to TSD F/CH WIF/ Pre-processing/ Co-processing.
9	Spent Carbon	36.2	From Processes	60	60	60	120	Collection, Storage, Transportation Send to TSD F/CH WIF/ Co-processing/ Pre-Processing.
10	Spent Catalyst	1-26.5	From Processes	3.6	3.6	13.68	17.28	Collection, Storage, Transportation Sent for regeneration and recycled back OR disposal to TSD F
11	MEE/ DEE/ ATFD Salt (sodium Sulphate)	35.3	From Processes	1260	1260	565	1825	Collection, Storage, Transportation & Sold

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								to autho rized actual end users havin g rule -9 permi ssion or TSD F	
	13	Spent Sulph uric Acid	B-15 Sched ule-II	From Proces s	0	0	12745	12745	Colle ction, Stora ge, Trans portat ion & Sold to autho rized actual end users havin g rule -9 permi ssion or USE D intern ally as raw mater ial.
	14	Spent Resin	35.2	From Proces s	0	0	5	5	Colle ction, Stora ge, Trans portat ion, Sent for Co-pr ocess ing/P re- Proce ssing/ TSD

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

								F/CH WIF
15	RO Memb rane/ cartrid ge Filter	36.2	From RO Unit	0	5	5	10	Colle ction, Stora ge, Trans portat ion dispo sal by at TSD F
16	Filter Cloths	36.2	From Unit	0	5	5	10	Colle ction, Stora ge, Trans portat ion dispo sal by at TSD F/CH WIF.
17	Cotton Waste	33.2	From Unit	1	1	4	5	Colle ction, Stora ge, Trans portat ion, Dispo sal at TSD F/CH WIF
18	Glass Waste	S7	From Plant	2	2	3	5	Colle ction Stora ge, Trans portat ion, Dispo sal/ Sold to Scrap Proce ssors
19	PPE Waste	33.2	From Plant	0	0	40	40	Colle ction, Stora ge,

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

	<table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Trans portat ion and dispo sal at Com mon TSD F or CHW IF</td></tr></table>										Trans portat ion and dispo sal at Com mon TSD F or CHW IF			
									Trans portat ion and dispo sal at Com mon TSD F or CHW IF					
30	Authorized end users shall have permissions from the concerned authorities under the Rule-9 of the Hazardous and other wastes (Management and Transboundary Movement) Rule 2016.	Complied At Present unit is not sending any hazardous waste to the end users under rule 9.												
31	Unit Shall Explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of incinerable and land fillable wastes before sending to CHWIF & TSDF sites respectively.	Compiled. Unit is exploring all the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of incinerable and land fillable wastes												
32	The project Proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.	Complied Unit has received membership from BEIL & SEPPL. Membership certificate copy from CHWIF and TSDF of the same are attached in Point No. 66												
33	The unit shall submit the list of authorized end users of hazardous wastes along with MOU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of there items, the unit shall restrict the production of the respective items.	Noted. Unit has submitted the MOU with authorized end users of hazardous wastes.												
A. 5 OTHER:														
34	The project proponent shall carry out the activities of amount of Rs.0.87 Crores (funds for Environment & renewable energy resources, Health & Hygiene) Proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F . NO. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of the Half yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.	Complied The project proponent has complied with all the conditions mentioned in "The Companies (Corporate Environment Responsibility Policy) Rules 2014" and its amendments from time to time. The CER/CSR activities list have been below <table><tr><th>Name of Associated NGO</th><th>Nature of Work</th><th>Amount (Rs.)</th></tr><tr><td>Gram Vikas Trust</td><td>Donation for Vidya Sarthi Project</td><td>250,000</td></tr><tr><td>Gram Vikas Trust</td><td>Donation for Vidya Sarthi Project</td><td>250,000</td></tr><tr><td>Jan Seva & Charitable Trust</td><td>Grocery, Uniform,</td><td>460,000</td></tr></table>	Name of Associated NGO	Nature of Work	Amount (Rs.)	Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000	Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000	Jan Seva & Charitable Trust	Grocery, Uniform,	460,000
Name of Associated NGO	Nature of Work	Amount (Rs.)												
Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000												
Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000												
Jan Seva & Charitable Trust	Grocery, Uniform,	460,000												

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		<table> <tr> <td></td><td>Notebooks Cost & Salary for Computer teacher for Tribal Girls Hostel</td><td></td></tr> <tr> <td>Gram Vikas Trust</td><td>Donation for Vidya Sarthi Project</td><td>250,000</td></tr> <tr> <td></td><td>Total</td><td>12,10,000</td></tr> </table>		Notebooks Cost & Salary for Computer teacher for Tribal Girls Hostel		Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000		Total	12,10,000
	Notebooks Cost & Salary for Computer teacher for Tribal Girls Hostel										
Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000									
	Total	12,10,000									
35	All the recommendations , mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Enpro Enviro Tech and Engineers Pvt. Ltd and submitted by the project proponent and commitments made during presentation before SEAC and proposed in the EIA report shall be strictly adhered to in letter and spirit.	<p>Complied</p> <p>All the recommendation and mitigation measures environmental protection measures and safeguards submitted in EIA report has implemented.</p>									
B. GENERAL CONDITIONS: B.1 CONSTRUCTION PHASE:											
36	Water Demand during construction shall be reduced by use of curing agents, super plasticizers and other best construction practices.	<p>Complied</p> <p>Construction phase is over. Unit has converted EC to CCA. Unit is also obtained CCA- AWH - 135512 issued date 09/09/2024. Unit has also applied renewal of the CCA Inward number - 327471.</p>									
37	Project proponent shall ensure that surrounding environment shall not be affected due to construction activity. Construction materials shall be covered during transportation and regular water sprinkling shall be done in vulnerable areas for controlling fugitive emission.	<p>Complied</p> <p>Construction phase is over. Unit has converted EC to CCA. Unit is also obtained CCA- AWH - 135512 issued date 09/09/2024. Unit has also applied renewal of the CCA Inward number - 327471.</p>									
38	All required sanitary and hygienic measures shall be provided before starting the construction activities and to be maintained throughout the construction phase.	<p>Complied</p> <p>Construction phase is over. Unit has converted EC to CCA. Unit is also obtained CCA- AWH - 135512 issued date 09/09/2024. Unit has also applied renewal of the CCA Inward number - 327471.</p>									
39	First Aid Box shall be made readily available in adequate quantity at all the times.										
40	The project proponent shall strictly comply with the Building and other Construction Workers' (Regulation of Employment & Conditions of Services) Act 1996 and Gujarat rules made there under their subsequent amendments. Local bye-laws of concern authority shall be complied in letter and spirit.										
41	Ambient noise levels shall conform to residential standards both during day and night. Incremental										

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	pollution load on the ambient air and noise quality shall be closely monitored during the construction phase.	
42	Use of Diesel Generator (DG) sets during the construction phase shall be strictly equipped with acoustic enclosure and shall conform to the EPA Rules for air and noise emission standards.	
43	Safe disposal of waste water and municipal solid wastes generated during the construction phase shall be ensured.	
44	All topsoil excavated during construction activity shall be used in horticulture/ landscape development within the project site.	
45	Excavated earth to be generated during the construction phase shall be utilized within the premises to the maximum extent possible and balance quantity of excavated earth shall be disposed off with the approval of the competent authority after taking the necessary precautions for general safety and health aspects. Disposal of the excavated earth during the construction phase shall not create an adverse effect on neighboring communities.	
46	Project proponents shall ensure use of eco-friendly building materials including fly ash bricks, fly ash paver blocks, Ready Mix Concrete (RMC) and lead free paints in the project.	
47	Fly ash shall be used in construction wherever applicable as per provisions of Fly Ash Notification under the E.P. Act, 1986 and its subsequent amendments from time to time.	
48	“Wind-Breaker of appropriate height i.e. 1/3rd of the building height and maximum upto 10 meters shall be provided. Individual building within the projects site shall also be provided with barricades.	
49	“No uncovered vehicles carrying construction material and waste shall be permitted.	
50	“No Loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform Piling and proper storage of sand to avoid fugitive emissions shall be ensured.”	
51	Roads leading to or at construction site must be paved and blacktopped (i.e. metallic roads).	
52	No excavation of soil shall be carried out without adequate dust mitigation measures in place.	

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53	Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.	
54	Grinding and cutting of building materials in open areas shall be prohibited.	
55	Construction materials and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.	
56	Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable).	
B.2 OPERATION PHASE		
B.2.1 WATER:		
57	The water meter shall be installed and records of daily and monthly water consumption shall be maintained.	Complied Unit has installed water meters and maintains the record on a daily and monthly basis.

		
58	<p>All efforts shall be made to optimize water consumption by exploring Best Available Technology (BAT). The unit shall continuously strive to reduce, recycle and reuse the treated effluent.</p>	<p>Complied</p> <p>The unit had adopted Best Available Technology (BAT) to reduce, recycle and reuse the treated effluent. The unit has provided Primary, Secondary and Tertiary treatment consisting of ETP, RO & MEE. The unit will reuse permeate/condensate generated from RO, DEE & MEE in the cooling tower.</p>



MEE Plant




RO plant





ETP Plant

B.2.2 AIR:		
59	In case of use of spray dryer, the unit shall provide the adequate & efficient APCMs with spray dryer so that there should not be any adverse impact on human health & environment. Unit shall carry out third party monitoring of the proposed Spray dryer & its APCM through the credible institutes and study report for the impacts on Environment and Human Health shall be submitted to GPCB every year along with a half yearly compliance report.	Noted. As of now the unit has not installed any spray dryer system as it is not the process requirement.
60	Acoustic enclosure shall be provided to the DG sets (If applicable) to mitigate the noise pollution and shall conform to the EPA Rules for air and noise emission standards.	Complied Unit has provided Acoustic enclosure to DG sets to mitigate the noise pollution and shall conform to the EPA Rules for air and noise emission standards.
61	Stack/Vents (Whichever is applicable) of adequate height shall be provided as per the prevailing norms for flue gas emission/Process gas emission.	Complied. Unit has provided adequate stack height around 33 meter DG stack and scrubber around 11 meter for flue gas/ process gas emission.
62	Flue gas emission & Process gas emission (If any) shall conform to the standards prescribed by the GPCB/CPCB/MoEF&CC. At no time, emission level should go beyond the stipulated standards.	Complied Flue gas emission & Process gas emission conform to the standards prescribed by the GPCB/CPCB/MoEF&CC. At no time, emission level should go beyond the stipulated standards.
63	All the reactors/ vessels used in the manufacturing process shall be closed to reduce the fugitive emission.	Complied


		All reactors and vessels are in a closed loop. There is no fugitive emission.
B.2.3 HAZARDOUS/SOLID WASTE		
64	The company shall strictly comply with the rules and regulations with regards to handling and disposal of hazardous waste in accordance with the Hazardous and Other Waste (Management and Transboundary Movement) Rules 2016, as may be amended from time to time. Authorization of the GPCB shall be obtained for collection/treatment/storage/ disposal of hazardous wastes.	<p>Complied</p> <p>Unit is strictly complying with all the regulations mentioned in Hazardous waste rule, 2016 (Manifest-Form 10/Labeling-Form 8/ TREM Card- Form 9/Maintain Records- Form 3/ Annual return submission- Form 4 etc. If required in future we will do amendments from time to time.</p>
65	Hazardous waste shall be dried, packed and stored in a separate designated hazardous waste storage facility with pucca bottom and leachate collection facility, before its disposal.	<p>Complied</p> <p>Unit has provided a hazardous waste storage area with a pucca bottom and leachate collection facility.</p> 
66	The unit shall obtain necessary permission from the nearby TSDF site and CHWIF. (Whichever is applicable)	<p>Complied</p> <p>Unit has received membership from BEIL & SEPPL.</p>
67	Trucks/Tankers used for transportation of hazardous waste shall be in accordance with the provisions under the Motor Vehicle Act, 1988 and rules made there under.	<p>Complied</p> <p>Unit is ensuring to deploy trucks/Tankers as per the provisions under the Motor Vehicle Act, 1988 and rules made there under for the transportation of hazardous waste. Unit is Following the AIS 140 based GPS tracking System for all the Hazardous Waste Vehicle.</p>
68	The design of the Trucks/ tankers shall be such that there is no spillage during transportation.	<p>Complied</p> <p>Unit is ensuring to deploy trucks/Tankers suitable for hazardous waste so that there will not be any leakage / spillage during transportation.</p>
69	All possible efforts shall be made for Co-Processing of the Hazardous waste prior to disposal into TSDF/CHWIF.	<p>Complied</p> <p>Unit is putting all efforts to pre-treat / process the hazardous waste before disposal to TSDF / CHWIF.</p>


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70	Management of fly ash (If any) shall be as per the Fly Ash Notification 2009 & its amendment time to time and it shall be ensures that there is 100% utilization of fly ash to be generated from the unit.	Complied Fly ash is not being generated from the unit since unit has not installed any boiler. Unit has permission to take steam from adjacent sister concern unit as per EC.
B.2.4 SAFETY		
71	The occupier/ manager shall strictly comply with the provisions under the Factories Act 1948 and Gujarat Factories Rules 1963.	Complied The occupier has strictly complied with the provisions under the Factories Act 1948 and Gujarat Factories Rules 1963.
72	The project authorities shall strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules (MSIHC) 1989, as amended time to time and the Public Liability Insurance Act for Handling of hazardous chemicals etc. Necessary approvals from the Chief Controller of Explosive and concerned Govt. Authorities shall be obtained before commissioning of the project. Requisite On-site and Off-site Disaster Management Plans have to be prepared and implemented.	Complied The Unit has obtained necessary approvals from the Chief Controller of Explosives and Concerned Government authorities as per MSIHC Rules 1989. PESO Certificate attached in ANNEXURE-II On-site and Off-site Disaster Management Plans have been prepared and implemented and Same has been submitted to DISH and same has been attached in ANNEXURE-VI
73	Main entry and exit shall be separate and clearly marked in the facility.	Complied Main entry & Exit were separated and have been constructed marked clearly. Photographs of Entry  Photograph of Exit 

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74	Sufficient peripheral open passage shall be kept in the margin area for free movement of fire tender/ emergency vehicle around the premises.	Complied Sufficient peripheral open passage is provided in the margin area for free movement of fire tender/ emergency vehicle around the premises.
75	Storage of flammable chemicals shall be sufficiently away from the production area.	Complied Unit has constructed Storage of flammable chemicals shall be sufficiently away from the production area.
76	Sufficient number of fire extinguishers shall be provided near the plant and storage area.	Complied Unit has provided 307 numbers of fire extinguishers near the plant and storage area. The fire extinguishers are installed in all the process plants such as DCA, DCP, SAC-CR Plant, NSASO2 Plant as well as in ETP, OHC, Admin, Canteen etc.
77	All necessary precautionary measures shall be taken to avoid any kind of accident during storage and handling of toxic/ hazardous chemicals.	Complied Unit is ensuring to take necessary precautions as per the prevailing rules of government authorities for storage and handling of toxic and hazardous chemicals.
78	All the toxic/ hazardous chemicals shall be stored in optimum quantity and all necessary permissions in this regard shall be obtained before commencing the expansion activities.	Complied Unit will ensure to maintain optimum quantities of toxic / hazardous chemicals. All necessary permissions are obtained in this regard before commencing the expansion activities.
79	The project management shall ensure to comply with all the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment Report.	Complied The unit has adhered to the environment protection measures, risk mitigation measures and safeguards mentioned in the Risk Assessment Report. The letter submitted to DISH for Risk Assessment Report, Safety Audit Report, QRA study. The same has been attached in Annexure-VII The unit has implemented all preventive and mitigation measures suggested in the Risk Assessment Report. Annexure-VIII
80	Only flameproof electrical fittings shall be provided in the plant premises.	Complied Unit has installed flameproof electrical fittings in the plant premises.
81	Storage of hazardous chemicals shall be minimized and it shall be in multiple small capacity tanks/ containers instead of on single large capacity tank/ containers.	Complied Unit has restricted the use of single large capacity tanks/ containers and 1 number of tanks are installed for the RM and pure product storage in the Tank farm area.

82	All the storage tanks shall be fitted with appropriate controls to avoid any leakages. Bund/ dyke walls shall be provided for storage tanks for hazardous Chemicals.	<p>Complied</p> <p>Unit has installed necessary engineering controls to avoid leakages and hazardous chemical storage tanks have been installed inside a Bund/ dyke wall.</p> <p>Photograph is attached as below:</p> 
83	Handling and charging of the chemicals shall be done in closed manner by pumping or by vacuum transfer to that minimal human exposure occurs.	Unit has taken all necessary measures to minimize the human exposure to hazardous chemicals by closed loop pumping / vacuum transfer.
84	Tie up shall be done with nearby health care unit/ doctor for seeking immediate medical attention in the case of emergency.	<p>Complied</p> <p>Unit has tied up with nearby health care units/ doctors for seeking immediate medical attention in the case of emergency.</p> <p>Unit has also developed OHC with all medical facility with factory medical officer and staff. The Unit have tie up with Sunshine Global Hospital, Healing Multispeciality Hospital and Baroda Heart Hospital for immediate medical attention in the case of emergency at the Bharuch District.</p> <p>The same has been attached in Annexure-IX</p>
85	Personal Protective Equipment (PPEs) shall be provided to workers and its usage shall be ensured and supervised.	<p>Complied</p> <p>Unit has maintained around 50 types of Personal Protective Equipment (PPEs) and provided the same to workers. Unit has encouraged and ensured that PPE's are used by workers as per the requirement for a particular job role.</p> <p>PPEs- Helmet, Goggles, Safety Shoes, Full body safety suit, Double anchored safety harness, Cartridge mask, antistatic hand gloves, bubble hood etc.</p>

86	First Aid Box and required Antidotes for the chemicals used in the unit shall be made readily available in adequate quantity.	<p>Complied</p> <p>14 Numbers of First Aid Box are available and required Antidotes (Methylene Blue, Dipotherene, etc) for the chemicals used in the unit are available in OHC at site.</p>  <table data-bbox="855 701 1581 795"><tr><th colspan="2">self Care kit</th></tr><tr><th colspan="2">Emergency Contact No.</th></tr><tr><td>OHC Intercome</td><td>3553/3554</td></tr><tr><td>Ambulance</td><td>706 9007 938</td></tr><tr><td>Dr.Avanika</td><td>635 9951 251</td></tr><tr><td>Dr. ...</td><td>706 ...</td></tr></table>	self Care kit		Emergency Contact No.		OHC Intercome	3553/3554	Ambulance	706 9007 938	Dr.Avanika	635 9951 251	Dr. ...	706 ...
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Emergency Contact No.														
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Dr. ...	706 ...													
87	Training shall be imparted to all the workers on safety and health aspects of chemicals handling.	<p>Complied</p> <p>Training is given to all employees on safety and health aspects of chemical handling. Pre-employment and routine periodical medical examinations for all employees are done on a regular basis. Training to all employees on handling chemicals is imparted regularly.</p>												

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88	Occupational health surveillance of the workers shall be done and its records shall be maintained. Pre-employment and periodical medical examination for all the workers shall be undertaken as per the Factories Act & Rules.	<p>Complied</p> <p>Occupational health surveillance of the workers is carried out on a half yearly basis and records are maintained as per the factory act. Following check up has been carried out in periodical medical checkup.</p> <ul style="list-style-type: none"> - General checkup (height, weight, pulse, BP etc) - Blood test (RBC, WBS, hemoglobin, platelets, blood group, differential count, G6PD etc) - Urine test (physical, chemical and microbial examination etc) - Vision test - Pulmonary function test - Audiometry - ECG - met Hb for specific workers
89	Transportation of hazardous chemicals shall be done as per the provisions of the Motor Vehicle Act and Rules.	<p>Complied</p> <p>We ensure that the Transportation of hazardous chemicals is being done as per the provisions of the Motor Vehicle Act and Rules.</p>
90	The company shall implement all preventive and mitigation measures suggested in the Risk Assessment Report.	<p>Complied</p> <p>The unit has implemented all preventive and mitigation measures suggested in the Risk Assessment Report.</p>
91	Necessary permissions from various statutory authorities like PESO, Factory Inspectorate and others shall be obtained prior to commissioning of the project.	<p>Complied</p> <p>Necessary permission has been taken from PESO. Also Unit has obtained Factory License No. 41555 , dated: 1st February, 2020</p>

B.2.5 NOISE

92

The overall noise level in and around the plant area shall be kept well within the standards by providing noise control measures including engineering controls like acoustic insulation hood, silencers, enclosures etc on all sources of noise generation. The ambient noise level shall confirm to the standards prescribed under The Environment (Protection) Act, 1986 & Rules.

Complied

The Unit has taken necessary noise control measures by providing engineering controls like acoustic insulation hood, silencers, enclosures etc on all sources of noise generation. Unit is monitoring noise level month wise in the operation phase report attached [Annexure X](#).

Details of Noise Monitoring

All the parameters under prescribed limit

Location	GPCB Limit		Month											
			Oct 24		Nov24		Dec24		Jan25		Feb25		Mar25	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night		
	Noise Level dB (A)													
Near ETP area	75 dB (A)	70 dB (A)	69.	52.	68.	51.	66.	62.	63.	58.	62.	57.	65.	58.
			2	2	5	5	2	3	2	2	5	8	8	6

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		Near D.G. Set	71.2	50.5	70.6	66.2	72.5	66.4	71.5	67.2	70.2	66.4	72.3	68.3
		Near Main Gate	60.5	51.5	59.7	53.4	60.1	55.8	62.3	58.4	63.1	57.5	65.3	58.5
		Near DCA Plant	69.1	53.2	67.3	61.2	68.4	61.5	65.4	62.2	64.2	60.2	66.7	62.4
		Near Material Gate	64.1	52.6	63.7	58.4	61.4	56.5	62.4	57.3	63.4	58.4	65.6	58.9
		All the parameters under prescribed limit												

B.2.6 CLEANER PRODUCTION AND WASTE MINIMISATION

93	The unit shall undertake the Cleaner Production Assessment study through a reputed institute /organization and shall form a CP team in the company. The recommendations thereof along with the compliance shall be furnished to the GPCB.	Complied Cleaner Production Assessment study has been carried out by an approved institute of Pacific School of Engineering, Surat Approved by AICTE, New Delhi & Affiliated to GTU, Ahmedabad. Cleaner Production Assessment study report is attached as an Annexure-XI
94	<p>The company shall undertake various waste minimization measures such as:</p> <p>Metering and control of quantities of active ingredient to minimize waste</p> <p>Reuse of by-products from the process as raw materials or as raw materials substitutes.</p> <p>Use of automated and close filling to minimize spillages.</p> <p>Use of a close feed system into batch reactors.</p> <p>Venting equipment through vapour recovery system.</p> <p>Use of high pressure hoses for clearing to reduce wastewater generation.</p> <p>Recycling of washes to subsequent batches. Recycling of steam condensate.</p> <p>Sweeping/ mopping of floor instead of floor washing to avoid effluent generation.</p> <p>Regular preventive maintenance for avoiding leakages, spillages etc.</p>	<p>Complied</p> <p>The Unit has implemented waste minimization measures as mentioned below but not limiting to:</p> <p>Unit has taken all the possible action for the control of quantities of active ingredients to minimize waste.</p> <p>Unit has taken all the possible action for reuse of by-products from the process as raw materials or as raw materials substitutes.</p> <p>Unit has installed automated and close filling to minimize spillages.</p> <p>Closed feed system into batch reactors is in practice.</p> <p>Venting equipment through a vapour recovery system is in practice.</p> <p>Unit uses high pressure hoses for clearing to reduce wastewater generation.</p> <p>Unit is doing Recycling of washes to subsequent batches. Unit is doing Recycling of steam condensate.</p> <p>Unit is doing Sweeping/mopping the floor instead of floor washing to avoid effluent generation.</p> <p>Unit has done Regular preventive maintenance for avoiding leakages, spillages etc.</p>

B.2.7 GREEN BELT AND OTHER PLANTATION

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95	The unit shall develop green belt within premises as per the CPCB guidelines. However, if the adequate lane is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in GIDC estate or any other open areas in consultation with the GIDC/ GPCB and submit an action plan of plantation for next three years to the GPCB.	<p>Complied</p> <p>The greenbelt has been developed and maintained by the unit regularly.</p> <p>Total area of plot :- 54803.04 m2</p> <p>Greenbelt within Plant Premises :- 10367.85 m2 ,</p> <p>Greenbelt at common plot of Dahej SEZ II :- 2120.84 m2</p> <p>Green Belt at Luvara Village:- 5700 m2</p> <p>Total Green Belt :- 18188.69 m2</p> <p>photographs for the same attached as below:</p> 
96	Drip irrigation/ low-volume, low-angle sprinkler system shall be used for the green belt development within the premises.	<p>Complied</p> <p>Unit has provided a low-angle sprinkler system for the green belt development within the premises.</p>
97	The PP shall develop green belt within premises((Green belt within premises: 10367.85 m2 (18.92%) + Boundary Side Greenbelt: 2120.84 m2 (3.86%), out side Green belt: (in luvara village located at 0.9km from the project site):5700 m2 (10.22%) i.e.Total: 18188.69m2 (33.18%) of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with the native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.	<p>Complied</p> <p>The greenbelt has been developed and maintained by the unit regularly.</p> <p>Total area of plot :- 54803.04 m2</p> <p>Greenbelt within Plant Premises :- 10367.85 m2 ,</p> <p>Greenbelt at common plot of Dahej SEZ II :- 2120.84 m2</p> <p>Green Belt at Luvara Village:- 5700 m2</p> <p>Total Green Belt :- 18188.69 m2</p> <p>photographs for the same attached as per above.</p>
B.3 OTHER CONDITION		
98.	Project Proponent shall provide mechanism/System for wastewater stream segregation at source and strictly follow up to treatment and final disposal of the same if applicable.	<p>Complied</p> <p>Unit has done the proper segregation for the wastewater stream and strictly follow up the same</p>

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

99.	The projects Covered under category 5(f) shall undergo the safety and environment audit regularly as per the standards laid down by the GPCB & CPCB.	Complied ne Unit had allotted the schedule-1 auditor as per the GPCB.
100 .	PP shall carry out the safety audit and risk assessment report as per the prevailing guidelines of the safety.	Complied Unit has done the safety audit and risk assessment as per the guideline of the safety.
101 .	Management of Fly ash shall be as per the Fly ash Notification 2009 & its amendment from time to time and it shall be ensured that there is 100% utilization of Fly ash to be generated from the unit.	Noted. Currently at unit fly ash has not been generated.
102 .	EMP should invariably include provisions for environmental monitoring and measures for noise pollution control measures.	Complied. Noise monitoring is being carried out by an approved NABL / GPCB/ MOEF&CC authorized party . The noise levels in the plant conform to the standards prescribed in the EPA Act, 1986.
103 .	In EMP proponent should separately indicate majors of occupational health, fire and safety measures.	Complied EMP attached as an Annuxure-XII
104 .	Prior EC is granted is subject to the proponent receiving all statutory permission/clearances /certificates and membership of respective agencies/authorities whichever applicable. Proponent shall inform progress from time to time , in monthly compliance report to MOEFCC/SEIAA/SEAC/GPCB failing to which this provision EC will stand withdrawn.	Complied Unit has received fresh CC&A order No AWH-108072, dated 10/09/2020, Valid upto 19/02/2025 and further amendment was done with AWH-113931 dated on 22/09/2021 & AWH-113932 dated on 08/10/2021 and then latest CCA - AWH - 135512 dated 09.09.2024.
105 .	Wherever wastewater or chemical water to be collected by tankers and transported to CETP etc. and diversion and disposal in open drainage (nallah) etc. causing human and environmental damage or loss will make it liable for action under the law.	Noted Unit was not transferring any wastewater or chemical water through the tanker to the CETP. All the generated wastewater are treated In House ETP.
106 .	All transport movement by tankers etc has to be done with maintenance of gate pass and logbook it should be verified by the inspecting authorities.	Noted
107 .	Non-Hazardous waste data shall be informed to GPCB time to time so as to make an assessment and tie-up with industry for generating sustainable power from the waste.	Complied
108 .	All chemical pharma industry etc. should ensure predictive and preventive maintenance of factory/boiler and reactive show as to avoid incident of fire and safety hazards.	Noted Unit will ensure that the predictive and preventive maintenance of factory/boiler and reactive systems show as to avoid incidents of fire and safety hazards.
109 .	EMP should include STP and detail cost including maintenance, transportation of wastewater to CETP/CMEE etc as well as transport cost or transit cost.	Noted Unit was not transferring any wastewater or chemical water through the tanker to the CETP. All the generated wastewater are treated In House ETP.

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110 .	In LDAR preventive & predictive maintenance plan.	As per CPCB guidelines, Unit has installed Instrumental methods for measurement of VOC detection at various locations to identify leak detection in plant areas to arrest on priority basis. Attached in Point -3
111 .	In LDAR leakage component , source of equipment leak, detention method should be given in table form.	As per CPCB guidelines, Unit has installed Instrumental methods for measurement of VOC detection at various locations to identify leak detection in plant areas to arrest on priority basis. We have different Instruments for the measurement of the VOC detection at the plant of different Places and all detectors are set as per the desired set point all are connected to the Hooter & DCS System. Hydrogen Detector System, Methanol Detector System, SO2 Detector System & Xylene Detector system. All are Directly connected with the DCS system.
112 .	In storage component should be shown separately in terms whether inflammable, toxic,corrosive, reactive etc.	Complied
113 .	In case of Fly ash generation its management and disposal should be as per Government of India Notification and 100% utilization should be ensured.	Noted. Unit has not generated any Fly ash within the premises.
114 .	Project Proponent shall install all environment management system as per the CPCB/GPCB directives regarding the effluent discharge and air emission in working condition.	Compiled Unit has provided a Continuous Monitoring System (CEMS) for wastewater discharge (COD, BOD, TSS, pH & Flow) and the same has been connected to GPCB & CPCB Server. The unit does not have a boiler. Hence, no OCEMS for air emission.
115 .	Project proponent shall display the copy of Environment clearance at the site prominently.	Complied
116 .	Project proponent shall prepare and follow regular and preventive maintenance plan. The copy of same shall be submitted to SEIAA.	Complied Unit had the proper preventive maintenance plan and unit are doing on regularly basis to avoiding leakages, spillages etc
117 .	Project Proponent will have to display the safety procedure in working area.	Complied
118 .	The project proponent shall obtain all required permissions for safety, health and fire from competent authorities like PESO/Fire Authority etc. and intimate SEIAA.	Complied Unit had obtained the all necessary permission form the Competent authorities.
119 .	Project Proponent will intimate SEIAA/SEAC/GPCB after obtaining the membership of common facilities like CETP/TSDF/CHWIF/CMEE/Common Spray Dryer as the case may be.	Complied Unit has obtained the membership of common facilities like CETP/TSDF/CHWIF and same has been attached as an Annuxure-XIII
120 .	Extra care will be taken by PP to avoid any accidental blast in boiler,reactor or any machinery in the plant.	Noted Unit will take extra care to avoid any accidental blast in boiler,reactor or any machinery in the plant

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121	Environment monitoring, training and disaster management plan should be undertaken and complied at regular interval.	Complied Unit had an onsite & Offsite disaster management plan and it was compiled on a regular interval.																		
122	Integrated Regional Office of MoEF&CC, Gandhinagar and GPCB will monitor all environment, safety & Health norms as per the prevailing rules.	Complied Unit has provided a Continuous Monitoring System (CEMS) for wastewater discharge (COD, BOD, TSS, pH & Flow) and the same has been connected to GPCB & CPCB Server.																		
123	The PP has to maintain the logsheets/registers/manifest/gatepass for discharge through tankers and SCADA system for pipeline discharge for the waste water generation and its disposal data and submit to the GPCB every Quarter. GPCB shall verify the same on regular basis and inform SEIAA and take legal action in the cases of non-compliance.	NOTED Unit was not transferring any wastewater or chemical water through the tanker to the CETP. All the generated wastewater are treated In House ETP.																		
124	Unit shall comply all the applicable standard conditions prescribed in office memorandum (OM) published by MoEF&CC vide no.F.No. 22-34/2018-IA.III dated 01/05/2018 for pharmaceutical and Chemical industries mentioned at (Sr. no.XX)	Noted & Complied																		
125	The Project proponent shall allocate the separate fund for Corporate Environment Responsibility (CER) in accordance to the MoEFCC's Office memorandum No. F.No.22-65/2017-IA.III dated 01/05/2018 to carry out the activities under CER in affected area around the project. The entire activities proposed under CER shall be monitored and the monitoring report shall be submitted to the regional office of MoEFCC as a part of Half-yearly compliance report and to district collector. The Monitoring report shall be posted on the website of the project proponent.	<p>Complied The project proponent has complied with all the conditions mentioned in "The Companies (Corporate Environment Policy) Rules 2014" and its amendments from time to time. The CER/CSR activities list have been below</p> <table border="1"> <thead> <tr> <th>Name of Associated NGO</th><th>Nature of Work</th><th>Amount (Rs)</th></tr> </thead> <tbody> <tr> <td>Gram Vikas Trust</td><td>Donation for Vidya Sarthi Project</td><td>250,000</td></tr> <tr> <td>Gram Vikas Trust</td><td>Donation for Vidya Sarthi Project</td><td>250,000</td></tr> <tr> <td>Jan Seva & Charitable Trust</td><td>Grocery, Uniform, Notebooks Cost & Salary for Computer teacher for Tribal Girls Hostel</td><td>460,000</td></tr> <tr> <td>Gram Vikas Trust</td><td>Donation for Vidya Sarthi Project</td><td>250,000</td></tr> <tr> <td></td><td>Total</td><td>12,10,000</td></tr> </tbody> </table>	Name of Associated NGO	Nature of Work	Amount (Rs)	Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000	Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000	Jan Seva & Charitable Trust	Grocery, Uniform, Notebooks Cost & Salary for Computer teacher for Tribal Girls Hostel	460,000	Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000		Total	12,10,000
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Gram Vikas Trust	Donation for Vidya Sarthi Project	250,000																		
	Total	12,10,000																		
126	Rain water harvesting of surface as well as rooftop runoff shall be undertaken and the same water shall be used for the various activities of the project to conserve fresh	Noted & will be complied Rain water harvesting tank with the capacity of 50 KL is provided for the Storage of RainWater for using the collected water during the																		

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

	water as well as to recharge ground water. Before recharging the surface run off, pre-treatment must be done to remove suspended matter.	monsoon. Area has been identified for the Rainwater harvesting system Now the PR/PO is completed & construction activity is started.
127 .	The unit shall join and participate financially and technically for any common environmental facility/ infrastructure as and when the same is taken up either by the Industrial Association or GIDC or GPCB or any such authority created for this purpose by the Govt./GIDC.	Complied The unit will participate financially and technically for any common environmental facility/ infrastructure as and when the same is taken up either by the Industrial Association or SEZ / GIDC or GPCB or any such authority created for this purpose by the Govt.
128 .	Application of solar energy shall be incorporated for illumination of common areas, lighting for gardens and street lighting in addition the provision for solar water heating system shall also be provided.	Complied . Solar energy had been incorporated for illumination of common areas, lighting etc.
129 .	The area earmarked as green area shall be used only for plantation and shall not be alerted for any other purpose.	Complied The greenbelt has been developed and maintained by the unit regularly. Budget Data for Green Belt Total area of plot :- 54803.04 m2 Greenbelt within Plant Premises :- 10367.85 m2 , Greenbelt at common plot of Dahej SEZ II :- 2120.84 m2 Green Belt at Luvara Village:- 5700 m2 Total Green Belt :- 18188.69 m2
130 .	All the commitments/ undertakings given to the SEAC during the appraisal process for the purpose of environmental protection and management shall be strictly adhered to.	Complied Unit has strictly adhered to the commitments/ undertakings given to the SEAC during the appraisal process for the purpose of environmental protection and management.
131 .	The project proponent shall also comply with any additional condition that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose for the environmental protection and management.	Complied We will comply with any additional conditions that may be imposed by the SEAC or the SEIAA or any other competent authority for the purpose of environmental protection and management.
132 .	In the event of failure of any pollution control system adopted by the unit, the unit shall be safely closed down and shall not be restarted until the desired efficiency of the control equipment has been achieved.	Complied In the event of failure of any pollution control system, the unit will be safely closed down and will not be restarted until the desired efficiency of the control equipment has been achieved. The plant is controlled by DCS system.
133 .	The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB), State Government and any statutory authority.	Complied The unit is strictly adhering to the stipulations made by the Gujarat Pollution Control Board (GPCB), State Government and any statutory authority.
134 .	During material transfer there shall be no spillages and garland drain shall be constructed to avoid mixing of accidental spillages with domestic wastewater or storm water.	Complied 1. Unit has ensured no spillages during material transfer and garland drains have been constructed to avoid mixing of accidental spillages with domestic wastewater or stormwater.

2. For transfer of material to a tanker or tanker to a tank, a dyke wall has been made to prevent spillage and mixing with domestic & stormwater.
3. For the transfer of effluent to ETP, dedicated pits with automated pumps are present to prevent overflow.
photos of garland tank, dyke wall, dedicated pits with automated pumps



135 .	Pucca flooring/ impervious layer shall be provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination.	Complied Pucca flooring has been provided in the work areas, chemical storage areas and chemical handling areas to minimize soil contamination. Photographs of the same are Given in Point no. 7.
136 .	Leakages from Pipes,pumps shall be minimal and if occurs shall be arrested promptly.	Complied Unit had the proper preventive maintenance plan and unit are doing on regularly basis to avoiding leakages, spillages etc

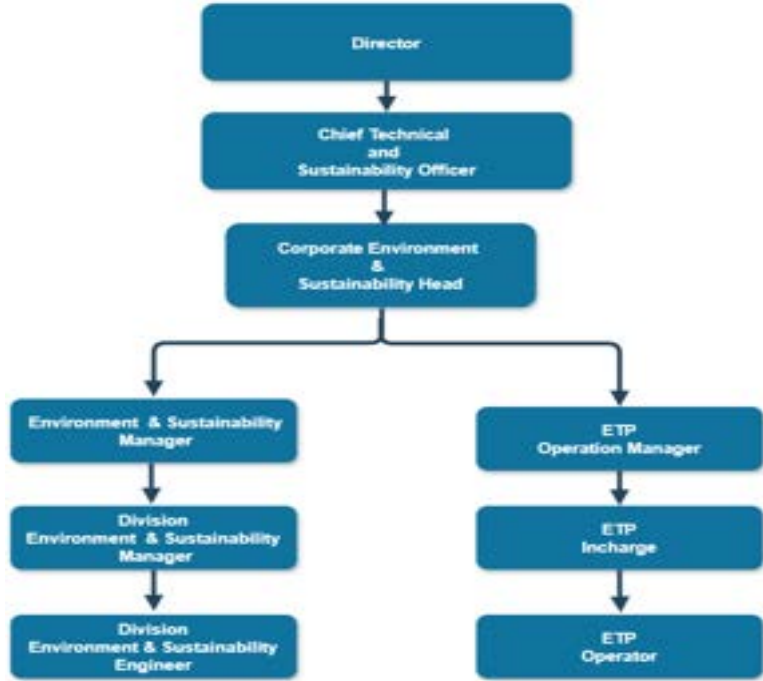
M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

137	No further expansion or modifications in the plant likely to cause environmental impacts shall be carried out without obtaining prior Environment Clearance from the concerned authority.	Complied Unit has ensured to not take up any further expansion or modifications in the plant likely to cause environmental impacts without obtaining prior Environment Clearance from the concerned authority.
138	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Noted. We will implement and follow all the rules and regulations under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules. Annexure-XIV
139	The project proponent shall comply with all the conditions mentioned in “The Companies (Corporate Social Responsibility Policy) Rules 2014” and its amendments from time to time in a letter and spirit.	Complied The project proponent has complied with all the conditions mentioned in “The Companies (Corporate Social Responsibility Policy) Rules 2014” and its amendments from time to time. The CER/CSR activities list given in condition no.125.
140	The project management shall ensure that the unit complies with all the environmental protection measures, risk mitigation measures and safeguards recommended in the EMP report and Risk Assessment study report as well as proposed by project proponent.	Complied. Unit has complied with all the environmental protection measures, risk mitigation measures and safeguards recommended in the EMP report and Risk Assessment study report. The same has been attached in Annexure-XII .
141	The project authorities shall earmark adequate funds to implement the conditions stipulated by SEIAA as well as GPCB along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Complied The Unit has provided adequate funds and has not diverted the funds provided to implement the conditions stipulated by SEIAA as well as GPCB. The unit has allocated funds towards expenses of operation for waste water treatment plant, environmental monitoring, auditing and Hazardous waste disposal.
142	The applicant shall inform the public that the project has been accorded environmental clearance by the SEIAA and that the copies of clearance letter are available with the GPCB and may also be seen at the Website of SEIAA/SEAC/ GPCB. This shall be advertised within seven days from the date of the clearance letter, in at least two local newspapers that are widely circulated in the region, one of which shall be in Gujarati language and the other in English. A copy of each of the same shall be	Complied The advertisement regarding the environmental clearance was given in the local newspapers and the copy of the same was submitted to the concerned regional office.

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

	forwarded to the concerned Regional Office of the Ministry.	
143 .	It shall be mandatory for the project management to submit a half-yearly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard and soft copies to the regulatory authority concerned on 1st June and 1st December of each calendar year.	Complied Last half yearly compliance report for the period of April 2024 to September 2024 submitted on the date of 28/11/2024
144 .	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted.
145 .	The project authorities shall also adhere to the stipulations made by the Gujarat Pollution Control Board.	Complied Unit will strictly adhere to the stipulations made by the Gujarat Pollution Control Board.
146 .	The SEIAA may revoke or suspend the clearance, if implementation of any of the above conditions is not found satisfactory.	Noted.
147 .	The company in a time bound manner shall implement these conditions. The SIEAA reserves the right to stipulate additional conditions, if the same is found necessary.	Noted.
148 .	The project authorities shall inform the GPCB, Regional Office of MoEF and SEIAA about the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Complied Unit has received fresh CC&A order No AWH-108072, dated 10/09/2020, Valid upto 19/02/2025 and further amendment was done with AWH-113931 dated on 22/09/2021 & AWH-113932 dated on 08/10/2021 and then latest CCA - AWH - 135512 dated 09.09.2024.
149 .	This environmental clearance is valid for Ten years from the date of issue.	Noted.
150 .	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted.
151 .	Submission of any false or misleading information or data which is material to screening of scoping or appraisal or decision on the application makes this environment clearance cancelled.	Noted.
B.4 COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:		
152 .	Project proponent shall submit certified compliance report of IRO, gandhinagar for Existing EC obtained within 10 days.	Complied

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

153 .	Project Proponent shall inform all the concerned authorities including Municipal Corporation and District Collector and shall give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.	Complied Attached Point no. 142.
154 .	Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition full on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of Compliance. Any Change in key person shall immediately be informed to SEIAA and all concern authorities.	Complied Environment Management Unit/Cell is shown below:  <pre> graph TD Director[Director] --> CTSO[Chief Technical and Sustainability Officer] CTSO --> CESH[Corporate Environment & Sustainability Head] CESH --> EMS[Environment & Sustainability Manager] CESH --> ETPOM[ETP Operation Manager] EMS --> DEM[Division Environment & Sustainability Manager] DEM --> DESE[Division Environment & Sustainability Engineer] ETPOM --> ETPIn[ETP Incharge] ETPIn --> ETPOp[ETP Operator] </pre>
155 .	Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MoEF&CC, GPCB and Nodal Department of the Government.	Complied Last half yearly compliance report for the period of April 2024 to September 2024 submitted on the date of 28/11/2024
156 .	The Nodal Department or any authority or officer authorized by MoEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.	Noted.
157 .	In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per environment protection Act, 1986 including SEIAA may cancel , withdraw or keep in abeyance, the Environment Clearance accorded.	Noted
158 .	Any Person including the project proponent affected by this Environment clearance order may file appeal to Honorable National Green Tribunal West Zone Branch, Pune, Preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.	Noted

M/s. Aarti Industries Ltd(Unit-II), Plot no. Z/103/C, GIDC Estate, SEZ-II, Dahej, Dist. Bharuch

159 .	All Complaints and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com & (b) seacgujarat@gmail.com	Noted
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Annuxure I

SR NO	TAG	TYPE	LOCATION	INST RANGE	CALIBRATION RANGE	CALIBRATION DATE	DUE DATE
1	H2-001	Hydrogen	QC LAB GAS BANK (Gnd Floor)	0-100% LEL	0-50% LEL	19.02.2025	19.08.2025
2	H2-002	Hydrogen	GC LAB	0-100% LEL	0-50% LEL	19.02.2025	19.08.2025
3	H2-003	Hydrogen	GC LAB	0-100% LEL	0-50% LEL	19.02.2025	19.08.2025
4	H2-004	Hydrogen	GCMS ROOM	0-100% LEL	0-50% LEL	19.02.2025	19.08.2025
5	H2-005	Hydrogen	General Lab	0-100% LEL	0-50% LEL	19.02.2025	19.08.2025
6	H2-006	Hydrogen	Inside R&D Lab (autoclave room)	0-100% LEL	0-50% LEL	19.02.2025	19.08.2025
7	O2-001	Oxygen(Inflation/Deflation)	GC ROOM	0-30 % Volume	15% Volume	19.02.2025	19.08.2025
8	O2-002	Oxygen(Inflation/Deflation)	GCMS ROOM	0-30 % Volume	15% Volume	19.02.2025	19.08.2025
9	O2-003	Oxygen(Inflation/Deflation)	General Lab	0-30 % Volume	15% Volume	19.02.2025	19.08.2025
10	O2-004	Oxygen(Inflation/Deflation)	Inside R&D Lab (autoclave room)	0-30 % Volume	15% Volume	19.02.2025	19.08.2025
11	O2-005	Oxygen(Depletion Type)	Duct -1 (Above Document Room)	0-30 % Volume	15% Volume	19.02.2025	19.08.2025
12	O2-006	Oxygen(Depletion Type)	QC LAB DUCT 2	0-30 % Volume	15% Volume	19.02.2025	19.08.2025
13	NH3-001	Ammonia	Duct -1 (Above Document Room)	100 PPM	50 PPM	19.02.2025	19.08.2025
14	NH3-002	Ammonia	QC LAB DUCT 2	100 PPM	50 PPM	19.02.2025	19.08.2025
15	CO-001	Carbon Monoxide	Duct -1 (Above Document Room)	1000 PPM	500 PPM	19.02.2025	19.08.2025
16	CO-002	Carbon Monoxide	QC LAB DUCT 2	1000 PPM	500 PPM	19.02.2025	19.08.2025
17	H2S-001	Hydrogen sulphide	Duct -1 (Above Document Room)	100 PPM	50 PPM	19.02.2025	19.08.2025
18	H2S-002	Hydrogen sulphide	QC LAB DUCT 2	100 PPM	50 PPM	19.02.2025	19.08.2025
19	AT-1103	Hydrogen	H2 PRS Station -Gnd Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
20	AT-1104	Hydrogen	2P0103 Top -Gnd Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
21	AT-1106	Hydrogen	2V0105 Top- 2nd Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
22	AT-1107	Hydrogen	2R0101 to 2E0101 Line - 3 rd Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
23	AT-1109	Hydrogen	2V0110 Top- 3 rd Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
24	AT-1110	Hydrogen	2E0104 Top -5 th Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
25	AT-1111	Hydrogen	Vent Header- 5 th floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
26	AT-1108	Methanol	2V0201 Top- 4 th Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
27	AT-1105	Methanol	2P0101 A Gnd Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
28	AT-1101	Methanol	2V0118 Methanol Storage Tank Gnd floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
29	AT-1102	Methanol	P-116A/B -Gnd floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
30	AT-1112	Methanol	2V0103 Top -2nd Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
31	AT-1113	Methanol	On DCA XYLENE Tank	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
32	5-ANT-0104	So2 Gas	ABOVE 5-R-0101	0 to 20 PPM		19.02.2025	19.08.2025
33	5-ANT-0106	So2 Gas	AT BUFFER TANK 5V0106	0 to 20 PPM		19.02.2025	19.08.2025
34	5-ANT-0208	So2 Gas	ABOVE 5-R-0202	0 to 20 PPM		19.02.2025	19.08.2025
35	5-ANT-0107	So2 Gas	BESIDE 5-R-0101	0 to 20 PPM		19.02.2025	19.08.2025
36	5-ANT-0105	So2 Gas	BESIDE SPARGER TANK	0 to 20 PPM		19.02.2025	19.08.2025
37	5-ANT-0103	So2 Gas	ABOVE SPARGER TANK 5-A-0101	0 to 25 PPM		19.02.2025	19.08.2025
38	5-ANT-0108	So2 Gas	BETWEEN 5-R-0203& 5-R-0202	0 to 25 PPM		19.02.2025	19.08.2025
39	5-ANT-0109	So2 Gas	ABOVE SULFUR MELTER	0 to 20 PPM		19.02.2025	19.08.2025
40	4-AT-0317	Xylene	CR PLANT 2nd Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
41	4-AT-0318	Xylene	CR PLANT 1st Floor	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025
42	2-AT-0201	Methanol	RECOVERD MEOH		0-100% LEL	19.02.2025	19.08.2025
43	2-AT-0202	Methanol	RECOVERD MEOH		0-100% LEL	19.02.2025	19.08.2025
44	2-AT-0203	Methanol	2-V-0104 SAMPLE VALVE		0-100% LEL	19.02.2025	19.08.2025
45	9-AT-1001	ozone	OZONE GENERATER		0-10 ppm	19.02.2025	19.08.2025
46	9-AT-1002	ozone	OZONE GENERATER		0-10 ppm	19.02.2025	19.08.2025
47	9-AT-0904	Xylene	ETP PHENOL PLANT		0-100% LEL	19.02.2025	19.08.2025
48	9-AT-0905	Xylene	ETP PHENOL PLANT		0-100% LEL	19.02.2025	19.08.2025
49	ADMIN-01	Hydrogen	Admin Building UPS ROOM	0-100% LEL	0-100% LEL	19.02.2025	19.08.2025



भारत सरकार
Government of India
वाणिज्य और उद्योग मंत्रालय
Ministry of Commerce & Industry
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)
Petroleum & Explosives Safety Organisation (PESO)
आंठवी मंजिल, यश कमल बिल्डींग, सयाजी गंज
वडोदरा- 390020
8th Floor, Yash Kamal Building, Sayajigunj,
Vadodara - 390020

E-mail : dyccebaroda@explosives.gov.in

Phone/Fax No : 0265 - 2225159

संख्यां /No. : **P/WC/GJ/15/2712 (P423120)**दिनांक /Dated : **02/09/2022**सेवा में
/To,

M/s. AARTI INDUSTRIES LIMITED,
PLOT NO. - Z-103/C, DAHEJ SEZ - (PART -2), ,
Dahej,
Taluka: Vagra,
District: BHARUCH,
State: Gujarat
PIN: 392130

विषय **Plot No, Z-103/C, DAHEJ SEZ -II, Dahej To Vagra Road, DAHEJ, Vagra, Taluka: Vagra, District: BHARUCH,**
 /Sub : **State: Gujarat, PIN: 392130** में स्थित पेट्रोलियम वर्ग **A** अधिष्ठापन - पेट्रोलियम नियम 2002 के अंतर्गत प्ररूप XV में जारी अनुज्ञप्ति सं **P/WC/GJ/15/2712 (P423120)** – संशोधन के संदर्भ में ।

Existing Petroleum Class **A** Installation at **Plot No, Z-103/C, DAHEJ SEZ -II, Dahej To Vagra Road, DAHEJ, Vagra, Taluka: Vagra, District: BHARUCH, State: Gujarat, PIN: 392130-** Licence No. **P/WC/GJ/15/2712 (P423120)** - granted in form XV under Petroleum Rules 2002 - Amendment regarding

महोदय
/Sir(s),

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या **OIN1117305** दिनांक **23/08/2022** का संदर्भ ग्रहण करें ।

Reference to your letter No. **OIN1117305** dated **23/08/2022** on the above subject.

दिनांक **31/12/2025** तक वैध अनुज्ञप्ति संख्या **P/WC/GJ/15/2712 (P423120)** दिनांक **02/09/2022** निम्नलिखित वर्ग एवं मात्राओं में पेट्रोलियम भंडारण के लिए यथा संशोधित कर इस पत्र के साथ लौटाई जा रही है ।

Licence No. **P/WC/GJ/15/2712 (P423120)** dated **02/09/2022** valid upto **31/12/2025** is returned herewith duly amended with respect to Capacity Amendment,

पेट्रोलियम का विवरण /Description of Petroleum	किलोलीटरों में अनुज्ञप्ति क्षमता /Quantity licenced in KL
वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A, in bulk	61.00 KL
वर्ग क प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class A, otherwise than in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B, in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class B, otherwise than in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम /Petroleum Class C, in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class C,otherwise than in bulk	NIL
कुल क्षमता /Total	61.00 KL

कृपया पावती दें।

Please acknowledge the receipt.

भवदीय /Yours faithfully,

((गणेश आर.)
 (GANESH R.))
 उप विस्फोटक नियंत्रक

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : <http://peso.gov.in> देखें)
(For more information regarding status,fees and other details please visit our website: <http://peso.gov.in>)

Note:-This is system generated document does not require signature.

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**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-004	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-004	Service Request Date	23/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/004	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/004
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	23/10/2024	Date of Testing	24/10/2024
Stack Sampling Attached to	Scrubber Connected to Sulphur Dioxide Reaction & Sulphuric Acid Plant. (S-1)		
Air Pollution Control Devise	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	30
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	12.5	1200	IS 11255 (Part 2)
2.	Acid Mist/Sulphur Trioxide (SO ₃)	mg/Nm ³	6.2	70	SA EPA Method 03.04.2012

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-014	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-014	Service Request Date	23/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/014	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/014
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (Unit-2) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	23/10/2024	Date of Testing	24/10/2024
Stack Sampling Attached to	Scrubber Connected to NSA (S-2)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	5.5	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-005	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-005	Service Request Date	24/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/005	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/005
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	24/10/2024	Date of Testing	25/10/2024
Stack Sampling Attached to	Scrubber Connected to DCP. (S-3)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	51

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	5.2	25	IS: 11255 (Part 7): 2005 RA.2017

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
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Authorized By:



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(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-006	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-006	Service Request Date	22/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/006	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/006
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/10/2024	Date of Testing	23/10/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 1) (S-4)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL (MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-007	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-007	Service Request Date	22/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/007	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/007
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/10/2024	Date of Testing	23/10/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 2) (S-5)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	46

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL (MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) **: Limit Not Define in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
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Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-008	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-008	Service Request Date	22/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/008	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/008
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/10/2024	Date of Testing	23/10/2024
Stack Sampling Attached to	Common Alkali Scrubber Connected to SO₂ Tank Farm. (S-6)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	5.8	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-009	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-009	Service Request Date	22/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/009	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/009
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/10/2024	Date of Testing	23/10/2024
Stack Sampling Attached to	DCA Plant Vacuum Pump Storage Tank. (S-7)		
Air Pollution Control Device	Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	51

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	TVOCs	Ppm	5.5	**	GC Method

Note: 1) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

TEST REPORT
(STACK MONITORING)

Test Report No.	UERL/24/10/AIL-2/S-010	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-010	Service Request Date	22/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/010	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/010
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/10/2024	Date of Testing	23/10/2024
Stack Sampling Attached to	HNO ₃ Tank. (S-8)		
Air Pollution Control Device	3 Stage Lime Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	50

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NO _x)	mg/Nm ³	BDL (MDL:5.0)	25	IS: 11255 (Part 7): 2005 RA.2017

***** End of Report *****

Checked By:



Nikunj D. Patel
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Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-011	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-011	Service Request Date	23/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/011	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/011
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	23/10/2024	Date of Testing	24/10/2024
Stack Sampling Attached to	Liquid SO ₃ & Oleum Tank. (S-9)		
Air Pollution Control Device	Acid Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	50

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	6.2	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-012	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-012	Service Request Date	23/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/012	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/012
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	23/10/2024	Date of Testing	24/10/2024
Stack Sampling Attached to	SAC And TAR Plant. (S-10)		
Air Pollution Control Device	Alkali Spray Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	52

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	4.2	40	IS 11255 (Part 2)
2.	VOCs	ppm	1.2	**	GC Method

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/10/AIL-2/S-013	Report Issue Date	05/11/2024
Service Request form No.	UERL/AIR/D/SRF/10/S-013	Service Request Date	24/10/2024
Sample ID No.	UERL/AIR/D/ID/S-24/10/013	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/10/013
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	24/10/2024	Date of Testing	25/10/2024
Stack Sampling Attached to	DCP Plant: DCA Sulphate Vent. (S-11)		
Air Pollution Control Device	Venturi Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	32
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	BDL (MDL:4.0)	40	IS 11255 (Part 2)
2.	VOCs	Ppm	BDL (MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



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(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-004	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-004	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/004	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/004
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	Scrubber Connected to Sulphur Dioxide Reaction & Sulphuric Acid Plant. (S-1)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	30
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	46

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	11.2	1200	IS 11255 (Part 2)
2.	Acid Mist/Sulphur Trioxide (SO ₃)	mg/Nm ³	5.8	70	SA EPA Method 03.04.2012

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



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Authorized By:



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**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-014	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-014	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/014	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/014
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (Unit-2) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	Scrubber Connected to NSA (S-2)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	47

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	6.1	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.


***** End of Report *****

Checked By:



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(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-005	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-005	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/005	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/005
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	Scrubber Connected to DCP. (S-3)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	4.2	25	IS: 11255 (Part 7): 2005 RA.2017

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



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Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-006	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-006	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/006	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/006
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 1) (S-4)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	44

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL (MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-007	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-007	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/007	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/007
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 2) (S-5)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	44

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL (MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) **: Limit Not Define in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-008	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-008	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/008	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/008
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	Common Alkali Scrubber Connected to SO ₂ Tank Farm. (S-6)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	43

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	6.3	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-009	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-009	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/009	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/009
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	DCA Plant Vacuum Pump Storage Tank. (S-7)		
Air Pollution Control Device	Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	49

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	TVOCs	ppm	4.8	**	GC Method

Note: 1) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-010	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-010	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/010	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/010
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	HNO3 Tank. (S-8)		
Air Pollution Control Device	3 Stage Lime Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	BDL (MDL:5.0)	25	IS: 11255 (Part 7): 2005 RA.2017

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-011	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-011	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/011	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/011
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	Liquid SO ₃ & Oleum Tank. (S-9)		
Air Pollution Control Device	Acid Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	52

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	5.7	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/11/AIL-2/S-012	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-012	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/012	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/012
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	SAC And TAR Plant. (S-10)		
Air Pollution Control Device	Alkali Spray Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	50

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	3.8	40	IS 11255 (Part 2)
2.	VOCs	ppm	1.1	**	GC Method

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

TEST REPORT
(STACK MONITORING)

Test Report No.	UERL/24/11/AIL-2/S-013	Report Issue Date	05/12/2024
Service Request form No.	UERL/AIR/D/SRF/11/S-013	Service Request Date	29/11/2024
Sample ID No.	UERL/AIR/D/ID/S-24/11/013	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/11/013
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	29/11/2024	Date of Testing	30/11/2024
Stack Sampling Attached to	DCP Plant: DCA Sulphate Vent. (S-11)		
Air Pollution Control Device	Venturi Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	31
3.	Flue Gas Temperature	°C	47

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	BDL (MDL:4.0)	40	IS 11255 (Part 2)
2.	VOCs	Ppm	BDL (MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-004	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-004	Service Request Date	17/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/004	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/004
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	17/12/2024	Date of Testing	18/12/2024
Stack Sampling Attached to	Scrubber Connected to Sulphur Dioxide Reaction & Sulphuric Acid Plant. (S-1)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	30
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	11.2	1250	IS 11255 (Part 2)
2.	Acid Mist/Sulphur Trioxide (SO ₃)	mg/Nm ³	6.5	70	SA EPA Method 03.04.2012

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-014	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-014	Service Request Date	17/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/014	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/014
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (Unit-2) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	17/12/2024	Date of Testing	18/12/2024
Stack Sampling Attached to	Scrubber Connected to NSA (S-2)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	2.2	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.


***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandell
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-005	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-005	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/005	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/005
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	Scrubber Connected to DCP. (S-3)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	5.5	25	IS: 11255 (Part 7): 2005 RA.2017

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-006	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-006	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/006	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/006
Name & Address of Customer	M/s. AARTI INDUSRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 1) (S-4)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	1.4	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-007	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-007	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/007	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/007
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 2) (S-5)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL (MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) **: Limit Not Define in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-008	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-008	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/008	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/008
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	Common Alkali Scrubber Connected to SO2 Tank Farm. (S-6)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	8.2	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-009	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-009	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/009	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/009
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	DCA Plant Vacuum Pump Storage Tank. (S-7)		
Air Pollution Control Device	Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	46

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	TVOCs	ppm	2.6	**	GC Method

Note: 1) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
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Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-010	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-010	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/010	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/010
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	HNO3 Tank. (S-8)		
Air Pollution Control Device	3 Stage Lime Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	BDL (MDL:5.0)	25	IS: 11255 (Part 7): 2005 RA.2017

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-011	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-011	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/011	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/011
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	Liquid SO₃ & Oleum Tank. (S-9)		
Air Pollution Control Device	Acid Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	52

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	2.2	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-012	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-012	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/012	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/012
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	SAC And TAR Plant. (S-10)		
Air Pollution Control Device	Alkali Spray Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	10.2	40	IS 11255 (Part 2)
2.	VOCs	ppm	0.4	**	GC Method

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/24/12/AIL-2/S-013	Report Issue Date	02/01/2025
Service Request form No.	UERL/AIR/D/SRF/12/S-013	Service Request Date	18/12/2024
Sample ID No.	UERL/AIR/D/ID/S-24/12/013	Field Data Sheet No.	UERL/AIR/D/FDS/S-24/12/013
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	18/12/2024	Date of Testing	19/12/2024
Stack Sampling Attached to	DCP Plant: DCA Sulphate Vent. (S-11)		
Air Pollution Control Device	Venturi Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	6.2	40	IS 11255 (Part 2)
2.	VOCs	Ppm	5.4	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/01/AIL-2/S-004	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-004	Service Request Date	21/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/004	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/004
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	21/01/2025	Date of Testing	22/01/2025
Stack Sampling Attached to	Scrubber Connected to Sulphur Dioxide Reaction & Sulphuric Acid Plant. (S-1)		
Air Pollution Control Devise	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	30
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	15.5	1250	IS 11255 (Part 2)
2.	Acid Mist/Sulphur Trioxide (SO ₃)	mg/Nm ³	8.4	70	SA EPA Method 03.04.2012

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
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Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/01/AIL-2/S-014	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-014	Service Request Date	21/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/014	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/014
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (Unit-2) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	21/01/2025	Date of Testing	22/01/2025
Stack Sampling Attached to	Scrubber Connected to NSA (S-2)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	10.5	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/01/AIL-2/S-005	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-005	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/005	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/005
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	Scrubber Connected to DCP. (S-3)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	49

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	20.5	25	IS: 11255 (Part 7): 2005 RA.2017

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



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(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

TEST REPORT
(STACK MONITORING)

Test Report No.	UERL/25/01/AIL-2/S-006	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-006	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/006	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/006
Name & Address of Customer	M/s. AARTI INDUSRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 1) (S-4)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	2.2	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
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Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/01/AIL-2/S-007	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-007	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/007	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/007
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 2) (S-5)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	2.5	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) **: Limit Not Define in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/01/AIL-2/S-008	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-008	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/008	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/008
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	Common Alkali Scrubber Connected to SO2 Tank Farm. (S-6)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	46

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	10.2	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/01/AIL-2/S-009	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-009	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/009	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/009
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	DCA Plant Vacuum Pump Storage Tank. (S-7)		
Air Pollution Control Devise	Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	TVOCs	ppm	3.2	**	GC Method

Note: 1) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

TEST REPORT
(STACK MONITORING)

Test Report No.	UERL/25/01/AIL-2/S-010	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-010	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/010	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/010
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	HNO3 Tank. (S-8)		
Air Pollution Control Devise	3 Stage Lime Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	28
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	BDL (MDL:5.0)	25	IS: 11255 (Part 7): 2005 RA.2017

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

TEST REPORT
(STACK MONITORING)

Test Report No.	UERL/25/01/AIL-2/S-011	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-011	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/011	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/011
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	Liquid SO ₃ & Oleum Tank. (S-9)		
Air Pollution Control Devise	Acid Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	52

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	5.5	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/01/AIL-2/S-012	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-012	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/012	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/012
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	SAC And TAR Plant. (S-10)		
Air Pollution Control Devise	Alkali Spray Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	12.5	40	IS 11255 (Part 2)
2.	VOCs	ppm	5.5	**	GC Method

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



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Authorized By:



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(Manager - Operations)

TEST REPORT
(STACK MONITORING)

Test Report No.	UERL/25/01/AIL-2/S-013	Report Issue Date	03/02/2025
Service Request form No.	UERL/AIR/D/SRF/01/S-013	Service Request Date	22/01/2025
Sample ID No.	UERL/AIR/D/ID/S-25/01/013	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/01/013
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	22/01/2025	Date of Testing	23/01/2024
Stack Sampling Attached to	DCP Plant: DCA Sulphate Vent. (S-11)		
Air Pollution Control Device	Venturi Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	02/02/2024	Next Calibration Due on	01/02/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	52

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	12.5	40	IS 11255 (Part 2)
2.	VOCs	Ppm	20.5	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-004	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-004	Service Request Date	13/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/004	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/004
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	13/02/2025	Date of Testing	14/02/2025
Stack Sampling Attached to	Scrubber Connected to Sulphur Dioxide Reaction & Sulphuric Acid Plant & Scrubber Connected to NSA. (S-1 & S-2)		
Air Pollution Control Devise	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	30
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	52

➤ **Test Parameter Results**

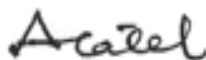
Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	BDL(MDL:4.0)	1250	IS 11255 (Part 2)
2.	Acid Mist/Sulphur Trioxide (SO ₃)	mg/Nm ³	BDL(MDL:4.0)	70	SA EPA Method 03.04.2012

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-005	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-005	Service Request Date	13/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/005	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/005
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	13/02/2025	Date of Testing	14/02/2024
Stack Sampling Attached to	Scrubber Connected to DCP. (S-3)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	49

➤ **Test Parameter Results**

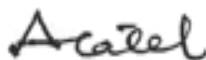
Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	20.5	25	IS: 11255 (Part 7): 2005 RA.2017

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-006	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-006	Service Request Date	12/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/006	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/006
Name & Address of Customer	M/s. AARTI INDUSRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/02/2025	Date of Testing	13/02/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 1) (S-4)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	47

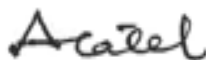
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL(MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-007	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-007	Service Request Date	12/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/007	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/007
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/02/2025	Date of Testing	13/02/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 2) (S-5)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	48

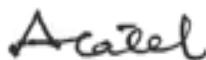
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL(MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) **: Limit Not Define in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-008	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-008	Service Request Date	13/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/008	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/008
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	13/02/2025	Date of Testing	14/02/2024
Stack Sampling Attached to	Common Alkali Scrubber Connected to SO2 Tank Farm. (S-6)		
Air Pollution Control Devise	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	48

➤ **Test Parameter Results**

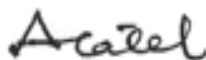
Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	12.5	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-009	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-009	Service Request Date	12/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/009	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/009
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/02/2025	Date of Testing	13/02/2024
Stack Sampling Attached to	DCA Plant Vacuum Pump Storage Tank. (S-7)		
Air Pollution Control Device	Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	46

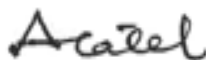
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	TVOCs	ppm	BDL(MDL:0.1)	**	GC Method

Note: 1) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-010	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-010	Service Request Date	13/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/010	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/010
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	13/02/2025	Date of Testing	14/02/2024
Stack Sampling Attached to	HNO3 Tank. (S-8)		
Air Pollution Control Device	3 Stage Lime Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

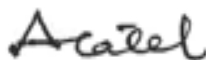
Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	52

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	BDL (MDL:5.0)	25	IS: 11255 (Part 7): 2005 RA.2017

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-011	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-011	Service Request Date	12/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/011	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/011
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/02/2025	Date of Testing	13/02/2024
Stack Sampling Attached to	Liquid SO3 & Oleum Tank. (S-9)		
Air Pollution Control Device	Acid Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	27
3.	Flue Gas Temperature	°C	52

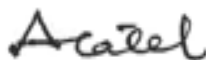
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	BDL(MDL:4.0)	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-012	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-012	Service Request Date	12/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/012	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/012
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/02/2025	Date of Testing	13/02/2024
Stack Sampling Attached to	SAC And TAR Plant. (S-10)		
Air Pollution Control Device	Alkali Spray Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	55

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	6.5	40	IS 11255 (Part 2)
2.	VOCs	ppm	BDL(MDL:0.1)	**	GC Method

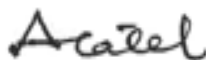
Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/02/AIL-2/S-013	Report Issue Date	03/03/2025
Service Request form No.	UERL/AIR/D/SRF/02/S-013	Service Request Date	13/02/2025
Sample ID No.	UERL/AIR/D/ID/S-25/02/013	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/02/013
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	13/02/2025	Date of Testing	14/02/2024
Stack Sampling Attached to	DCP Plant: DCA Sulphate Vent. (S-11)		
Air Pollution Control Device	Venturi Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	50

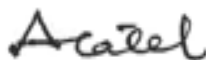
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	11.7	40	IS 11255 (Part 2)
2.	VOCs	Ppm	BDL(MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-004	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-004	Service Request Date	27/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/004	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/004
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	27/03/2025	Date of Testing	28/03/2025
Stack Sampling Attached to	Scrubber Connected to Sulphur Dioxide Reaction & Sulphuric Acid Plant & Scrubber Connected to NSA. (S-1 & S-2)		
Air Pollution Control Devise	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	30
2.	Ambient Temperature	°C	30
3.	Flue Gas Temperature	°C	58

➤ **Test Parameter Results**

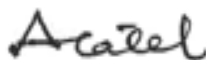
Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	41.2	1250	IS 11255 (Part 2)
2.	Acid Mist/Sulphur Trioxide (SO ₃)	mg/Nm ³	6.6	70	SA EPA Method 03.04.2012

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-005	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-005	Service Request Date	13/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/005	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/005
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	13/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	Scrubber Connected to DCP. (S-3)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	45

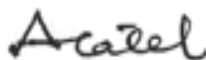
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	16	25	IS: 11255 (Part 7): 2005 RA.2017

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-006	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-006	Service Request Date	12/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/006	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/006
Name & Address of Customer	M/s. AARTI INDUSRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 1) (S-4)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	56

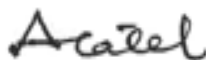
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL(MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-007	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-007	Service Request Date	12/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/007	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/007
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	Scrubber Connected to The Tanks (Tank Farm 2) (S-5)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	m	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	42

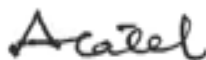
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL(MDL:0.1)	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) **: Limit Not Define in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-008	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-008	Service Request Date	13/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/008	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/008
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	Common Alkali Scrubber Connected to SO2 Tank Farm. (S-6)		
Air Pollution Control Devise	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	45

➤ **Test Parameter Results**

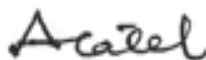
Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	14.2	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-009	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-009	Service Request Date	12/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/009	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/009
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	DCA Plant Vacuum Pump Storage Tank. (S-7)		
Air Pollution Control Device	Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	48

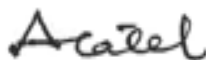
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	TVOCs	ppm	7.5	**	GC Method

Note: 1) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-010	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-010	Service Request Date	12/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/010	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/010
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	HNO3 Tank. (S-8)		
Air Pollution Control Device	3 Stage Lime Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No.	UERL-D/AIR/SMK/01		
Instrument Name	Stack Monitoring Kit, VSS1	Serial Number	126 DTG 2018
Calibration Date	19/06/2024	Next Calibration Due On	18/06/2025

➤ **General Stack Monitoring Observation**

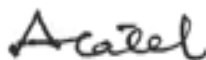
Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	44

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Oxides of Nitrogen (NOx)	mg/Nm ³	BDL (MDL:5.0)	25	IS: 11255 (Part 7): 2005 RA.2017

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-011	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-011	Service Request Date	27/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/011	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/011
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	27/03/2025	Date of Testing	28/03/2025
Stack Sampling Attached to	Liquid SO3 & Oleum Tank. (S-9)		
Air Pollution Control Device	Acid Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	42

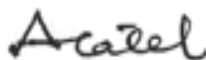
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	18	40	IS 11255 (Part 2)

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-012	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-012	Service Request Date	12/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/012	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/012
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	SAC And TAR Plant. (S-10)		
Air Pollution Control Device	Alkali Spray Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	50

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	8.6	40	IS 11255 (Part 2)
2.	VOCs	ppm	BDL(MDL:0.1)	**	GC Method

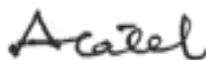
Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-013	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-013	Service Request Date	13/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/013	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/013
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	13/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	DCP Plant: DCA Sulphate Vent. (S-11)		
Air Pollution Control Device	Venturi Water Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	50

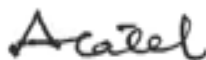
➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	Sulphur Dioxide (SO ₂)	mg/Nm ³	5.8	40	IS 11255 (Part 2)
2.	VOCs	Ppm	4.2	**	GC Method

Note: 1) BDL: Below Detection Limit.
2) MDL: Minimum Detection Limit.
3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

**TEST REPORT
(STACK MONITORING)**

Test Report No.	UERL/25/03/AIL-2/S-014	Report Issue Date	03/04/2025
Service Request form No.	UERL/AIR/D/SRF/03/S-014	Service Request Date	12/03/2025
Sample ID No.	UERL/AIR/D/ID/S-25/03/014	Field Data Sheet No.	UERL/AIR/D/FDS/S-25/03/015
Name & Address of Customer	M/s. AARTI INDUSTRIES LTD. (UNIT-2 DIAMOND) Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Date of Sampling	12/03/2025	Date of Testing	14/03/2024
Stack Sampling Attached to	DCP Drum Filling Scrubber. (S-12)		
Air Pollution Control Device	Alkali Scrubber		

➤ **Details of Instrument Used for Monitoring**

Instrument Id No	UERL-D/AIR/HDS/01		
Instrument Name	Handy Sampler	Serial Number	91-I-19
Calibration Date	01/02/2025	Next Calibration Due on	31/01/2026

➤ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of Measurement	Observation
1.	Stack Height	M	11
2.	Ambient Temperature	°C	29
3.	Flue Gas Temperature	°C	55

➤ **Test Parameter Results**

Sr. No.	Test Parameter	Unit of Measurement	Result	GPCB Limits	Test Method
1.	VOCs	ppm	BDL(MDL:0.1)	**	GC Method

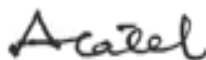
Note: 1) BDL: Below Detection Limit.

2) MDL: Minimum Detection Limit.

3) ** Limit Not Define by in GPCB CC&A.

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

1.0 AMBIENT AIR QUALITY MONITORING REPORT



Period: October – 2024.

FOR

**M/s. Aarti Industries Limited., (Unit – 2)
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



White House
Near G.I.D.C. Office, Char Rasta,
Vapi - 396 195, Gujarat, India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: October - 2024

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/24/10/AIL-2/A-001

Report Issue Date: 05/11/2024

Location : AAQM-1 : Near Main Gate

Instrument : RDS (Sr. No. 247-G-2020) & FPS (Sr. No. 433-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SOx µg/m ³	NOx µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	01/10/2024	75	26	17.4	22.5
2	02/10/2024	71	22	18.5	23.7
3	09/10/2024	68	19	22.1	27.3
4	10/10/2024	69	26	20.7	26.5
5	16/10/2024	70	21	20.2	25.5
6	17/10/2024	66	21	16.8	21.6
7	22/10/2024	63	16	16.1	22.1
8	23/10/2024	73	27	19.2	23.2
9	28/10/2024	68	24	19.6	25.3
10	28/10/2024	70	23	18.5	22.4
Max.		75	27	22.1	27.3
Min.		63	16	16.1	21.6
98 th Percentile		74.6	26.8	21.8	27.2
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)



Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: October - 2024

DISCIPLINE: CHEMICAL TESTING	NAME OF GROUP: ATMOSPHERIC POLLUTION
Test Report No: UERL/24/10/AIL-2/A-002	Report Issue Date: 05/11/2024
Location : AAQM-2 : Near ETP Plant	Instrument: RDS (Sr. No. 249-G-2020) & FPS (Sr.No. 435-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	01/10/2024	70	23	20.2	26.2
2	02/10/2024	68	21	15.2	21.4
3	09/10/2024	78	26	16.5	24.2
4	10/10/2024	67	19	17.2	22.4
5	16/10/2024	71	23	15.8	23.4
6	17/10/2024	73	24	17.2	24.1
7	22/10/2024	74	23	14.2	19.8
8	23/10/2024	72	24	15.2	20.7
9	28/10/2024	63	18	17.2	24.3
10	28/10/2024	75	26	16.4	21.6
Max.		78	26	20.2	26.2
Min.		63	18	14.2	19.8
98th Percentile		77.5	26.0	19.7	25.9
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:  Nikunj D. Patel (Chemist)	Authorized By:  Jaivik S. Tandel (Manager - Operations)
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Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: October - 2024

DISCIPLINE: CHEMICAL TESTING	NAME OF GROUP: ATMOSPHERIC POLLUTION
Test Report No: UERL/24/10/AIL-2/A-003	Report Issue Date: 05/11/2024
Location : AAQM-3 : Near DCS PCC Control Room)	Instrument: RDS (Sr. No. 250 G 2020) & FPS (Sr. No. 436 G 2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	01/10/2024	73	22	22.1	26.6
2	02/10/2024	66	18	15.7	20.2
3	09/10/2024	72	23	21.4	25.1
4	10/10/2024	71	25	17.5	21.8
5	16/10/2024	66	24	15.5	19.8
6	17/10/2024	64	19	18.6	22.3
7	22/10/2024	80	28	15.8	23.5
8	23/10/2024	76	27	17.3	23.1
9	28/10/2024	72	23	16.2	21.3
10	28/10/2024	68	22	17.2	20.6
Max.		80	28	22.1	26.6
Min.		64	18	15.5	19.8
98th Percentile		79.3	27.8	22.0	26.3
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:  Nikunj D. Patel (Chemist)	Authorized By:  Jaivik S. Tandel (Manager - Operations)
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1.0 AMBIENT AIR QUALITY MONITORING REPORT



Period: November – 2024.

FOR

**M/s. Aarti Industries Limited., (Unit – 2)
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



White House
Near G.I.D.C. Office, Char Rasta,
Vapi - 396 195, Gujarat, India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: November - 2024

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/24/11/AIL-2/A-001

Report Issue Date: 05/12/2024

Location : AAQM-1 : Near Main Gate

Instrument : RDS (Sr. No. 247-G-2020) & FPS (Sr. No. 433-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SOx µg/m ³	NOx µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	05/11/2024	73	24	14.7	17.5
2	06/11/2024	67	21	16.3	19.2
3	12/11/2024	74	26	18.3	21.9
4	13/11/2024	69	23	15.9	20.4
5	20/11/2024	68	22	13.6	17.2
6	21/11/2024	72	24	15.2	20.4
7	27/11/2024	70	25	14.1	18.6
8	28/11/2024	74	27	16.8	21.5
Max.		74	27	18.3	21.9
Min.		67	21	13.6	17.2
98 th Percentile		74.0	26.9	18.1	21.8
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: November - 2024

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/24/11/AIL-2/A-002

Report Issue Date: 05/12/2024

Location : AAQM-2 : Near ETP Plant

Instrument: RDS (Sr. No. 249-G-2020) & FPS (Sr.No. 435-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	05/11/2024	70	22	19.5	25.4
2	06/11/2024	74	25	19.3	23.4
3	12/11/2024	69	23	17.5	21.2
4	13/11/2024	62	18	15.2	20.4
5	20/11/2024	75	24	18.5	22.8
6	21/11/2024	68	23	20.4	26.2
7	27/11/2024	72	26	21.8	27.2
8	28/11/2024	66	22	18.6	24.5
Max.		75	26	21.8	27.2
Min.		62	18	15.2	20.4
98 th Percentile		74.9	25.9	21.6	27.1
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: November - 2024

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/24/11/AIL-2/A-003

Report Issue Date: 05/12/2024

Location : AAQM-3 : Near DCS PCC Control Room)

Instrument: RDS (Sr. No. 250 G 2020) & FPS (Sr. No. 436 G 2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	05/11/2024	66	20	15.1	20.9
2	06/11/2024	68	23	17.1	21.1
3	12/11/2024	73	24	14.7	17.5
4	13/11/2024	67	21	16.3	19.2
5	20/11/2024	74	26	18.3	21.9
6	21/11/2024	66	20	15.9	20.4
7	27/11/2024	68	22	13.6	17.2
8	28/11/2024	72	24	15.2	20.4
Max.		74	26	18.3	21.9
Min.		66	20	13.6	17.2
98 th Percentile		73.9	25.7	18.1	21.8
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

1.0 AMBIENT AIR QUALITY MONITORING REPORT



Period: December – 2024.

FOR

**M/s. Aarti Industries Limited., (Unit – 2)
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



White House
Near G.I.D.C. Office, Char Rasta,
Vapi - 396 195, Gujarat, India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: December - 2024

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/24/12/AIL-2/A-001

Report Issue Date: 02/01/2025

Location : AAQM-1 : Near Main Gate

Instrument : RDS (Sr. No. 247-G-2020) & FPS (Sr. No. 433-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SOx µg/m ³	NOx µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	03/12/2024	75	26	18.2	18.5
2	04/12/2024	68	20	13.1	24.1
3	11/12/2024	63	19	14.5	19.4
4	12/12/2024	71	21	13.5	20.4
5	17/12/2024	68	19	15.6	21.2
6	18/12/2024	64	18	14.3	22.5
7	25/12/2024	67	20	16.4	20.2
8	26/12/2024	62	16	13.6	17.6
9	30/12/2024	73	24	12.7	19.3
10	31/12/2024	70	22	17.4	17.2
Max.		75	26	18.2	24.1
Min.		62	16	13.1	17.6
98 th Percentile		74.4	25.3	17.9	23.9
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: December - 2024

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/24/12/AIL-2/A-002

Report Issue Date: 02/01/2025

Location : AAQM-2 : Near ETP Plant

Instrument: RDS (Sr. No. 249-G-2020) & FPS (Sr.No. 435-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SOx µg/m ³	NOx µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	03/12/2024	66	23	14.8	21.5
2	04/12/2024	61	21	16.7	22.1
3	11/12/2024	59	18	13.2	18.2
4	12/12/2024	63	22	12.6	19.7
5	17/12/2024	58	20	14.8	21.4
6	18/12/2024	60	18	13.5	20.5
7	25/12/2024	68	22	14.4	18.7
8	26/12/2024	61	17	17.3	16.2
9	30/12/2024	67	23	12.5	19.7
10	31/12/2024	64	21	11.2	15.3
Max.		68	23	17.3	22.1
Min.		58	17	12.6	16.2
98 th Percentile		67.7	22.9	17.2	22.0
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: December - 2024

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/24/12/AIL-2/A-003

Report Issue Date: 02/01/2025

Location : AAQM-3 : Near DCS PCC Control Room)

Instrument: RDS (Sr. No. 250 G 2020) & FPS (Sr. No. 436 G 2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	03/12/2024	68	21	11.8	19.8
2	04/12/2024	60	18	16.3	21.2
3	11/12/2024	58	20	15.2	20.4
4	12/12/2024	61	19	13.5	16.4
5	17/12/2024	65	17	16.3	18.6
6	18/12/2024	57	15	15.5	17.6
7	25/12/2024	63	18	16.7	20.4
8	26/12/2024	70	21	13.3	21.6
9	30/12/2024	68	18	12.4	16.3
10	31/12/2024	63	20	14.6	18.4
Max.		70	21	16.7	21.6
Min.		57	15	11.8	16.4
98 th Percentile		69.7	21.0	16.6	21.5
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

1.0 AMBIENT AIR QUALITY MONITORING REPORT



Period: January – 2025.

FOR

**M/s. Aarti Industries Limited., (Unit – 2)
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



Plot No.51, Vibrant Business Park,
NH No. 48, GIDC, Vapi – 396 195.
Dist-Valsad (Gujarat), India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

MoEF&CC Environmental Laboratory under
EPA, 1986 as 04.11.2024 to 18.10.2027

QCI-NABET Accredited BA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-II)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: January - 2025

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/25/01/AIL-2/A-001

Report Issue Date: 03/02/2025

Location : AAQM-1 : Near Main Gate

Instrument : RDS (Sr. No. 247-G-2020) & FPS (Sr. No. 433-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SOx µg/m ³	NOx µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	07/01/2025	78	32	19.5	25.2
2	08/01/2025	77	30	17.2	24.2
3	16/01/2025	69	28	20.6	27.3
4	17/01/2025	71	26	19.3	22.4
5	21/01/2025	73	29	16.6	25.6
6	22/01/2025	76	32	17.2	21.3
7	28/01/2025	74	29	18.4	23.5
8	29/01/2025	72	31	21.2	28.1
Max.		78	32	21.2	28.1
Min.		69	26	16.6	21.3
98th Percentile		77.9	32.0	21.1	28.0
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: January - 2025

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/25/01/AIL-2/A-002

Report Issue Date: 03/02/2025

Location : AAQM-2 : Near ETP Plant

Instrument: RDS (Sr. No. 249-G-2020) & FPS (Sr. No. 435-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SOx µg/m ³	NOx µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	07/01/2025	69	23	16.8	22.5
2	08/01/2025	71	24	20.5	23.3
3	16/01/2025	75	29	17.6	25.2
4	17/01/2025	69	26	18.4	21.6
5	21/01/2025	72	28	21.2	26.7
6	22/01/2025	73	27	19.5	24.2
7	28/01/2025	70	25	15.7	27.2
8	29/01/2025	81	29	16.6	26.6
Max.		81	29	21.2	27.2
Min.		69	23	15.7	21.6
98 th Percentile		80.2	29.0	21.1	27.1
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: January - 2025

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/25/01/AIL-2/A-003

Report Issue Date: 03/02/2025

Location : AAQM-3 : Near DCS PCC Control Room)

Instrument: RDS (Sr. No. 250 G 2020) & FPS (Sr. No. 436 G 2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SOx µg/m ³	NOx µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	07/01/2025	75	19	15.2	19.9
2	08/01/2025	66	22	16.4	21.3
3	16/01/2025	73	28	20.1	23.5
4	17/01/2025	65	23	17.4	20.2
5	21/01/2025	69	20	18.7	22.7
6	22/01/2025	72	26	15.5	20.8
7	28/01/2025	70	24	14.7	19.6
8	29/01/2025	72	21	20.5	21.6
Max.		75	28	20.5	23.5
Min.		65	19	14.7	19.6
98 th Percentile		74.7	27.7	20.4	23.4
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

1.0 AMBIENT AIR QUALITY MONITORING REPORT



Period: February - 2025.

FOR

**M/s. Aarti Industries Limited., (Unit – 2)
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



Plot No.51, Vibrant Business Park,
NH No.48, GIDC, Vapi-396195
Dist-Valsad (Gujarat), India
Phone + 91 260 2433966/2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: FEBRUARY - 2025

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/25/02/AIL-2/A-001

Report Issue Date: 03/03/2025

Location : AAQM-1 : Near Main Gate

Instrument : RDS (Sr. No. 247-G-2020) & FPS (Sr. No. 433-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	04/02/2025	73	22	15.7	22.3
2	05/02/2025	65	20	14.3	21.2
3	11/02/2025	78	24	17.2	25.4
4	12/02/2025	67	23	16.2	23.4
5	20/02/2025	80	25	18.1	26.2
6	21/02/2025	71	25	18.4	25.3
7	27/02/2025	72	21	16.5	24.2
8	28/02/2025	62	18	13.6	19.4
Max.		80	25	18.4	26.2
Min.		62	18	13.6	19.4
98th Percentile		79.7	25.0	18.4	26.1
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Ankur R. Patel

(Supervisor)

Authorized By:



Jaivik S. Tandel

(Manager - Operations)

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: FEBRUARY - 2025

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/25/02/AIL-2/A-002

Report Issue Date: 03/03/2025

Location : AAQM-2 : Near ETP Plant

Instrument: RDS (Sr. No. 249-G-2020) & FPS (Sr. No. 435-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	04/02/2025	72	21	14.6	21.7
2	05/02/2025	66	17	15.2	23.4
3	11/02/2025	67	18	13.5	20.4
4	12/02/2025	71	22	16.4	25.3
5	20/02/2025	76	25	15.4	24.3
6	21/02/2025	75	24	17.2	26.7
7	27/02/2025	78	26	16.4	26.2
8	28/02/2025	68	22	14.6	21.2
Max.		78	26	17.2	26.7
Min.		66	17	13.5	20.4
98 th Percentile		77.7	25.9	17.1	26.6
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Ankur R. Patel

(Supervisor)

Authorized By:



Jaivik S. Tandel

(Manager - Operations)

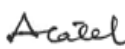

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: FEBRUARY - 2025

DISCIPLINE: CHEMICAL TESTING	NAME OF GROUP: ATMOSPHERIC POLLUTION
Test Report No: UERL/25/012AIL-2/A-003	Report Issue Date: 03/03/2025
Location : AAQM-3 : Near DCS PCC Control Room)	Instrument: RDS (Sr. No. 250 G 2020) & FPS (Sr. No. 436 G 2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	04/02/2025	65	21	15.5	19.2
2	05/02/2025	70	23	16.1	22.6
3	11/02/2025	72	23	20.2	26.4
4	12/02/2025	76	25	17.5	21.8
5	20/02/2025	65	20	15.4	19.7
6	21/02/2025	68	22	18.9	22.5
7	27/02/2025	75	28	17.5	25.6
8	28/02/2025	63	18	14.5	21.4
Max.		76	28	20.2	26.4
Min.		63	18	14.5	19.2
98 th Percentile		75.9	27.6	20.0	26.3
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

<p>Checked By:</p>  <p>Ankur R. Patel (Supervisor)</p>	<p>Authorized By:</p>  <p>Jaivik S. Tandel (Manager - Operations)</p>
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1.0 AMBIENT AIR QUALITY MONITORING REPORT



Period: March - 2025.

FOR

**M/s. Aarti Industries Limited., (Unit – 2)
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



Plot No.51, Vibrant Business Park,
NH No.48, GIDC, Vapi-396195
Dist-Valsad (Gujarat), India
Phone + 91 260 2433966/2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: MARCH - 2025

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/25/03/AIL-2/A-001

Report Issue Date: 03/04/2025

Location : AAQM-1 : Near Main Gate

Instrument : RDS (Sr. No. 247-G-2020) & FPS (Sr. No. 433-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SOx µg/m ³	NOx µg/m ³
		IS:5182 (Part-23)	IS:5182 (Part-24)	IS:5182 (Part-2)	IS:5182 (Part-6)
1	04/03/2025	68	19	14.3	19.5
2	05/03/2025	73	24	16.7	20.7
3	11/03/2025	71	20	13.4	21.3
4	12/03/2025	65	26	16.5	22.4
5	18/03/2025	72	18	18.6	21.2
6	19/03/2025	80	27	16.3	20.4
7	27/03/2025	78	25	15.4	23.6
8	28/03/2025	66	20	17.3	21.5
Max.		80	27	18.6	23.6
Min.		65	18	13.4	19.5
98 th Percentile		79.7	26.9	18.4	23.4
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Ankur R. Patel

(Supervisor)

Authorized By:



Jaivik S. Tandel

(Manager - Operations)

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: MARCH - 2025

DISCIPLINE: CHEMICAL TESTING

NAME OF GROUP: ATMOSPHERIC POLLUTION

Test Report No: UERL/25/03/AIL-2/A-002

Report Issue Date: 03/04/2025

Location : AAQM-2 : Near ETP Plant

Instrument: RDS (Sr. No. 249-G-2020) & FPS (Sr. No. 435-G-2020)

Sr. No.	Date of Monitoring	Parameter with Results			
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO _x µg/m ³	NO _x µg/m ³
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2	05/03/2025	71	20	13.2	21.6
3	11/03/2025	68	19	14.5	24.2
4	12/03/2025	74	24	15.6	22.6
5	18/03/2025	65	18	12.7	23.4
6	19/03/2025	70	25	16.9	20.8
7	27/03/2025	76	17	14.5	25.3
8	28/03/2025	68	21	17.5	23.6
Max.		76	26	17.5	25.3
Min.		65	17	12.5	20.6
98 th Percentile		75.7	25.9	17.4	25.1
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

Checked By:



Ankur R. Patel

(Supervisor)

Authorized By:



Jaivik S. Tandel

(Manager - Operations)

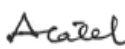

Ambient Air Quality Monitoring Data
For M/s. AARTI INDUSTRIES LIMITED., (Unit-2 Diamomd)
Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.
By – UniStar Environment and Research Labs Pvt. Ltd.

MONTH: MARCH - 2025

DISCIPLINE: CHEMICAL TESTING	NAME OF GROUP: ATMOSPHERIC POLLUTION
Test Report No: UERL/25/03/AIL-2/A-003	Report Issue Date: 03/04/2025
Location : AAQM-3 : Near DCS PCC Control Room)	Instrument: RDS (Sr. No. 250 G 2020) & FPS (Sr. No. 436 G 2020)

Sr. No.	Date of Monitoring	Parameter with Results			
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4	12/03/2025	70	18	20.5	21.5
5	18/03/2025	63	26	13.6	25.7
6	19/03/2025	74	20	16.9	22.5
7	27/03/2025	69	21	14.6	25.3
8	28/03/2025	64	15	18.5	23.7
Max.		75	26	20.5	25.7
Min.		63	15	13.6	18.3
98 th Percentile		74.9	25.9	20.2	25.6
Permissible Limit (As Per NAAQMS)		100	60	80	80

NOTE:1).Ambient Air Monitoring carried out for 24 hours time period , 2). **NAAQMS:** National Ambient Air Quality Monitoring Standard.3) **RDS:** Respirable Dust Sampler & 4) **FPS:** Fine Particulate Dust Sampler.

<p>Checked By:</p>  <p>Ankur R. Patel (Supervisor)</p>	<p>Authorized By:</p>  <p>Jaivik S. Tandel (Manager - Operations)</p>
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ON-SITE EMERGENCY PLAN

[Prepared as required by Schedule 8-A, rule 68 - J (12) (1) of the GFR 1963]

&

[The Rule 13(1) of MSIHC Rules (Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989)]

OF
M/s. AARTI INDUSTRIES LTD.
(Diamond Division)
Dahej.

October 2024

Address:

Plot No- Z-103/C,
Dahej, SEZ-II, Tal.- Vagra
Dist: Bharuch-392130

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej



DIAMOND DIVISION, DAHEJ

“ON SITE EMERGENCY RESPONSE PLAN”

UPDATED ON:- 10.10.2024

	Prepared By	Reviewed By	Approved By
Name	Mr. Ranu Kumar	Mr. Prateek Katiyar	Mr. Sandip Parekh
Sign			
Date			

Rev No.	Date	Remarks
Rev 00	00/10.02.2021	Revision in Annexures 1 to 33

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Rev 01	01/24.03.2022	Name of IC, SMC Updated.
Rev 02	02/20.08.2023	Revision in Annexures 1 to 33
Rev 03	03/16.01.2023	Revision in Annexures 1 to 33
Rev 04	04/06.06.2023	Revision in Annexures 1 to 33
Rev 05	05/20.11.2023	Revision in Annexures 1 to 33 & New Product added
Rev 06	06/10.10.2024	ECS for L1, L2 and L3 Emergencies updated & Revision in Annexures 1 to 33

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On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

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Preface

Our first Emergency plan was made a few years ago, this is our third revision in Emergency Plan and then after it will be updated as & when required based on learning from various Mock drills and on account of expansion in the facility. Mock drills will be conducted to test the plan and improve our emergency preparedness. The goals and objectives will be to improve quality of work and working life through dedicated concentrated efforts consistent with the requirement of safety, health and environment at workplace. The results of these exercises, identification and assessment of all credible scenarios, survey of various Rules, Regulations and standards will be taken as the basis for modifying the ON-SITE Emergency Response Plan.

As emergencies arise suddenly the necessity to remain always alert and ready with supporting facilities to face them is of paramount importance. This document cannot be said to be complete as it only sets the broad guidelines. It is only by periodically conducting regular table top exercise and mock drills our preparedness will improve which will help us to minimize the consequences of emergencies as and when they arise.

All the key personnel are requested to study the document and become familiar with the contents and disseminate information to those working with them.

Sandip Parekh

Factory Manager

Purpose

Major accidents may cause an emergency and it may lead to disaster, which may cause heavy damage to plants, property, harm to persons and create adverse effects on production.

Many disasters like Bhopal gas tragedy, Chernobyl Nuclear Disaster etc. have occurred at many places in the world causing heavy loss of life and property.

Emergency situation arises all of a sudden and creates havoc and damage to property, production and environment and harm to human beings.

Therefore, such situations and risks should be thought of, visualized and assessed in advance and it should be planned beforehand to tackle them immediately and control them within the shortest time.

We handle various hazardous chemicals & employ processes involving pressure and temperature. In spite of precautions and safety measures we take, an incidence of potential damage may arise occasionally. Such incidents if effectively handled by the Department Heads/ Shift-in-Charges / Shift Engineers would cease to be a potential hazard thereafter. However, in case the situation demands for greater assistance, the mitigation measures are not enough to control or when the Shift-in-Charge / Shift Engineer is in doubt of combating and controlling the situations with resources at his command, he will initiate the emergency procedure. "The purpose of this plan is to lay down guidelines to handle such emergencies."

Under the provision of Sec 41B (4) of the Factories Act 1948 every occupier shall draw up an On-site Emergency Plan and detailed disaster control measures for his factory and make known to the workers employed therein and to the general public living in the vicinity of the factory the safety measures required to be taken in the event of an accident taking place.

Similarly, Schedule 8-A of Sub rule 68-J-(12) (1) of Gujarat Factory Rule 1963 requires that every occupier of a hazardous factory shall prepare an ON-SITE emergency plan and detailed disaster control measures including linkage with off Site Emergency Management for the factory. Accordingly, the ON-SITE and OFF-SITE emergency plan with details of disaster control measures has been prepared for the employees and general public living in the vicinity of the factory. This plan gives the safety measures to be taken in the event of any accident or disaster happening at the plant.

The provisions of the following guidelines are kept in mind while preparing this plan.

- Status relating to risk assessment and environment impact in case of Fire, Explosion and the measures taken for prevention of such accident.
- Probabilities of possible hazard due to the failure of provided control measures and equipment such as safety valve, pressure gauge, temperature indicator etc. at different stages of process.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

- Provisions for all facilities and procedures for immediate control to minimize the effect of such probabilities.
- Arrangement with mutual aid agencies.
- Arrangement for informing workers through emergency alarm and public in vicinity and surrounding factories through telephone.
- Arrangement for evacuation of persons likely to be affected due to emergency.
- Arrangement for transporting affected persons to the hospital and medical center through Car/Ambulance.
- Arrangement for necessary treatment and availability of antidotes at hospitals and at medical centers.
- Organization Chart for fixation of responsibilities of managers, officers, workers at different stages for handling emergencies due to fire, explosion etc.
- Details regarding alert systems like emergency detection and alarm.
- Notification of the place of gathering of workers and staff at the time of emergency.
- Information in detail, regarding any disaster, which might have occurred in the factory.
- Provisions of main control for 24 hours to use at the time of emergency.
- Arrangement regarding maintenance of different equipment, control measures and safe procedure of work so that they shall work effectively.
- A statement of all possible sources of accidents involving fire, explosion, and plan of showing the place of above accidents with the facilities to control the emergency near the place and at the control place.
- OFF-SITE emergency services that is a link between ON-SITE and OFF-SITE Emergency Plan. While preparing this plan, the following documents have been referred and thankful to those for their contribution.
- As per Gujarat Disaster Management Act, as requested shall assist the State Government, the Commissioner and the Collector in all disaster management activities and should prepare a disaster management plan in conformity with the other disaster management plans of local authorities, departments of Government having regard to the guidelines laid down in this behalf by the Authority.
- Each factory shall be responsible for effective implementation of the plan drawn up by it on this behalf. Each private and public sector entity shall provide assistance to the Authority, the Commissioner, the Collector and take such other steps as may be necessary for disaster management.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Scope

This applies to all employees of AARTI INDUSTRIES LTD, DIAMOND DIVISION, DAHEJ that need to establish Emergency Response Plans.

Definitions

Some definitions used in on-site emergency plan are given below:

INCIDENT:

Undesired event giving rise to death, ill health, injury, damage or other loss.

MAJOR INCIDENT:

Is a sudden, unexpected, unplanned event, resulting from uncontrolled developments during an industrial activity, which causes or has the potential to cause. Serious adverse effects immediate or delayed (death, injuries, poisoning or hospitalization) to a number of people inside the installation and / or to persons outside the establishment, or significant damage to crops, plants or animals or significant contamination of land, water, air or an emergency intervention outside the establishment (e.g. Evacuation of local population stopping of local traffic) or significant change in the process operating conditions, such as stoppage or suspension of normal work in the concerned plant for a significant period of above, or any combination of the above effects.

EMERGENCY:

An emergency is an abnormal event, which could result in danger to personnel, property and environment. It could be due to fire, Explosion, Heavy spillage of hazardous liquid, toxic gas release etc.

MAJOR EMERGENCY:

Is one that may affect several departments within it and/or may cause serious injuries, loss of life, and extensive damage to property or serious disruption outside the works? It will require the use of outside resources to handle it effectively.

NOTE: Emergency due to operating conditions, uncontrolled reaction, small fire, small gas leak, spill, failure of power, water, air, steam, cooling media, scrubbing media etc. and which can be locally handled by plant personnel alone (without outside help) is not considered a major emergency.

DISASTER:

Is a catastrophic situation in which the day-to-day life patterns are, in many instances, suddenly disrupted and people are plunged into helplessness and suffering and as a result need protection, clothing, shelter, medical and social care other necessities of life, such as: Disasters resulting from natural phenomena like earthquakes, volcanic eruptions, storm surges, cyclones, tropical storms, floods, landslides, fierce fires and massive insect infestation. Also in this group, violent drought which will cause a creeping disaster leading to famine, disease and death must be included.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Second group includes disastrous events occasioned by man, or by man's impact on the environment, such as armed conflict, industrial accidents, factory fires, explosions and escape of toxic releases of chemical substances, river pollution, mining or other structural collapses, air, sea, rail and road transport accidents, aircraft crashed, chopper crashed, collisions of vehicles carrying inflammable liquids, oil spills at sea and dam failures.

HAZARD:

Source or situation with a potential for harm in terms of injury or ill health, damage to property, damage to the workplace environment or a combination of these.

RISK:

Combination of the likelihood and consequence(s) of a specified hazardous event occurring.

CLASSIFICATION OF EMERGENCY:

LEVEL – 1 Emergency:

The emergency situation arising in any section of a particular plant and can be controlled within the affected section itself, with the help of in house resources available at any given point of time is called level-1 emergency.

LEVEL – 2 Emergency:

The emergency situation arising in any section of a particular plant has the potential to cause injury or damage to property, environment to the nearby plant/area limiting to the boundaries of factory premises. Such an emergency situation which can be controlled by inhouse resources and /or with the help of neighboring industries/sources like District Fire Brigade & other institutions is called Level-2 emergency.

LEVEL – 3 Emergency:

The emergency situation arising in any section of a particular plant and has the potential to cause injury or damage to property, environment in the factory premises as well as going beyond the factory limit affecting nearby industries and / or communities; such emergency which requires the assistance of sources like District Fire Brigade & other institutions to handle and control the situation is called Level-3 emergency.

Note:

Level-I and Level- II shall normally be grouped as onsite emergency and Level- III as off- site emergency. For Level-I emergency evacuation is restricted within a plant and for Level-II & III entire site evacuation must be done.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

MODE OF EMERGENCY:

Man made	Natural Calamities	Extraneous
Heavy Toxic Leakage/ Spillage	Flood	Riots/Civil Disorder/Mob Attack
Fire	Earthquake	Terrorism
Explosion	Cyclone	Sabotage
Fire & explosion in cross country pipelines	-----	Food poisoning
Failure of Critical Control system	Outbreak of Disease	Bomb Threat
Design deficiency	Tsunami	War/Hit by missiles
Unsafe acts	Lightning	Abduction
In-adequate maintenance	-----	-----

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

CHAPTER-1: NAME AND ADDRESS OF THE PERSON FURNISHING THE INFORMATION

Full Name : Aarti Industries Limited				
Address of the company : Plot no. Z/103/C, SEZ-II, Dahej, Tal-Vagra, Dist- Bharuch, Gujrat				
Phones :Factory : Office : 02641-223551				
Fax No. : NA				
Full Name & Address of the occupier : Mr. Ajay Kumar Gupta		Phones		
A-102, Samsara Flat Chhani Jakat Naka, TP13, Canal Road, Vadodara - 391740		Office	Residence	
		-	9998953992	
Full Name & Address of the Manager : Mr. Sandip Parekh		Phones		
B/2 Shreeniketan resiplaza Opp INOX multiplex, Zadeshwar road, Maktampur Bharuch.		Office	Residence	
		02641 223639	9727720802	
Manufacturing process: 2,5 DCA , 2,5 DCP , PDCB, 2,4-DFA, 2,3,4-TFA				
Name of the shift	Maximum workers at a time			In "workers" include all employees, contract workers, trainees, apprentices, etc.
	Male	Female	Total	
General (G)	368	20	388	
First (A)	108	0	108	
Second (B)	117	0	117	
Third (C)	106	0	106	
Total shifts workers	699	20	719	
First person to be contacted in the case of an emergency :				
Name of the shift	Name & designation	Place of availability	Phone No.	

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

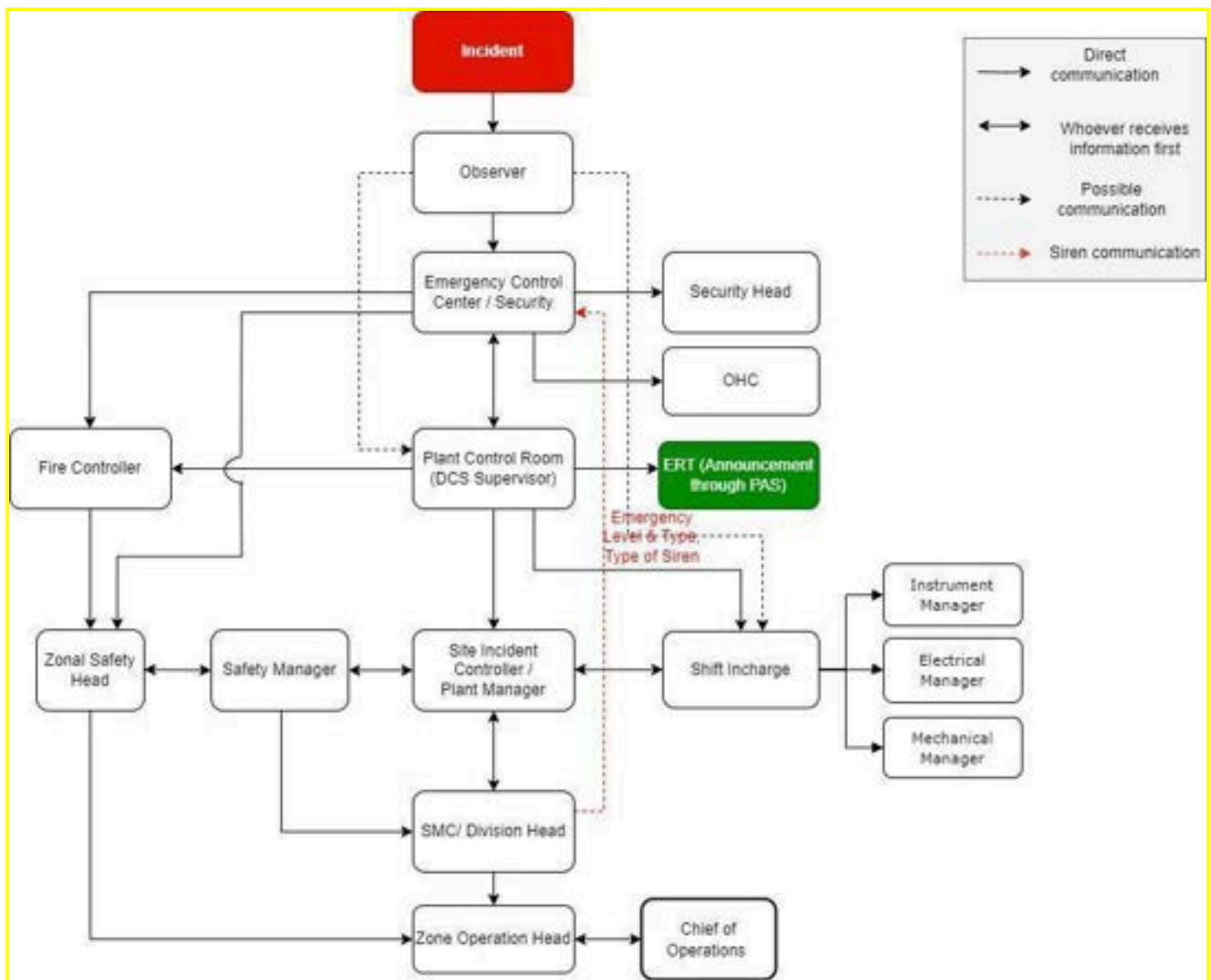
General (G) & Hours	Mr. Sandip Parekh Division Head	Plot no. Z/103/C, SEZ-II, Dahej,Tal-Vagra, Dist- Bharuch, Gujrat	9727720802 -
First, Second & Night Shift	DCA Plant Shift In charge	Plot no. Z/103/C, SEZ-II, Dahej,Tal-Vagra, Dist- Bharuch, Gujrat	CUG Phone- 6352971755
First, Second & Night Shift	DCP Plant Shift In charge	Plot no. Z/103/C, SEZ-II, Dahej,Tal-Vagra, Dist- Bharuch, Gujrat	CUG Phone-6352967542
First, Second & Night Shift	SAC/CR/ TAR Plant Shift Incharge	Plot no. Z/103/C, SEZ-II, Dahej,Tal-Vagra, Dist- Bharuch, Gujrat	CUG Phone-6352967585
First, Second & Night Shift	NSA/SO2 & Tank Farm area Shift In charge	Plot no. Z/103/C, SEZ-II, Dahej,Tal-Vagra, Dist- Bharuch, Gujrat	CUG Phone-7984860020 6353650390
First, Second & Night Shift	ETP area Shift In charge	Plot no. Z/103/C, SEZ-II, Dahej,Tal-Vagra, Dist- Bharuch, Gujrat	CUG Phone-6353533450

CHAPTER-2: KEY PERSONNEL OF THE ORGANIZATION AND RESPONSIBILITIES ASSIGNED TO THEM IN CASE OF AN EMERGENCY

Emergency Command System:

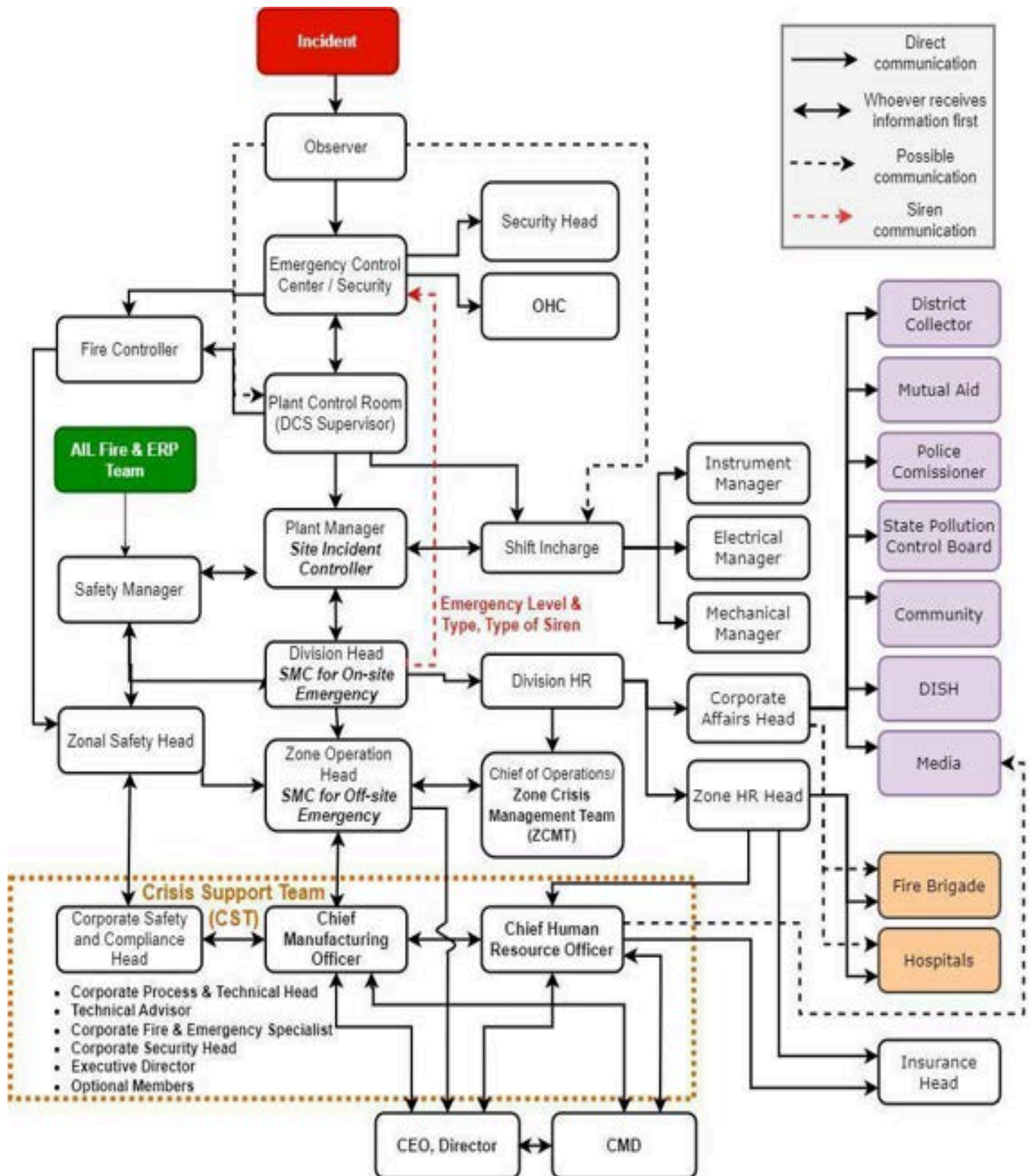
Communication channel for the Emergency organization shall be as per the Emergency Organization Structure Chart as mentioned below.

Emergency Command System applicable for L1 Emergency:



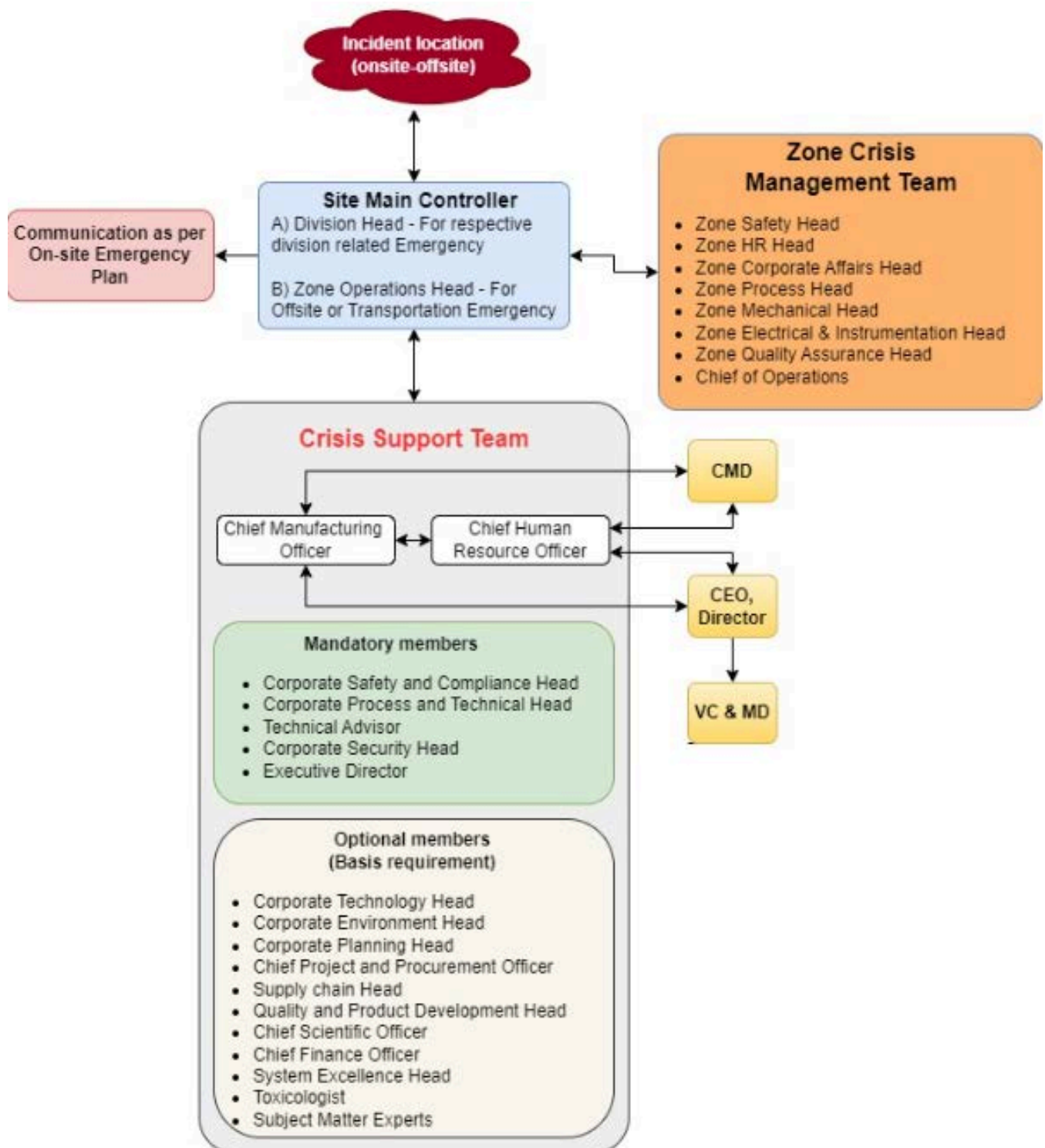
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Emergency Command System applicable for L2 and L3 Emergencies:



On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

The crisis management team will have the following structure. The below CMT will be activated by the Corporate Safety and Compliance Head for the emergency scenarios of level 2, 3 and transport emergencies.



Introduction

This chapter is devised to suggest the organization for emergency preparedness. No plan will succeed without effective emergency organization. Key personnel to combat emergencies should be nominated with specific responsibilities according to the set procedures (rehearsed) and making the best use of the resources available and to avoid confusion. Such key personnel include Incident Controller, Site Main Controller, other key personnel and essential workers. Assembly points for non-essential workers, emergency control centre, ambulance room/ OHC and ambulance van, fire and toxicity control arrangements, medical arrangements, transport and evacuation arrangements, pollution control arrangements, other arrangements and persons to manage them are also important parts of the emergency organization.

All such key personnel must be available in all shifts and on call on off-duty or holiday. Their specific duties shall be listed (person wise) in the last annexure given as Emergency Instruction Booklet. The details are explained below.

ROLES AND RESPONSIBILITY OF EMERGENCY RESPONSE PERSONNEL

● **FIRST RESPONDER & ALARM RAISER**

(He should follow fire order in case of fire as mentioned below)

- In case of Fire / Explosion

Actions by anyone noticing the emergency —Large Chemical Leak / Gas Leak and / or Fire

He/she will shout

Danger! Danger!! Danger!!!

Or

Fire! Fire!! Fire!!!

1. Inform nearby plant people. If there is no one around, he will go to the nearest telephone & inform Security/ECC
Plant Control Room (DCS Supervisor)
2. While doing so he will
 - Identify himself. (Name, Function)
 - State briefly the type of emergency
 - Mention the location of emergency
 - Inform about Injury to personnel if any
3. If the observer is not an outsider and belongs to the site

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

- He will actuate the nearest Manual Call Point
 - He will use PPE & go near the place of emergency and assess the type & severity of the situation.
 - If he's familiar with using first aid appliances then try to control the incident.
 - If he is not confident of handling the situation, he should not attempt it.
4. If not familiar or if the situation is beyond control he should remain available to respond from nearby areas to brief what has happened & stay at a standby safe place for assistance.
 5. Help evacuate occupants (a person who resides or is present in a plant) by Using Emergency Exit or Shortest safe route. Send them to Assembly Point.
 6. Do not use the elevators
 7. Be calm - do not panic; Walk, do not run

- **SITE INCIDENT CONTROLLER**

The Plant Manager will be SIC during an emergency. However, Section in-charge / Shift In-charge of the affected site will be the SIC till Plant Manager reaches the site or in the absence of Plant Manager. The plant should never operate in absence of Shift In-charge

Site Incident Controller also called SIC has overall responsibility for setting direction and calling inside help during an emergency. He is required to make decisions in collaboration with other Division/Function heads or section in-charge. Shift In-charge / Section In-charge will continue incident control along with emergency squad & fire officers till his plant manager comes & take charge as SIC.

1. SIC will proceed to the scene immediately on being made aware of the emergency.
2. SIC primary duty is to take charge near to the site of the incident at the safe distance and assess the extent of emergency and decide if a major emergency exists or is likely to develop and also to decide to summon help if so required in consultation with SMC.
3. Set up a communications point and establish telephone / messenger / Walkie-Talkie for contact as appropriate with the emergency control center.
4. He will make a decision involving the operation of the other plants whether to stop or continue any process with consultation with SMC.
5. Take the decision to control the incident and bring the situation under control within the shortest possible time in consultation with SMC. Shift in-charge will take charge of control actions. While doing so he will ensure all PPE are used prior to entering the affected area.
6. Direct the all process/functions within the affected areas with the following priorities

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

- Secure safety of the personnel
 - Minimize damage to property and the environment
 - Arrange to mobilize Functional Support team for attending emergency
 - Evacuate non-essential workers to the assembly points
7. Give information as requested by emergency services.
 8. Minimize consequences of emergency by
 - Call an Ambulance/van if required to remove causality.
 - Immediate eliminate source of ignition if any (boiler, electrical equipment)
 - Restricted unnecessary movement of vehicles in the affected area.
 - Isolate area of emergency.
 - Transferring material to a safe area.
 - Stopping loading/unloading activities.
 - Evacuating plant/site, arranging headcount.
 9. To ensure availability of the outside services like mutual aid, fire brigade through emergency control center
 10. Brief the Site Main Controller and keep informed of developments.
 11. Advise the SMC on giving all clear signal (Alarm)
 12. Preservation of evidence to facilitate any inquiry or investigation which caused or escalated the emergency and concluded preventive measures.

NOTE: The area in which emergency happens, section in-charge or senior person (in silent hr/holiday) has to remain with the site incident controller

1. He has to provide the information / help as per the requirement of the site emergency controller
2. He has to evacuate all persons in his area if evacuation is needed as per instruction of site incident controller
3. The Site Main Controller may delegate some of his tasks (except dealing with the media / public) to other responsible people if the situation warrants.

Note: See **Annexure: - 14** for Individual Name as an IC.

● **SITE MAIN CONTROLLER**

The Division head of site will be the Site Main Controller (SMC). However, in absence of the Division Head or until he reaches the site, the SIC will be SMC if he is Plant Manager / Section In-charge of the affected plant. Else the SMC will be the Shift In-charge of the non-affected plant.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Site Main Controller, also called SMC has overall responsibility for setting direction and calling outside help for emergencies. SMC is required to make decisions in collaboration with other functional heads. The Plant Manager will be SMC till the Division head reaches the site.

The duties & responsibilities of Site Main controller are:

1. To take the charge of emergency situation
2. To assess the magnitude of situation in consultation with site controller and decide whether the emergency is Level 1, Level 2 or Level 3 major or is likely to convert in to major emergency,
3. The Level shall be communicated to the Security.
4. The SMC has to decide on requirements / possible requirements from external agencies and declare OFF-SITE Emergency (Level 3).
5. Depending on the magnitude of OFF-SITE Emergency, decides for partial evacuation or total evacuation.
6. Direct measures or precautions to be taken or operational control over non-affected areas of plant or site
7. To be continually in touch with the site incident controller and review the course of events to determine the most appropriate course of action along with the Zone Functional Head team.
8. While determining the course of action, he/she should refer the Pre Incident Plan for the Emergency scenario pertaining to the ongoing incident as provided in the On Site Emergency Response Plan
9. Direct the communication team
 - To call the key personnel at the site and to inform about the situation to other manufacturing locations.
 - Inform all walkie-talkie holders to keep / put the walkie-talkie on a single channel of “safety channel” during an emergency.
 - To call outside emergency service and neighbouring factories for help.
 - To call the local fire brigade for emergency help.
 - To inform relevant government bodies.
 - To inform the nearby community leaders.
10. Direct the OHC to arrange for hospitalization of the injured
11. Ensure the accounting of personnel and rescue of missing persons
12. Ensure that the relatives of the injured / casualty are communicated
13. SMC shall be available at all the time in. ECC in L2 & L3 & he will be the SPOC for Crisis Management Team

14. Control traffic movement inside factory
15. Ensure canteen facilities, if the emergency is prolonged
16. To arrange for collecting and preservation of evidence to facilitate any inquiry or investigation which caused or escalated the emergency.
17. To make assessment of total no. of calamities, damage incurred to plant, property and machinery and damage to environment during emergency.
18. Take the headcount of the site during emergency and in case of mismatch, initiate the search and rescue operation following the Procedure for search and rescue.
19. Review the authorized statement prepared by legal person for the media
20. "ALL CLEAR" will be given by the SMC in consultation with the Site Incident Controller and Fire Brigade In-charge at site.
21. Control rehabilitation of affected areas and victims on cessation of emergency.
22. To ensure that the plant is not start unless inspected / investigated

- **EMERGENCY COMMUNICATION TEAM**

The communication team members should act as follows

1. Proceed to the Emergency Control Centre & report to the Site Main Controller.
2. Inform all walkie-talkie holders to keep / put the walkie-talkie on a single channel of "safety channel" during an emergency.
3. Wait for instructions from the Site Main Controller.
4. Communicate Key members & important Aarti's people.
5. Communicate to the relatives of injured people.
6. In case of evacuation of personnel from site, he should coordinate such evacuation to Area industrial emergency control center with alignment District disaster control center

- **DIVISION HR**

Upon receiving the communication from the Division Head or Site Main Controller about the emergency, the Division HR will immediately communicate the details to the following:

- Advisory Team
 - Zonal HR Head
 - Corporate Affairs Team
1. The Division HR will make arrangements for internal transportation for mobilization of Response team to & away from the site as shall be required during the emergency.

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2. If site evacuation is required, the Division HR shall arrange vehicles for transportation of people from site to safe location/ home.
3. Division HR will activate the Emergency Transportation Plan upon receiving the communication regarding the same from SMC.
4. He/she shall accordingly arrange vehicles depending on the population at the declared assembly points.
5. The vehicles have to be fitted with necessary spark arrestors, before proceeding to the assembly points to pick up gathered personnel over there.

● **ZONAL HR HEAD**

Upon communication from Division HR, he will consult with Site Main Controller and

1. Arrange local fire brigade / ambulance
2. Communicate to the relatives of injured people. Taking care of required arrangements to bring them at peace.
3. In case of evacuation of personnel from site, he should coordinate such evacuation to Area industrial emergency control center with alignment District disaster control center
4. Communication with FMO regarding the casualty

● **CORPORATE AFFAIRS HEAD**

The Corporate Affairs Head, depending on the communication from & in consultation with the SMC shall notify the emergency to the following organizations in case of OFF-SITE emergency

1. District Collector
2. Mutual Aid (Neighbouring industries with Mutual Aid Agreement)
3. State Pollution control board
4. Police Commissioner
5. DISH
6. Community
7. Media

Refer Template-Immediate communication release

- He will manage any rumor and misinformation by responding quickly and appropriately.
- He shall refute inaccurate, misleading information through the use of public affairs techniques such as letters to the editor, and the agency website.
- He will carry out the legal formalities after the crisis

- **COMMUNICATION WITH MEDIA**

The occurrence of a serious emergency or disaster would be a matter of public interest and the media would be keen to report the incident. In the absence of clear-cut and prompt information from the company, not only the public will get exaggerated and distorted versions, but also the Company may get its image tarnished. Being a sensitive area, Sr. Leaders will be in charge of communication with the media. The spokesperson for the Company on behalf of Chairman/MD is the corporate affair team. For very urgent matters, the Chairman/MD may delegate the task of communication with the media to the corporate affairs team. The factual part of the communication should be collected and prepared by Leader- Legal as applicable. Verbal communication shall always be backed up by a written statement.

1. Media should be advised to ignore any information other than from the official spokesperson of the Company.
2. Visit by media to the scene of emergency should be arranged only if it is absolutely safe to do so and if permitted by Chief HR Officer
3. Newsmen may be permitted the use of telephone, etc., if requested.
4. Reasons for any restrictions imposed on the newsman may be explained to them.
5. The successful response to the incident and minimize the loss shall be highlighted so that they may project a balanced picture of the Company.
6. Do not release estimates of damage.
7. Do not release names of dead or injured before informing the relatives.
8. Do not speculate & stick to the facts.
9. The investigation team will go into the cause of the disaster and give recommendations. There is no need to place blame at this stage.
10. Do not discuss the nature or extent of injuries. Just report the names (only after informing relatives and advise that necessary medical attention is being given).

- **COMMUNICATE TO NEARBY COMMUNITY**

The occurrence of a serious emergency or disaster would have a major impact in the local community. In the absence of clear-cut and prompt information from the company, there will be a panic situation in the area and creating distorted versions of emergency causing damage to the public and the Company's image may tarnish. Being a sensitive area, Sr. Leaders of the corporate affair team will be in charge of communication with the community. The factual part of the communication should be collected and prepared by Leader- Legal as applicable. Verbal

communication shall always be backed up by a written statement by using the Template-Immediate communication release

- Corporate affair team shall be brief the district collector of incident
- Along with district collect he/she shall inform leader of local community eg: Sarpanch
- Along with the Sarpanch Do's and Don't of the emergency shall be communicated to the local community.

- **ZONE CRISIS MANAGEMENT TEAM**

People from different functions are experts in their field based on their knowledge and work experience. **Zonal Functional Heads (Mechanical, Electrical & Instrumentation), Process Head, QA/QC Head at Zone level shall form the advisory team that would support the SMC in the event of crisis. This team is Zone-wise and not division-wise.**

Duties of Zone Functional Heads team are as follows

- The Functional Head team will not be directly involved in emergency handling. Since they may or may not be available at site.
- Upon hearing an Emergency the Zone Functional Heads should act as follows
 - Go to the emergency control center set up by Site Main Controller
 - Locate Site Main Controller
 - Advise Site Main Controller
 - Carry out tasks as decided by Site Main Controller.
- All the Functional Heads will report to the Site Main Controller during the emergency.
- They will provide intellectual and strategic advice to the SMC in handling and controlling the emergency & its after effects.
- Ensure all time preparedness of resources, systems & facilities for the management of emergencies arising out of industrial, security & natural calamity etc.
- Communicate to the ETP regarding the additional water load management
- Provide adequate financial support as required for preparedness & at the time of occurrence of emergency.
- Ensure all time appraisal on the emergency situation & progress on control and mitigation actions.
- Apprise their respective Corporate Heads on the status of emergency & control measures.
- Review legal requirements to be fulfilled

Important Note:

In case of emergency from natural calamities or Man-made disasters the Zone Functional Heads should act as follows:

- Immediately leave the site to the extent possible, monitor the evacuation of all others and ensure orderliness and movement perpendicular to the wind direction.
- Do not re-enter the site until advised by the Site Main Controller.
- When directed by Site Main Controller to re-enter the site, proceed to the scene of emergency for assessing the damage and to enquire into the incident and then report to the Site Main Controller

- **DEPUTY INCIDENT CONTROLLER**

Respective Shift In-charge of the Plant (Site) holds the responsibility of the Dy. IC, if the incident is in their plant/area, up to the arrival of the IC on the Site. Then Dy. IC will support his IC.

Note: See **Annexure: - 15** for Individual Name as a DIC.

- **IMMEDIATE ESCALATION BY SECURITY OFFICER**

The Security Officer will inform the following people about the emergency in the sequence as mentioned

1. DCS Supervisor (Plant Control Room)
2. Fire Controller
3. Security Head
4. Occupational Health Center

After informing, the security officer will take actions as per their duties and responsibilities.

The security officer is also responsible of activating the appropriate siren as mentioned in the Siren Code (refer Guidelines of Emergency Response & Control Plan Section 4.3.1) once receiving the communication from SMC (Site Main Controller)

Also ensure that all Walkie-talkies shall be kept/put on a single channel of "Safety Channel" During Emergency by all Walkie-talkie Holders.

- **DCS SUPERVISOR (PLANT CONTROL ROOM)**

The DCS supervisor upon information from the security or the observer should ascertain the authenticity of the alarm or notification & if authentic should immediately announce through the Public Address system the following details.

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1. State briefly the type of emergency (Fire, Leak, Spill, etc.)
2. Mention the location of emergency
3. Inform about Injury to personnel (if any)

Immediately after the announcement the DCS supervisor shall inform the following people about the incident

1. Security Office (To confirm about their knowledge of the incident)
2. Shift In-charge
3. Plant Manager
4. Fire Controller

Upon direction from the Site Incident Controller, the DCS Supervisor shall proceed with emergency shutdown of the operation as per the SOP and take fuel supply reduction measures if any as prescribed in Pre Incident Planning Assessment of the emergency.

In case of runaway reactions, DCS supervisors shall carry out emergency shutdown of operations as per the SOP and keep monitoring the process conditions and informing the seniors.

In case of toxic gasses entering the control room, DCS supervisor shall wear SCBA and carry out emergency shutdown of operations as per the SOP and leave the control room.

● **PROCEDURE FOR EMERGENCY CONTROL & SITE EVACUATION**

● **Security Officer**

Upon Hearing EMERGENCY ALARM, or an EMERGENCY PHONE CALL, the SECURITY OFFICER should act as follows:

1. Shall immediately rush to the incident location as he receives the notification.
2. He shall be responsible for Barricade of the incident location.
3. Help in evacuation of the personnel from factory
4. The Security officer shall be deployed as a Traffic controller. He'll move all the hazardous material carrying vehicles from unloading/loading point to safe location with help of stores and the logistics team. He shall ensure that the route of emergency vehicle movement is clear of any obstacles.
5. Prevent unauthorized entry and exit at the gate.
6. To stop out vehicle entry containing materials
7. During emergency to keep main gate close
8. Will be the Assembly Point Owner

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- Carry out head count and report it to SMC
- Maintain calm among people
- Allow people to disperse only after closure of emergency
 9. Get additional help if necessary.
 10. Security officer at gate shall direct ambulance at the incident site
 11. Should ensure the standby emergency vehicle and driver in case the ambulance is under testing or maintenance.
 12. He will be in continuous coordination with the fire controller for support and arrangement of the resources.
 13. He will be responsible for arranging the vehicle at incident locations.
 14. To direct mutual aid services for their help and guide them.
 15. If any government officials / media personnel arrive at the gate – ask them to stay in the visitors' room at the gate. In the same form as SMC. Once the emergency is over SMC & personnel head will brief the details.
 16. Follow the instructions of SIC & SMC.

- **Auxiliary Fire Squad (Security Guards)**

1. On receiving information immediately reach the emergency site and report to the Site Incident Controller
2. Assist the Fire Fighting Team in firefighting & rescue operation
3. To carry out Area barrigation & removal of unwanted people from emergency site
4. To support the movement of emergency equipment (For e.g. Fire Hoses, SCBA Set, etc.) to the emergency site

Note: 30% of the strength of security guards shall be trained & certified fire fighters & they will be designated auxiliary fire squad members.

- **Fire Controller**

Fire controller reports at the emergency location as soon as he receives the notification about the emergency. Fire controller is responsible for,

1. Firefighting, rescue or trapped personnel and gas release control activities.
2. Fire controllers immediate concern is to direct the rescue of trapped and injured people and firefighting.
3. Direct close coordination to SIC and guided the firefighting team with a good strategy.
4. Arrange resources or manpower with consultation with SMC if required.

5. Form a Rescue team and guide the team if required.
6. Maintain and provide equipment which shall be supported or used at the time of emergency.
7. Arrange Fire Fighting PPEs for external resources.
8. Closely coordinate with corporate - Fire and ERP for support or strategy.
9. He shall plan and coordinate for the Gas Management system for monitoring and analysis of fire and explosion scenarios.

ESSENTIAL PERSONNEL TEAM:

As soon as the essential personnel hear the emergency siren or any emergency brought to their knowledge, they first report to the incident controller (After handing over their charge to another plant supervisor) fully equipped themselves. (For proper information all team member has to contact immediately on telephone Number)

The team of the essential personnel trained in Fire Fighting, First aid and Rescue. And they are available in the factory in all shifts.

- **Fire Fighting Team**

Upon hearing EMERGENCY ALARM fire fighter team should act as follows:

1. Understand the situation and location of the incident.
2. Approach to the incident point with maximum possible safety precautions.
3. Remove casualties to a safer location.
4. Follow the orders of the Site Incident Controller.
5. To decide line of action in consultation with incident controller & Key personnel and take appropriate measures to extinguish the fire.
6. To fight fire till a fire brigade and mutual aid team will take the charge
7. Should direct fire tenders in the plant.
8. To help to the fire brigade and mutual aid teams
9. Should carry out search operations in case of missing persons.

- **First Aiders**

This is the team of trained first aiders in the plant, and first aiders from other units. They should act as follows after hearing emergency alarm:

1. Proceed to site & arrange First aid equipments
2. Provide proper first aid to casualties.
3. To take charge of Ambulance room and first aid room

4. Communicate with the OHC team.
5. To help & assist Factory Medical officers.
6. To assist at casualties reception areas to record details of casualties

- **Rescue Team**

1. Rescue team shall be formed upon the instruction of fire controller if required
2. The rescue team shall be Group of three trained and skilled fire fighters
3. They will take a quick round in a factory premises to search and rescue the person, if any trapped / injured in emergency situations.
4. Security officer/manager has to confirm the head counts and communicate to the fire controller and ICS.
5. On comparing head count with attendance register, the controller may send another search team to locate and rescue the missing person.
6. Rescue team will report their findings to the Fire controller.

- **Spill controller**

The responsibilities of spill controller team is as follows:

1. Should move to the emergency area to attend leakages with non-sparking tools with adequate personnel safety.
2. Should barricade the affected areas.
3. Should help clean-up agencies in getting affected areas cleaned.
4. Ensure effluents are diverted to ETP
5. Constant monitoring of ambient air quality should be done

- **Safety Officer**

Upon hearing EMERGENCY ALARM Safety Officer should act as follows:

1. Immediately proceed to the scene of emergency accompanying the ERT team and fire fighting equipments
2. Ensure that team members are provided with proper personnel safety equipment for tackling the emergency.
3. Direct the firefighting operation by following the instructions of SIC
4. Advice Site Main Controller if required.
5. Coordinate with the Fire controller for support.
6. Responsible for personnel safety and helping the security team for evacuation.

7. To guide transport for safe shifting of materials from one place to another.
8. To guide mutual aid services and the teams.
9. To keep informed the site main controller about developments.
10. To assess the emergency & evacuate the neighboring factory workers and neighbouring population through SMC.
11. To inform the effect of emergency and steps to be taken to avoid the effects of a Fire etc.

● **OHC Team & Factory Medical Officer**

The OHC team, led by the Factory Medical Officer, will reach the site on receipt of communication. They will park the ambulance at a safe location. They following would be their responsibilities

1. The FMO supervises the Medical Emergencies on-scene.
2. He / She establishes command and controls the activities in order to assure the right possible emergency medical care to patients during a multi-casualty incident.
3. During the emergency, if there are multiple injuries / casualties the FMO decides the order of treatment of (patients or casualties).
4. The OHC team at site shall evaluate the nature of injury to be of First Aid case or Non- First Aid case
5. Provide first aid treatment to the injured person
6. To guide/instruct first aider, first aid & Rescue team in case of any emergency
7. Examine the injured personnel further for sending them to the hospital for further treatment with detail information
8. Assist the injured personnel for hospitalization.
9. To coordinate with the toxicologist in case of chemical exposure.
10. Direct/Manage medical personnel & supplies.
11. FMO to consult Zonal Head in case of hospitalization of severe injuries.
12. Ambulance driver to maintain the ambulance in good condition as per the checklist, to reach OHC in case of emergency and respond to the instructions of FMO, to reach designated hospitals as per instructions from FMO. He should be aware of the routes of different hospitals.

● **Functional Support Team**

Functional support team shall mobilize required resources at incident site for mitigating emergency at the earliest

1. The Engineering Function team (mechanical, Instrumentation and utility) shall report to Site Incident Controller for all engineering support.

2. Arrange tools and equipments like,
 - a. Smoke extractor
 - b. Earth moving equipment
 - c. Cranes with lifting tools & tackles
 - d. Portable pumps, forklifts, and trolleys
3. Will ensure that potable water and pneumatic supply remain normal in an emergency.
4. Ensure two way communication during an emergency.
5. Inspection of all the buildings in the affected area so as to check the safety of the building to reduce further damage.

- **Electricians**

Electricians in the shift shall take responsibility for the emergency power supply of the fire pump house area. They should act as follow after hearing emergency alarm:

1. Proceed to fire pump house area
2. Ensure main fire pump is started
3. Ensure D.G fire pump is started in case of power failure.
4. Shall provide additional lighting in required area
5. Ensure Power cut-off in hazardous area

- **Other Staff, Visitors and Contractor**

Upon Hearing Emergency Alarm all other staff visitors and contractors should

1. Leave the place and proceed to the assembly point.
2. On declaration of OFF-SITE emergency or natural disaster emergency leave the site on instruction of SMC.

- **PROCEDURE FOR CRISIS MANAGEMENT**

Pl. refer the Procedure for Crisis Management team for its roles & responsibilities. _

- **PROCEDURE TO DEPUTE ALTERNATE DESIGNATED SMC**

If the person discharging the role of SMC leaves the organization or goes on such a leave that he/she cannot arrive on the site in case of emergency, action shall be immediately taken to depute an alternative for the mentioned critical roles in ECS.

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- For Level 1 & Level 2 Emergency, the Alternate Designated SMC (Division Head) shall be deputed by the Zone Head considering the requirement during General shift Hrs, after General Shift Hrs & during Holidays.
- For Off-site & Level 3 Emergency, the Alternate Designated SMC (Zone Head) shall be deputed by the Chief Manufacturing Officer.
- The Alternate Designated SMC shall be made to understand the responsibilities that has to be discharged by him/her in handling emergency.
- Members of the Emergency Response Team, Zone Crisis Management Team & Crisis Support Team are notified by the Corporate Safety & Compliance Head by Email announcement.
- The contact details of the Alternate Designated SMC shall be added to the site's Emergency Contact Details & changes shall be incorporated to the Onsite & Offsite Emergency Response Plan.
- The telephone landline connection shall be made available at his/her residence.

☐ **Incident Controllers**

Note: See **Annexure: - 14** for Incident Controller

☐ **Deputy Incident Controllers**

Note: See **Annexure: - 15** for Deputy Incident Controller

☐ **Site Main Controllers**

Note: See **Annexure: - 16** for Site Main Controller

Key Personnel:

Note: See **Annexure: - 17** for Key Personnel and their responsibilities

☐ **Essential Persons For Fire Fighting & ERT Team**

Note: See **Annexure: - 18** for Essential worker

CHAPTER- 3: OUTSIDE ORGANIZATIONS IF INVOLVED IN ASSISTING DURING ON-SITE EMERGENCY

A. TYPES OF ACCIDENTS

- a) Fire & Explosion
- b) Toxic Gas release
- c) Environmental Pollution
- d) Spillage of strong acids & alkalis
- e) Toxic Chemical release or Spillage

B. RESPONSIBILITY ASSIGNED

Site Main Controller is responsible for informing all following authorized organizations in case of on-site emergency.

Reference:- Communication procedure to be followed as mentioned in chapter-11.

CHAPTER- 4: DETAILS OF LIAISON ARRANGEMENT BETWEEN THE ORGANIZATIONS

As mentioned in chapter-2, Liaison arrangement with other organizations and internally will be done by SMC and Dy. SMC with the help of Telephone operators.

They will be responsible to make communication with all Government authority, nearby Organization, Journalist, population, Employees and next of kin of the Employees. Following arrangement will also be useful

➤ MUTUAL AID

Since combating major emergencies might be beyond the capability of individual units, it is essential to have mutual aid agreements with neighboring industries. Consideration shall be given to the following while preparing mutual aid arrangements:

- A. Written mutual aid arrangements are to be worked out to facilitate additional help in the event of Level-II emergencies by way of rendering manpower, medical aid or firefighting equipment, etc.
- B. The mutual aid arrangement shall be such that the incident controller of the affected installation shall be supported by neighboring industries on call basis for the support services materials and equipment already agreed. Further, all such services deputed by member industry shall work under the command of the INCIDENT CONTROLLER of the affected installation.
- C. Mutual aid associations shall conduct regular meetings, develop written plans and test the effectiveness of their plans by holding drills. Drills are essential to establish a pattern for operation, detect weaknesses in communications, transportation and training. Periodic drills also develop experience in handling problems and build confidence in the organization.
- D. To make the emergency plan a success, the following exchange of information amongst the member organizations of mutual aid association is considered essential: -
 - I. The types of hazards in each installation and fire fighting measures.
 - II. List of all the installations or entities falling along the routes of transport vehicles carrying petroleum or petroleum products.
 - III. The type of equipment that would be deployed and procedure for making the replenishment.
 - IV. Written procedures which spell out the communications system for help and response. This is also required to get acquainted with operation of different
 - V. Firefighting equipment available to mutual aid members and compatibility for connecting at the user's place.
 - VI. Familiarization of topography and drills for access and exit details carried out by mutual aid members.

Note: Incidents involving road transport vehicles carrying petroleum products shall be attended by the nearest installation on request of civil authorities even in absence of mutual aid agreement with the consignor.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Call on Toll Free No. 18004190272 OR Send a Whatsapp message on 7228809573 under the Transportation Safety and Emergency Response Program.

➤ MUTUAL AID ARRANGEMENTS OF FIRST- AID AND HOSPITAL SERVICES AVAILABLE:

Note: See Annexure: - 22 Mutual aid arrangements of first- aid and hospital services available.

Note: M/s. Aarti Industries Ltd (Diamond division), Dahej is having mutual aid with Dahej Industrial Association (DIA), Dahej Eco Friendly Society (DEFS) & Dahej SEZ Fire station.

CHAPTER- 5: INFORMATION ON THE PRELIMINARY HAZARD ANALYSIS

➤ INTRODUCTION

Hazard is a physical situation or phenomena, which causes human injury, damages to property or the environment or combination of these criteria. Hazard Identification provides vital information to risk management and based on this information; management can keep ready the essential facilities & train the persons against the probable emergency.

Identification, analysis, assessment of hazards and risk provide vital information to risk management. Objective of this plan is to assess the risk and to provide guidelines for facing and controlling the emergency.

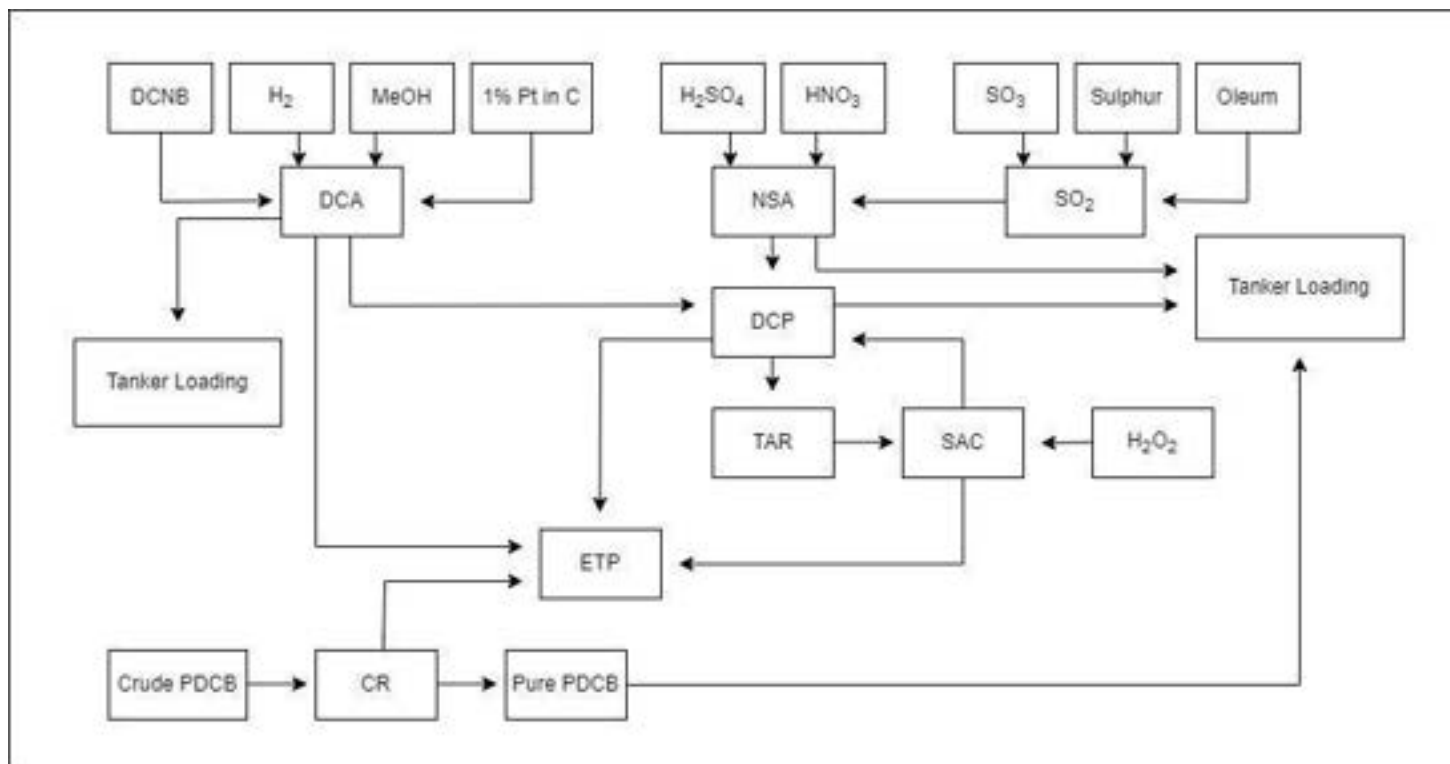
This Chapter contains the information of possible accidents, hazards and Safety relevant components.

This Emergency plan would also deal with the following emergency situation provided; it can be rehearsed and updated on a regular basis.

Man Made	Natural Calamities	Extraneous
Toxic gas release	Flood	<ul style="list-style-type: none">● Heat Stroke/Stress● Riots/Civil Disorder● Mob attack
Fire	Earthquake	Terrorism
Explosion	Outbreak of Disease	Sabotage
Failure of critical control system	<ul style="list-style-type: none">● Tsunami● Lightning	Bomb Threat
Spillage of strong acid and alkalis	Cyclone	<ul style="list-style-type: none">● War/Hit by missiles● Abduction● Food Poisoning/Water Poisoning

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

➤ PROCESS DESCRIPTION



1. 2,5 DiChloro Aniline

Overview:

2,5 Dichloro Aniline is created by hydrogenation of 2,5 Dichloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst followed by distillation. The reaction contains methanol as solvent.

2. 2,5 DiChloro Aniline(Crude)

Overview:

2,5 Dichloro Aniline is created by hydrogenation of 2,5 Dichloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst. The reaction contains methanol as solvent.

3. 3,4 DiChloro Aniline

Overview:

3,4 Dichloro Aniline is created by hydrogenation of 3,4 Dichloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst followed by distillation. The reaction contains methanol as solvent.

4. 3,4 DiChloro Aniline(Crude)

Overview:

3,4 Dichloro Aniline is created by hydrogenation of 3,4 Dichloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst. The reaction contains methanol as solvent.

5. 3,5 DiChloro Aniline

Overview:

3,5 Dichloro Aniline is created by hydrogenation of 3,5 Dichloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst followed by distillation. The reaction contains methanol as solvent.

6. 3,5 DiChloro Aniline(Crude)

Overview:

3,5 Dichloro Aniline is created by hydrogenation of 3,5 Dichloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst. The reaction contains methanol as solvent.

7. PCA

Overview:

Para Chloro Aniline is created by hydrogenation of Para Chloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst followed by distillation. The reaction contains methanol as solvent.

8. PCA(Crude)

Overview:

Para Chloro Aniline is created by hydrogenation of Para Chloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst. The reaction contains methanol as solvent.

9. 2,4,5 Tri Chloro Aniline

Overview:

2,4,5 Tri Chloro Aniline is created by hydrogenation of 2,4,6 trichloro nitrobenzene. This process is done in a loop reactor in continuous mode in presence of a catalyst. The reaction contains methanol as solvent.

10. 2,4,5 Tri Chloro Aniline(Crude)

Overview:

2,4,5 Tri Chloro Aniline is created by hydrogenation of 2,4,6 trichloro nitrobenzene. This process is done in a loop reactor in continuous mode in presence of a catalyst. The reaction contains methanol as solvent.

11. 2,4 DiChloro Aniline

Overview:

2,4 Dichloro Aniline is created by hydrogenation of 2,4 Dichloro Nitro benzene. This process is done in a loop reactor in continuous mode in presence of a catalyst followed by distillation. The reaction contains methanol as solvent.

12. 2,4 Difluoroaniline

Overview:

2,4 Difluoroaniline is created by hydrogenation of 2,4 DFNB. This process is done in a loop reactor in continuous mode in the presence of a catalyst followed by distillation. The reaction contains water as solvent.

13. 2,4,5 Trifluoroaniline

Overview:

2,4,5 Trifluoroaniline is created by hydrogenation of 2,4,5 TFNB. This process is done in a loop reactor in continuous mode in the presence of a catalyst followed by distillation. The reaction contains water as solvent.

14. 2,3,4 Trifluoroaniline

Overview:

2,3,4 Trifluoroaniline is created by hydrogenation of 2,3,4 TFNB. This process is done in a loop reactor in continuous mode in the presence of a catalyst followed by distillation. The reaction contains water as solvent.

15. 3 Chloro Ortho Toluidine

Overview:

2-chloro-6-nitrotoluene is created by hydrogenation of 2,6, CNT. This process is done in a loop reactor in continuous mode in the presence of a catalyst followed by distillation. The reaction contains methanol as solvent.

16. 3 Chloro Ortho Toluidine(Crude)

Overview:

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2-chloro-6-nitrotoluene is created by hydrogenation of 2,6, CNT. This process is done in a loop reactor in continuous mode in the presence of a catalyst. The reaction contains methanol as solvent.

17. 2,5/2,3 Dichloro Phenol

Overview:

2,5/2,3 Dichloro Phenol is produced by Diazotization reaction of 2,5/2,3 Dichloro Aniline by using 25% Nitrosyl Sulfuric Acid in presence of concentrated Sulfuric Acid (90%) which is used as dehydrating agent as water is formed as byproduct in reaction. The formed Diazo mass is hydrolysed to get 2,5/2,3 Dichloro Phenol Crude which is then neutralized followed by Distillation and Crystallization operation to produce Pure 2,5/2,3 Dichloro Phenol.

18. 25% NSA (Nitrosyl Sulfuric Acid)

Overview:

25% Nitrosyl Sulfuric Acid is used for the diazotization reaction in DCP. It is prepared from the reaction between SO₂ gas, Nitric acid and Spent Sulfuric acid is used as a medium and 25% NSA as catalyst.

19. 36% NSA (Nitrosyl Sulfuric Acid)

Overview:

36% Nitrosyl Sulfuric Acid is prepared from the reaction between SO₂ gas, Nitric acid and Spent Sulfuric acid is used as a medium and 36% NSA as catalyst.

20. Sulphur Dioxide

Overview:

Reaction of molten Sulfur and liquid sulfur trioxide is carried out in liquid media consisting of 25% Oleum. Sulfur dioxide plant is designed to produce Sulfur Dioxide in the form of gas.

21. Sulphuric Acid (Above 90%)

Overview:

Spent sulfuric acid with the initial concentration of approx. 70 wt.-% up to the final concentration of min. 90 wt.-%. The process is composed of an organic stripping stage, an acid concentration stage and a product acid bleaching stage.

22. PDCB Crystallization

Overview:

Crystallization Process- Crude PDCB is fed to CR to further purify PDCB from 90% to 99.98% by weight. Fractional crystallization is a stage-wise separation technique that relies upon the liquid-solid phase change and enables multi-component mixtures to be split into narrow fractions.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

A. TYPES OF ACCIDENTS (MAJOR)

- a) Fire & Explosion
- b) Toxic Gas release
- c) Environmental Pollution
- d) Leakage & Spillage of Strong acids & alkalis
- e) Toxic Chemical release & Spillage
- f) Food Poisoning / Water Poisoning

➤ COMMON CAUSES OF FAILURE

Failure of containment or Pipeline may be caused by various reasons resulting in spillage/ leakage of Flammable Liquids, Leakage of toxic gas, fire and explosion. It may be due to manmade, unsafe acts, unsafe conditions or due to natural calamity.

B. SYSTEM ELEMENTS OR EVENT THAT CAN LEAD TO A MAJOR ACCIDENT HAZARDS

- A. Inadequate design against internal pressure, external forces, corrosion and temperature.
- B. Mechanical failure of Pipes, Vessels, elbows due to corrosion, erosion, impact, liquid expansion, weld failure etc.
- C. Storage of Incompatible Materials.
- D. Failure of manual / automatic control system.
- E. Unsafe operation / maintenance including wrong operation of valve, mixing or overflowing of liquid chemicals.
- F. Leakages and spillage of flammable material.
- G. Uncontrolled vehicle movement/Transport Vehicle/Tanker Collision.
- H. Structure Collapse/Scaffolding Collapse.
- I. Fall from Height & Confined space activity.
- J. Any source of Ignition to flammable liquid may be the reason for the emergency.

C. HAZARDS

Company is involved with various Hazards. However, the major hazards areas are identified as follows;

- a) Storage & Handling area of Hazardous Chemicals
- b) Hazardous Process Area at plant.

Being a continuous process of manufacturing intermediates, the various related hazards are posed due to different incidental activities at the site.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

The probable emergency can be classified according to the physical & chemical properties as per following.

Table- (A): Probable Emergency

Sr. No.	Type of Probable Emergency	Hazardous Chemicals	Type of Storage
1.	Fire	Hydrogen	U/G Pipeline & ISBL Pipeline
		Methanol	U/G Storage Tank and ISBL & OSBL Pipeline
		Xylene	U/G Storage tank & Pipeline
2.	Explosion	Hydrogen	Autoclave Reactor & Pipeline
		Methanol/Xylene	U/G Storage Tank & Pipeline
		Hydrogen Peroxide	Storage tank
		Diazo Mass	Reactor
3.	Toxic gas release	Di Chloro Nitro Benzene (2, 5 DCNB)	Pipeline & Storage Tank
		2,5 DCA (Di-Chloro Aniline)	Pipeline & Storage Tank, Reactor
		2, 5 DCP (Di-Chloro Phenol)	Pipeline & Storage Tank, Reactor
		Nitric Acid	Pipeline & Storage Tank, Reactor

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Sr. No.	Type of Probable Emergency	Hazardous Chemicals	Type of Storage
		Sulfur	Pipeline
		SULFUR TRIOXIDE (SO ₃)	Pipeline & Storage Tank
		Sulfuric Acid (98%)	Pipeline & Storage Tank

Table (B): The conditions of events which could be significant in bringing one about:

Sr. No.	Type of Accident/Occurrence	Probable Reasons
1.	Fire, Explosion & Toxic release	Inadequate design against internal pressure, external forces, corrosion and temperature.
		Mechanical failure of Pipes, Vessels, & elbows due to <ul style="list-style-type: none"> Corrosion & Erosion, Impact, liquid expansion, weld failure
		Failure of manual / automatic control system.
		Unsafe operation / maintenance including wrong operation of valve, mixing or overflowing of liquid chemicals.
		Uncontrolled vehicle movement.
		Any source of Ignition like Matchbox, Mobile, Welding, Cutting, etc Runaway reaction due to incompatible material addition or instability of the product
2.	Burn Injury	Steam, Condensate, Exposure to High Temperature
3.	Snake Bite/ Reptile bite	Not cleaning vegetation in the factory premises makes
		Bad housekeeping & throwing of waste food may

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

		attract rats & thus snakes.
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D. SAFETY RELEVANT COMPONENTS

Following Equipment /components will be provided at site when the plant is commissioned.

- DCS Interlock system
- RD & PSV
- Lightning Arrestor
- Nitrogen Blanketing system (Storage Tank) / Flooding system (Transformer)
- Carbon Dioxide Flooding system
- Fire & Gas Detection System
- Dyke
- Work Permit System
- Mock drill of emergency preparedness plan
- Fire Hydrant system
- Sprinkler system
- Fire Monitor
- Fire Fighting Extinguishers
- Fire Tender
- Ambulance van
- Wind Sock
- Ambu Bag
- SCBA Set
- On-line breathing system
- Lifesaving kit – Diphoterine
- Escape Hood
- Personal protective equipment

➤ OTHER HAZARDS AND CONTROLS:

Hazards, which are not classified as storage hazards, i.e. hazards due to boilers, non- chemical pressure vessels, spills from pipelines or vessels, structural collapse, bad housekeeping and hazards from outside or likely to come from neighboring plants, tank farms, etc. are given below:

Note: See Annexure: - 7 for Other hazards & control

Note: Other Hazards & Controls also mentioned in Chapter 9

CHAPTER- 6: DETAILS ABOUT THE SITE

➤ BRIEF HISTORY:

Aarti is one of the leading suppliers to global manufacturers of Dyes, Pigments, Agrochemicals, Pharmaceuticals & rubber chemicals. Aarti has acquired world-class expertise in the development & manufacture of these chemicals. Aarti is amongst the largest producers of Benzene based basic and intermediate chemicals in India. It has a corporate office in Mumbai & Vadodara as well as representatives in the U.S.A & Europe.

Aarti has 16 manufacturing units spread across Gujarat & Maharashtra and a strong Research & Development with sophisticated instruments & pool of scientists.

Aarti has customers spread across the globe in 60 countries with major presence in the USA, Europe, Japan & India.

Adjoining Properties	
North side	M/s. IPG Asia Pvt. Ltd. Plot No. Z/103/B, SEZ-II, Dahej.
East side	SEZ-II, Main Road
West side	M/s. Aarti Industries limited Plot No. Z/103/H, SEZ-II, Dahej.
South side	M/s. Benzo chem Industries Pvt. Ltd. Plot No. Z/103/D, SEZ-II, Dahej.

A. LOCATION OF DANGEROUS SUBSTANCES:

Hazardous substances are kept in tank farm storage & respective plant area. Approach for these locations is easy in case of emergency situations.

B. SEAT OF KEY PERSONNEL

All key personnel of the organization are available at ECC center or safety office at the time of emergency.

Key personnel list also mentioned in chapter 2.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Note: See Annexure: - 17 for Individual Name as a Key Personnel.

C. EMERGENCY CONTROL ROOM

Emergency Control Center is situated near the Security office along with the emergency PPE's & equipments.

The emergency control center (or room) is the place from which the operations to handle the emergency are directed and coordinated. The site main controller, key personnel and senior officers of the fire, police, factory inspectorate, district authorities and emergency services will attend it. The center should be equipped to receive and transmit information and directions from and to the incident controller and areas of the works as well as outside.

In addition to the means of communication, the center is equipped with relevant data and equipment which will assist those manning the center to be conversant with the developing situation and enable them to plan accordingly.

It is sited in an area of minimum risk and close to a road to allow for ready access by a radio-equipped vehicle for use if other systems fail or extra communication facilities are needed.

The center should therefore contain:

1. An adequate number of internal telephones.
2. An adequate number of external telephones. It is strongly recommended that at least one should be ex-directory or capable of use for outgoing calls only. This will avoid the telephone switchboard being overloaded with calls from anxious relatives, the press etc. the least telephone directories with a separate list of important numbers.
3. Plans of the factory Should be show:
 - a) Areas of large inventories of hazardous materials including tanks, reactors, and drums, compressed gas cylinders.
 - b) Sources of sirens and safety equipment including fire, explosion, and Toxic gas Release, Heavy Spillage of Hazardous & Toxic Chemicals.
 - c) Stocks of other fire extinguishing materials.
 - d) The fire - water system and additional sources of water.
 - e) Site entrances and road system updated at the time of the emergency to indicate any road that is impossible.
 - f) Company assembly point, shelters, lunchroom and canteen.
 - g) Casualty treatment centers, first aid centers and ambulance room.
 - h) Parking points, rail sidings and visitors' room.
 - i) Location of the factory in relation to the surrounding community

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4. Additional plans which may be marked up during the emergency Should be show:
 - a) Areas affected or endangered within the factory.
 - b) Surrounding areas, population and other environment likely to be affected due to fire wind speed recorders and ready computer models (risk counters) based on prevailing wind direction, velocity, weather conditions and other parameters, will be much useful for quick judgment and evacuation of those areas.
 - c) Areas where problems arise.
 - d) Area evacuated and safe routes for escape.
 - e) Deployment of emergency vehicles and personnel.
 - f) Other relevant information.
5. Nominal roll of employees, work permits, MSDS, gate entries and documents for head count or access to this information. Employee's blood group information and addresses will also be useful.
6. Note pads, pens, pencils, rubber and stationery to record all messages received and sent by whatever means.
7. Note copies of this on-site / off-site emergency plan i.e. updated full text including all information from this, some vehicles and messengers (runners) should be kept ready at the center.
8. Torches, umbrellas, raincoats and some extra sets of gas detectors, explosive meters and personal protective equipment.

Note: See Annexure: - 20 for Location of emergency control center & items kept in the center.

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➤ **LOCATION IN GUJARAT**



M/s. Aarti Industries Ltd.
(Diamond Division),
Dahej

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□ Map of Bharuch District



➤ Site Plan:

Note: See Annexure: - 2 for map of area (site plan)

➤ Factory Lay Out Plan and Location of Assembly Point:

Note: See Annexure: - 3 for factory layout plan and Location of Assembly Point

➤ Key Personnel:

Note: See Annexure: - 17 for Individual Name as a Key Personnel.

➤ Details of The Emergency Control Center:

Emergency Control Center is situated near the security office with availability of emergency PPEs and equipment.

Note: See Annexure: - 20 for Location of emergency control center & items kept in the center.

➤ Assembly Points:

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Note: See Annexure: - 19 for Safe Assembly point

CHAPTER- 7: DESCRIPTION OF HAZARDOUS CHEMICALS AT PLANT SITE

A. CHEMICALS (QUANTITIES AND TOXICOLOGICAL DATA)

Sr. No.	Name of Material (Full Name)	Quantities	Toxicological Data
1	2,5-DICHLORONITROBENZENE	Kindly refer annexure 04 for quantities Available in MSDS (Section 11 – Toxicological Information)	
2	2,5-DICHLOROANILINE		
3	2,5-DICHLOROANILINE (CRUDE)		
4	3,4-DICHLORONITROBENZENE		
5	3,4-DICHLOROANILINE (CRUDE)		
6	PDCB (PARA DICHLOROBENZENE)		
7	2,5-DICHLOROPHENOL		
8	PARA CHLORO ANILINE (CRUDE)		
9	METHANOL		
10	XYLENE		
11	PARA CHLORO NITRO BENZENE		
12	25% NITROSYLSULFURIC ACID		
13	36% NITROSYLSULFURIC ACID		
14	SULFUR TRIOXIDE		
15	HYDROGEN PEROXIDE		
16	SULFUR		
17	SULFURIC ACID		
18	NITRIC ACID		
19	OLEUM		
20	HYDROGEN		
21	SULFUR DIOXIDE		
22	2,3,4 TRI FLUORO NITRO BENZENE		
23	2,3,4-TRIFLUORO ANILINE		
24	25% AMMONIA		

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25	1% PLATINUM ON CARBON	
26	DIAMMONIUM PHOSPHATE	
27	TETRAETHYLENE PENTAMINE (TEPA)	
28	CAUSTIC LYE (48 %)	
29	ORTHO DICHLORO BENZENE (ODCB)	
30	HYDROCHLORIC ACID	
31	UREA	
32	CALCIUM HYDROXIDE	
33	DOLOMITE	
34	HYPOCHLORITE SOLUTION	
35	SODIUM BICARBONATE	
36	LIMESTONE (CaCo3)	
37	OZONE	
38	NITROGEN	
39	POLY ALUMINUM CHLORIDE	

Note: - All MSDS of chemicals are available at ECC, Plant DCS Control Room, QA Lab, Warehouse and OHC.

Note: See **Annexure: - 05** for Material Safety Data sheet & **Annexure: - 04** for Storage Hazard & Control

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

B. TRANSFORMATION IF ANY WHICH COULD OCCUR

In the processing of Chemical products unit, we handle & store various hazardous chemicals.

Sr. No.	Name of Material (Full Name)	Transformation If Any Which Could Occur
1	2,5-DICHLORONITROBENZENE	Available in MSDS (Section 10 – Chemical Stability and Reactivity information)
2	2,5-DICHLOROANILINE	
3	2,5-DICHLOROANILINE (CRUDE)	
4	3,4-DICHLORONITROBENZENE	
5	3,4-DICHLOROANILINE (CRUDE)	
6	PDCB (PARA DICHLOROBENZENE)	
7	2,5-DICHLOROPHENOL	
8	PARA CHLORO ANILINE (CRUDE)	
9	METHANOL	
10	XYLENE	
11	PARA CHLORO NITRO BENZENE	
12	25% NITROSYLSULFURIC ACID	
13	36% NITROSYLSULFURIC ACID	
14	SULFUR TRIOXIDE	
15	HYDROGEN PEROXIDE	
16	SULFUR	
17	SULFURIC ACID	
18	NITRIC ACID	
19	OLEUM	
20	HYDROGEN	
21	SULFUR DIOXIDE	
22	2,3,4 TRI FLUORO NITRO BENZENE	
23	2,3,4-TRIFLUORO ANILINE	
24	25% AMMONIA	
25	1% PLATINUM ON CARBON	
26	DIAMMONIUM PHOSPHATE	
27	TETRAETHELENE PENTAMINE (TEPA)	
28	CAUSTIC LYE (48 %)	

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29	ORTHO DICHLORO BENZENE (ODCB)	
30	HYDROCHLORIC ACID	
31	UREA	
32	CALCIUM HYDROXIDE	
33	DOLOMITE	
34	HYPOCHLORITE SOLUTION	
35	SODIUM BICARBONATE	
36	LIMESTONE (CaCo3)	
37	OZONE	
38	NITROGEN	
39	POLY ALUMINUM CHLORIDE	

Note: - Abstract of MSDS have been available at safety department , production department, DCS room & laboratory.

Note: See Annexure: - 05 for Material Safety Data sheet list

● **PROCESS HAZARDS & CONTROLS:**

In the Processing of Chemical products unit, we handle various hazardous chemicals & employ processes involving pressure and temperature.

Note: See Annexure: - 06 for Process vessels hazards and control

C. PURITY OF HAZARDOUS CHEMICALS

Purity of all hazardous Substances mentioned are having technical grades.

Information on toxicological, physical, and chemical properties of the substances being handled in the format of Material Safety Data Sheet. MSDS of all raw materials intermediates, products and additives are available.

CHAPTER- 8: LIKELY DANGERS TO THE PLANT

MAXIMUM CREDIBLE ACCIDENT (MCA)

A Maximum Credible Accident (MCA) is an accident with maximum damage potential, which is believed to be credible in a hazardous installation.

In other words, Emergency situations pose various possible incidents – rather than just the worst-case scenario, MCA illuminates those scenarios that are really important and those that are most likely to occur.

➤ CONSEQUENCE ANALYSIS:

● INTRODUCTION

The selected release sources and the short-listed sources for RA have been considered for release consequence calculation. The results of the calculations are summarized in this chapter.

Major industrial hazards are generally associated with the potential for toxic chemical release.

Events involving release of materials

- a) Slow release of toxic substance from a leaking valve,
- b) Rapid release for limited duration due to fracture of pipe leading to a toxic cloud which may travel or dissipate (leading to MCA scenario),
- c) Massive release of toxic substances due to failure of large storage or process vessels or uncontrolled chemical reaction (leading to Worst case scenario which is generally having very low probability and not considered for practical purpose).
- d) Tabular data showing data for toxic chemicals.

MCA identified for M/s. Aarti Industries Ltd. (Diamond Division) based on historical accident experiences of Chemical industry are as follows:

Toxic Gas dispersion scenario:

- 1. Nitric acid (tank farm): 25 mm Leak scenario
- 2. Sulfur Trioxide (tank farm) : 25 mm Leak scenario
- 3. Methanol (PESO Area) : 25 mm Depth of Puddle
- 4. Hydrogen Peroxide (tank farm) : 25 mm Leak scenario

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5. Sulfur dioxide (NSA/SO₂ Plant): Pipeline dia.:25 mm Leak scenario
6. Oleum (Tank farm) : 25 mm Depth of Puddle
7. Xylene (PESO Area) : 25 mm Depth of Puddle
8. DCNB (Tank farm) : 25 mm Leak scenario
9. DCA (Tank farm) : 25 mm Leak scenario
10. DCP (Tank farm) : 25 mm Leak scenario

Fire scenario:

1. Hydrogen (PRV Station) : 25 mm Leak scenario
2. Methanol (DCA Plant) : 25 mm Depth of Puddle
3. Xylene (ETP Plant) : 25 mm Depth of Puddle

Definitions		
Flash Fire	Flash fires arise from delayed ignition of a well-mixed flammable gas/ vapor cloud in the absence of significant confinement or obstruction. There are minimal overpressure effects and primarily local impacts.	
Jet fire	This outcome occurs following the immediate ignition of a flammable material, usually from a pressurized source.	
Pool Fire	Pool Fire is the flame over a pool of flammable liquid. Pool fires could only occur if the liquid leak resulting pool gets in contact with an ignition source. The combustion of the vaporized flammable material releases heat, which supplies energy to vaporize the liquid.	
Vapor Cloud Explosion	When a flammable vapor or gas mixes with air and its concentration lies between the lower Explosive limit (LEL) and upper Explosive limit (UEL). An ignition source will ignite the mixture. If this event takes place in a confined space then the enclosure usually suffers a significant internal overpressure for a short duration.	
LEL	Lower Explosive Limits	The lowest concentration of gas or vapor which will burn or explode if ignited
UEL	Upper Explosive Limits	The highest concentration of gas or vapor which will burn or explode if ignited.

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IDLH	Immediately Dangerous To Life or Health	The term immediately dangerous to life or health (IDLH) is defined by the US National Institute for Occupational Safety and Health (NIOSH) as exposure to airborne contaminants that is "likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment."
STEL	Short Term Exposure Limit	Short-term exposure limit (STEL) is the acceptable exposure limit to a toxic or an irritant substance over a short period of time (time-weighted average), usually 15 minutes. STEL is the maximum concentration of a chemical to which workers may be exposed continuously for a short period of time without any danger to health, safety or work efficiency.
TWA	Time weighted Average	TWA is the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded

Damage Criteria		
Thermal Radiation Effects		
Radiation kW/m ²	Damage to Equipment	Damage to People
4	-	Causes pain if duration is longer than 20 seconds. Blistering is unlikely.
12.5	Minimum energy to ignite wood with a flame; Melts plastic tubing.	First degree burns in ten seconds. 1% Fatality in 20 sec, 30% Fatality in 30 seconds.
37.5	Severe damage to plant	100% Fatality

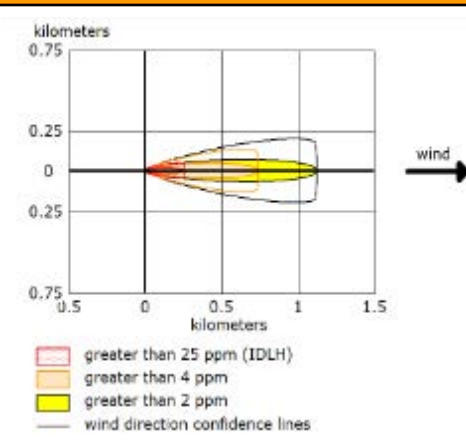
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Damage Produced by Blast		
Overpressure ranges	Mechanical Damage to Equipment	Damage to People
0.206-0.551 bar (3-8psi)	Heavy damage to plant & structure	Fatality probability = 1 for humans indoor as well as outdoor > 50% eardrum damage > 50% serious wounds from flying objects
0.14-0.206 bar (2-3psi)	Repairable damage	1% death > 1% eardrum damage > 1% serious wounds from flying objects
0.0206-0.14 bar (0.3- 2psi)	Major glass damage/10% glass damage	Slight injury from flying glass

Pasquill-Gifford Stability Class	Description
F	Very Stable
E	Stable
D	Neutral
C	Slightly Unstable
B	Moderately Unstable
A	Very Unstable

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Basis of Modeling		Abbreviation	
Wind Speed	5 m/s	IDLH	Immediately Dangerous To Life or Health
Leak Size	25 mm	STEL	Short Term Exposure Limit
Atmospheric Stability class	D - Neutral	TWA	Time weighted Average

Chemical Name	Release Rate	IDLH			STEL			TWA			Dispersion Graph
		Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	
Nitric Acid	16.9 Kg/min	25	262	45	4	746	90	2	1100	120	 <p>The graph shows the dispersion of Nitric Acid over a distance of 0 to 1.5 kilometers. The y-axis represents concentration in PPM, ranging from 0 to 0.75. The x-axis represents distance in kilometers. Three plumes are shown: a red plume for concentrations greater than 25 ppm (IDLH), an orange plume for concentrations greater than 4 ppm, and a yellow plume for concentrations greater than 2 ppm. The plumes originate from the release point at 0 km and extend to the right, with the red plume being the most concentrated and the yellow plume being the least. A legend indicates that the plumes represent concentrations greater than 25 ppm (IDLH), greater than 4 ppm, and greater than 2 ppm. A wind direction arrow points to the right, indicating the wind direction confidence lines.</p>

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Sulfur Trioxide	15 kg/min	-	-	-	-	-	-	0.2 mg/m ³ or 0.06108 ppm	9500	500	
Methanol	26.5 Kg/min	6000	13	3	250	135	20	200	153	30	

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Hydrogen Peroxide	0.9 kg/min	75	20	6	STEL not Known	-	-	1	433	60	
Sulfur dioxide	0.94 kg/min	100	45	13	5	207	40	2	335	50	
Oleum	13.44 kg/min	15 mg/m ³ or 4.58 ppm	55	15	-	-	-	0.2 mg/m ³ or 0.06108 ppm	591	90	

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Xylene	4.91 kg/min	900	10	2	150	20	6	100	30	9	Threat zone was not drawn because effects of near-field patchiness
DCNB	As this chemical is solid at ambient conditions so toxic Dispersion is not possible	-	-	-	-	-	-	-	-	-	-
DCA	As this chemical is solid at ambient conditions so toxic Dispersion is not possible	-	-	-	-	-	-	-	-	-	-
DCP	As this chemical is solid at ambient conditions so toxic Dispersion is not possible	-	-	-	-	-	-	-	-	-	-

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Fire Scenario																												
Chemical Name	Pressure (bar)	Temperature (Deg C)	Hole size	Release Rate (kg/min)	Weather	Jet Fire Downwind Distance (m)						Flash fire Downwind Distance (m)				Pool fire Downwind Distance (m)						Vapor cloud explosion (m)						
						Radiation level 4 kW/m2	Occupancy (No.)	Radiation level 12.5 kW/m2	Occupancy (No.)	Radiation level 37.5 kW/m2	Occupancy (No.)	LFL	Occupancy (No.)	0.5 LFL	Occupancy (No.)	Pool Diameter (m)	Radiation level 4 kW/m2	Occupancy (No.)	Radiation level 12.5 kW/m2	Occupancy (No.)	Radiation level 37.5 kW/m2	Occupancy (No.)	Overpressure (0.03 bar)	Occupancy (No.)	Overpressure (0.14 bar)	Occupancy (No.)	Overpressure (0.21 bar)	Occupancy (No.)
Hydrogen (Pressure reducing station Manifold discharge leak)	45	Amb.	25 mm	0.87	5D (Neutral weather with 5m/s wind velocity)	10	2	10	2	10	2	11	3	16	4	-	-	-	-	-	-	-	11	3	10	2	10	2

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Methanol	Amb.	Amb.	-	26.5	5D (Neu tral weat her with 5m/s wind velo city)	-	-	-	-	-	-	10	2	10	2	Bun d are a 150 m2	18	6	14	4	10	2	-	-	-	-	-	-
Xylene	Amb.	Amb.	-	4.91	5D (Neu tral weat her with 5m/s wind velo city)	-	-	-	-	-	-	10	2	10	2	Bun d are a 150 m2	53	15	35	10	22	7	-	-	-	-	-	-

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? In case of leakage / spillage / fire, following actions are recommended and to be taken by ERT members

Sr. No.	Chemical Names	Guide No.
1.	Ammonia	125
2.	Methanol	131
3.	H2O2	140
4.	ODCB	152
5.	DCNB	152
6.	PNCB	152
7.	DCA	153
8.	PCA	153
9.	SODIUM HYDROXIDE	154
10.	HNO3	157
11.	H2SO4	157
12.	HCl (33%)	157
13.	Hydrogen	115
14.	DCP	153

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Sr. No.	Chemical Names	Guide No.
15.	PDCB	152
16.	Xylene	130
17.	25% NSA	157
18.	36% NSA	157
19.	SULFUR DIOXIDE	125
20.	SULFUR TRIOXIDE	137
21.	SULFUR	133
22.	OLEUM	137
23	TFA	153
24	TFNB	152
25	DFNB	152
26	Nitrogen	121

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GUIDE 125 GASES - CORROSIVE

POTENTIAL HAZARDS

HEALTH

- **TOXIC**; may be fatal if inhaled, ingested or absorbed through skin.
- Vapors are extremely irritating and corrosive.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

FIRE OR EXPLOSION

- Some may burn but none ignite readily.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Some of these materials may react violently with water.
- Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.
- For UN1005: Anhydrous ammonia, at high concentrations in confined spaces, presents a flammability risk if a source of ignition is introduced.

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

EVACUATION

Spill

- See **Table 1 - Initial Isolation and Protective Action Distances** for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

GASES - CORROSIVE GUIDE 125

EMERGENCY RESPONSE

FIRE

Small Fire

- Dry chemical or CO₂.

Large Fire

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Do not get water inside containers.
- Damaged cylinders should be handled only by specialists.

Fire Involving Tanks

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- Fully encapsulating, vapor-protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Isolate area until gas has dispersed.

FIRST AID

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- **In case of contact with Hydrogen fluoride, anhydrous (UN1052), flush with large amounts of water.** For skin contact, if calcium gluconate gel is available, rinse 5 minutes, then apply gel. Otherwise, continue rinsing until medical treatment is available. For eyes, flush with water or a saline solution for 15 minutes.
- Keep victim calm and warm.
- Keep victim under observation.
- Effects of contact or inhalation may be delayed.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Guide No. 131 (Methanol)

GUIDE 131 FLAMMABLE LIQUIDS - TOXIC

POTENTIAL HAZARDS

HEALTH

- **TOXIC;** may be fatal if inhaled, ingested or absorbed through skin.
- Inhalation or contact with some of these materials will irritate or burn skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or asphyxiation.
- Runoff from fire control or dilution water may cause environmental contamination.

FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- **CAUTION:** Methanol (UN1230) will burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.).
- Vapor explosion and poison hazard indoors, outdoors or in sewers.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids will float on water.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer **when there is NO RISK OF FIRE.**
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection.**

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

Spill

- For **highlighted materials:** see Table 1 - Initial Isolation and Protective Action Distances.
- For non-highlighted materials: increase the immediate precautionary measure distance, in the downwind direction, as necessary.

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

FLAMMABLE LIQUIDS - TOXIC GUIDE 131

EMERGENCY RESPONSE

FIRE

- **CAUTION:** The majority of these products have a very low flash point. Use of water spray when fighting fire may be inefficient.
- **CAUTION:** Methanol (UN1230) will burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)

Small Fire

- Dry chemical, CO₂, water spray or alcohol-resistant foam.

Large Fire

- Water spray, fog or alcohol-resistant foam.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Dike runoff from fire control for later disposal.
- Avoid aiming straight or solid streams directly onto the product.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor-suppressing foam may be used to reduce vapors.

Small Spill

- Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
- Use clean, non-sparking tools to collect absorbed material.

Large Spill

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor, but may not prevent ignition in closed spaces.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
 - Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- **Do not perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
 - Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Guide No. 140 (H2O2)

GUIDE OXIDIZERS 140

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- These substances will accelerate burning when involved in a fire.
- Some may decompose explosively when heated or involved in a fire.
- May explode from heat or contamination.
- Some will react explosively with hydrocarbons (fuels).
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

HEALTH

- Inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause environmental contamination.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer **when there is NO RISK OF FIRE.**
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection.**

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.
- If **ammonium nitrate** is in a tank, rail car or tank truck and involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.

OXIDIZERS GUIDE 140

EMERGENCY RESPONSE

FIRE

Small Fire

- Use water. Do not use dry chemicals or foams. CO₂ or Halon® may provide limited control.

Large Fire

- Flood fire area with water from a distance.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- If it can be done safely, move undamaged containers away from the area around the fire.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Do not get water inside containers.

Small Dry Spill

- With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area.

Small Liquid Spill

- Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal.

Large Spill

- Dike far ahead of liquid spill for later disposal.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim calm and warm.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

GUIDE SUBSTANCES - TOXIC (COMBUSTIBLE) 152

POTENTIAL HAZARDS

HEALTH

- **Highly toxic**, may be fatal if inhaled, ingested or absorbed through skin.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.

FIRE OR EXPLOSION

- Combustible material: may burn but does not ignite readily.
- Containers may explode when heated.
- Runoff may pollute waterways.
- Substance may be transported in a molten form.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer **when there is NO RISK OF FIRE**.
- Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

Spill

- For **highlighted materials**: see Table 1 - Initial Isolation and Protective Action Distances.
- For non-highlighted materials: increase the immediate precautionary measure distance, in the downwind direction, as necessary.

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

SUBSTANCES - TOXIC (COMBUSTIBLE) GUIDE 152

EMERGENCY RESPONSE

FIRE

Small Fire

- Dry chemical, CO₂ or water spray.

Large Fire

- Water spray, fog or regular foam.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Dike runoff from fire control for later disposal.
- Avoid aiming straight or solid streams directly onto the product.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Cover with plastic sheet to prevent spreading.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- **Do not perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Guide No. 153 (DCA, PCA, DCP, TFA)

GUIDE 153 SUBSTANCES - TOXIC AND/OR CORROSIVE (COMBUSTIBLE)

POTENTIAL HAZARDS

HEALTH

- **TOXIC:** Inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause environmental contamination.

FIRE OR EXPLOSION

- Combustible material: may burn but does not ignite readily.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- Runoff may pollute waterways.
- Substance may be transported in a molten form.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer **when there is NO RISK OF FIRE**.
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection**.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

Spill

- For **highlighted materials**: see Table 1 - Initial Isolation and Protective Action Distances.
- For non-highlighted materials: increase the immediate precautionary measure distance, in the downwind direction, as necessary.

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

SUBSTANCES - TOXIC AND/OR CORROSIVE (COMBUSTIBLE) GUIDE 153

EMERGENCY RESPONSE

FIRE

Small Fire

- Dry chemical, CO₂ or water spray.

Large Fire

- Dry chemical, CO₂, alcohol-resistant foam or water spray.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Dike runoff from fire control for later disposal.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- **ELIMINATE** all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- **DO NOT GET WATER INSIDE CONTAINERS.**

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- **Do not perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Guide No. 154 (SODIUM HYDROXIDE)

GUIDE 154 SUBSTANCES - TOXIC AND/OR CORROSIVE (NON-COMBUSTIBLE)

POTENTIAL HAZARDS

HEALTH

- TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

FIRE OR EXPLOSION

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.).
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- For electric vehicles or equipment, GUIDE 147 (lithium ion batteries) or GUIDE 138 (sodium batteries) should also be consulted.

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE** Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate enclosed areas.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

EVACUATION

Spill

- See **Table 1 - Initial Isolation and Protective Action Distances** for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

GUIDE 154 SUBSTANCES - TOXIC AND/OR CORROSIVE (NON-COMBUSTIBLE)

EMERGENCY RESPONSE

FIRE

Small Fire

- Dry chemical, CO₂ or water spray.

Large Fire

- Dry chemical, CO₂, alcohol-resistant foam or water spray.
- Move containers from fire area if you can do it without risk.
- Dike fire-control water for later disposal; do not scatter the material.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

FIRST AID

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Guide No. 157 (HNO₃, H₂SO₄, HCl, NSA)

GUIDE 157 SUBSTANCES - TOXIC AND/OR CORROSIVE (Non-Combustible/Water-Sensitive)

POTENTIAL HAZARDS

HEALTH

- TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- Reaction with water or moist air may release toxic, corrosive or flammable gases.
- Reaction with water may generate much heat that will increase the concentration of fumes in the air.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

FIRE OR EXPLOSION

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140.
- Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
- Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated or if contaminated with water.

PUBLIC SAFETY

- **CALL EMERGENCY RESPONSE Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate enclosed areas.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

EVACUATION

Spill

- See **Table 1 - Initial Isolation and Protective Action Distances** for highlighted materials. For non-highlighted materials, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

GUIDE 157 SUBSTANCES - TOXIC AND/OR CORROSIVE (Non-Combustible/Water-Sensitive)

EMERGENCY RESPONSE

FIRE

- Note: Some foams will react with the material and release corrosive/toxic gases.

Small Fire

- CO₂ (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam.

Large Fire

- Water spray, fog or alcohol-resistant foam.
- Move containers from fire area if you can do it without risk.
- Use water spray or fog; do not use straight streams.
- Dike fire-control water for later disposal; do not scatter the material.

Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- A vapor-suppressing foam may be used to reduce vapors.
- DO NOT GET WATER INSIDE CONTAINERS.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.

Small Spill

- Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
- Use clean, non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

FIRST AID

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Administer oxygen if breathing is difficult. • Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of contact with Hydrofluoric acid (UN1790), flush with large amounts of water. For skin contact, if calcium gluconate gel is available, rinse 5 minutes, then apply gel. Otherwise, continue rinsing until medical treatment is available. For eyes, flush with water or a saline solution for 15 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Guide No. 115 (Hydrogen)

GUIDE 115 GASES - FLAMMABLE (INCLUDING REFRIGERATED LIQUIDS)

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- **EXTREMELY FLAMMABLE.**
- Will be easily ignited by heat, sparks or flames.
- Will form explosive mixtures with air.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- **CAUTION:** Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966), Methane (UN1971) and Hydrogen and Methane mixture, compressed (UN2034) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)
- Vapors may travel to source of ignition and flash back.
- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

HEALTH

- Vapors may cause dizziness or asphyxiation without warning.
- Some may be irritating if inhaled at high concentrations.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire may produce irritating and/or toxic gases.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Many gases are heavier than air and will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.).

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection.**
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 100 meters (330 feet) in all directions.

Large Spill

- Consider initial downwind evacuation for at least 800 meters (1/2 mile).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.
- In fires involving Liquefied Petroleum Gases (LPG) (UN1075), Butane (UN1011), Butylene (UN1012), Isobutylene (UN1055), Propylene (UN1077), Isobutane (UN1969), and Propane (UN1978), also refer to BLEVE – SAFETY PRECAUTIONS (Page 366).

GASES - FLAMMABLE GUIDE 115 (INCLUDING REFRIGERATED LIQUIDS)

EMERGENCY RESPONSE

FIRE

- **DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.**
- **CAUTION:** Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Hydrogen and Methane mixture, compressed (UN2034) will burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)
- **Small Fire**
 - Dry chemical or CO₂.
- **Large Fire**
 - Water spray or fog.
 - If it can be done safely, move undamaged containers away from the area around the fire.
- **CAUTION:** For LNG - Liquefied natural gas (UN1972) pool fires, DO NOT USE water. Use dry chemical or high-expansion foam.
- **Fire Involving Tanks**
 - Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.
 - Cool containers with flooding quantities of water until well after fire is out.
 - Do not direct water at source of leak or safety devices; icing may occur.
 - Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
 - ALWAYS stay away from tanks engulfed in fire.
 - For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- **CAUTION:** For LNG - Liquefied natural gas (UN1972), DO NOT apply water, regular or alcohol-resistant foam directly on spill. Use a high-expansion foam if available to reduce vapors.
- Prevent spreading of vapors through sewers, ventilation systems and confined areas.
- Isolate area until gas has dispersed.
- **CAUTION:** When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Clothing frozen to the skin should be thawed before being removed.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. • Keep victim calm and warm.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

GUIDE 130 FLAMMABLE LIQUIDS (WATER-IMMISCIBLE/NOXIOUS)

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a (P) may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids will float on water.

HEALTH

- May cause toxic effects if inhaled or absorbed through skin.
- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or asphyxiation.
- Runoff from fire control or dilution water may cause environmental contamination.

PUBLIC SAFETY

- **CALL 911.** Then call emergency response telephone number on shipping paper. If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 50 meters (150 feet) in all directions.

Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

FLAMMABLE LIQUIDS GUIDE 130 (WATER-IMMISCIBLE/NOXIOUS)

EMERGENCY RESPONSE

FIRE

CAUTION: The majority of these products have a very low flash point. Use of water spray when fighting fire may be inefficient.

Small Fire

- Dry chemical, CO₂, water spray or regular foam.

Large Fire

- Water spray, fog or regular foam.
- Avoid aiming straight or solid streams directly onto the product.
- If it can be done safely, move undamaged containers away from the area around the fire.

Fire Involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor-suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean, non-sparking tools to collect absorbed material.

Large Spill

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor, but may not prevent ignition in closed spaces.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Guide No. 137 (SO3, Oleum)

GUIDE 137 SUBSTANCES - WATER-REACTIVE - CORROSIVE

POTENTIAL HAZARDS

HEALTH

- CORROSIVE and/or TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- Fire will produce irritating, corrosive and/or toxic gases.
- Reaction with water may generate much heat that will increase the concentration of fumes in the air.
- Contact with molten substance may cause severe burns to skin and eyes.
- Runoff from fire control or dilution water may cause environmental contamination.

FIRE OR EXPLOSION

- EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff.
- Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated or if contaminated with water.
- Substance may be transported in a molten form.

PUBLIC SAFETY

- CALL 911. Then call emergency response telephone number on shipping paper. If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.
- Ventilate closed spaces before entering, but only if properly trained and equipped.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer **when there is NO RISK OF FIRE**.
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection**.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

Spill

- For **highlighted materials**: see Table 1 - Initial Isolation and Protective Action Distances.
- For non-highlighted materials: increase the immediate precautionary measure distance, in the downwind direction, as necessary.

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

SUBSTANCES - WATER-REACTIVE - CORROSIVE GUIDE 137

EMERGENCY RESPONSE

FIRE

- When material is not involved in fire, do not use water on material itself.

Small Fire

- Dry chemical or CO₂.
- If it can be done safely, move undamaged containers away from the area around the fire.

Large Fire

- Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply, responders should withdraw.

Fire Involving Tanks or Car/Trailer Loads

- Cool containers with flooding quantities of water until well after fire is out.
- Do not get water inside containers.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Small Spill

- Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
- Use clean, non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- Do not perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Removal of solidified molten material from skin requires medical assistance.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Guide No. 133 (Sulfur)

GUIDE FLAMMABLE SOLIDS 133

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- Flammable/combustible material.
- May be ignited by friction, heat, sparks or flames.
- Some may burn rapidly with flare-burning effect.
- Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence.
- Substance may be transported in a molten form at a temperature that may be above its flash point.
- May re-ignite after fire is extinguished.

HEALTH

- Fire may produce irritating and/or toxic gases.
- Contact may cause burns to skin and eyes.
- Contact with molten substance may cause severe burns to skin and eyes.
- Runoff from fire control or dilution water may cause environmental contamination.

PUBLIC SAFETY

- **CALL 911. Then call emergency response telephone number on shipping paper.** If shipping paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.
- Keep unauthorized personnel away.
- Stay upwind, uphill and/or upstream.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides thermal protection but only limited chemical protection.

EVACUATION

Immediate precautionary measure

- Isolate spill or leak area for at least 25 meters (75 feet) in all directions.

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

FLAMMABLE SOLIDS GUIDE 133

EMERGENCY RESPONSE

FIRE

Small Fire

- Dry chemical, CO₂, sand, earth, water spray or regular foam.

Large Fire

- Water spray, fog or regular foam.
- If it can be done safely, move undamaged containers away from the area around the fire.

Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste")

- Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride-based extinguishers or class D extinguishers. Also, see GUIDE 170.

Fire Involving Tanks or Car/Trailer Loads

- Cool containers with flooding quantities of water until well after fire is out.
- For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) from immediate area.
- Do not touch or walk through spilled material.

Small Dry Spill

- With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area.

Large Spill

- Wet down with water and dike for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

FIRST AID

- Call 911 or emergency medical service.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Move victim to fresh air if it can be done safely.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Removal of solidified molten material from skin requires medical assistance.
- Keep victim calm and warm.

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Guide No. 121 (Nitrogen)			
GUIDE 121	GASES - INERT	ERG2008	ERG2008
POTENTIAL HAZARDS		EMERGENCY RESPONSE	
HEALTH		FIRE	
<ul style="list-style-type: none"> Vapors may cause dizziness or asphyxiation without warning. Vapors from liquefied gas are initially heavier than air and spread along ground. 		<ul style="list-style-type: none"> Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. 	
FIRE OR EXPLOSION		Fire Involving Tanks	
<ul style="list-style-type: none"> Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. 		<ul style="list-style-type: none"> Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. 	
PUBLIC SAFETY		SPILL OR LEAK	
<ul style="list-style-type: none"> CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover. As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Keep out of low areas. Ventilate closed spaces before entering. 		<ul style="list-style-type: none"> Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. 	
PROTECTIVE CLOTHING		FIRST AID	
<ul style="list-style-type: none"> Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. 		<ul style="list-style-type: none"> Move victim to fresh air. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. 	
EVACUATION			
Large Spill			
<ul style="list-style-type: none"> Consider initial downwind evacuation for at least 100 meters (330 feet). 			
Fire			
<ul style="list-style-type: none"> If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. 			

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Reference: Emergency Response Guidebook – 2020 (A guidebook intended for use by first responders during the initial phase of a transportation incident involving dangerous goods/ hazardous materials by U.S. Department of Transportation **Pipeline and Hazardous Materials Safety Administration**).

Source Site: <https://dish.gujarat.gov.in> (Director Industrial Safety and Health, Labour & Employment Department, Government of Gujarat)

CHAPTER- 09: ENUMERATE EFFECTS OF

1. Stress and strain caused during normal operation

Stress is the force applied to a material, divided by the material's cross-sectional area. Strain is the deformation or displacement of material that results from an applied stress.

Stress and strain in mechanical equipment & piping may cause leakage, spillage of hazardous material and may lead to fire incidents.

2. Fire and explosion inside the plant and effect if any, of fire and explosion outside

Sr. No.	Name of the possible hazard or emergency	Its source & reasons	Its effect on persons, property & environment	Place of effects	Control Measure
1	Electricity 1. Burning 2. Shock 3. Fire	Loose contact of wires, weak earthing Short Circuit, Improper Insulation	Person & Property	Factory Premises only	Regular inspection of electrical fitting, flame proof fitting provided in flammable area, proper earthing. Lightning arrestor provided, regular measurement of earth pit resistance, Proper PPEs
2	Fire	MCC & PCC room	Person & Property	Factory Premises only	Regular inspection of electrical fitting, flame proof fitting provided in flammable area, proper earthing. Lightning arrestor provided, regular measurement of earth pit resistance, Proper PPEs
3	Fire & Explosion in Hydrogen, Solvent pipeline	Leakage in pipeline, Failure of controls, poor maintenance, breakage in pipeline	Person & Property	Factory Premises / Outside Premises	Regular inspection / Testing of pipelines Fire Extinguisher Hydrant provided, trained and qualified operators

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Sr. No.	Name of the possible hazard or emergency	Its source & reasons	Its effect on persons, property & environment	Place of effects	Control Measure
4	Fire in HT Panel room & LT Panel room	Loose contact of wires, Weak earthing, Short Circuit, Improper Insulation, Poor maintenance, Wrong Connection	Person & Property	Factory Premises only	Regular inspection of electrical fitting, proper earthing, regular measurement of earth pit resistance, Proper PPEs
5	Fire in Cable Cellar	Loose contact of wires, Weak earthing, Short Circuit, Improper Insulation, Poor maintenance	Person & Property	Factory Premises only	Regular inspection of electrical fitting, proper earthing, regular maintenance, Proper PPEs
6	Fire in Canteen	Loose contact of wires, Short Circuit, Improper Insulation, Poor maintenance, Kitchen fire, Fire in kitchen storage area	Person & Property	Factory Premises only	Regular inspection of electrical fitting, proper earthing, regular measurement of earth pit resistance Fire Extinguisher & Hydrant provided, trained and qualified operators
7	Fire in QC Lab	Toxic / Flammable fumes or vapors, Failure of Controls, Loose contact of wires, Short Circuit, due to Chemicals, etc.	Person & Property	Factory Premises only	Regular inspection of electrical fitting, Fire Extinguisher & Hydrant provided, trained and qualified chemist, proper exhaust system, detectors, etc.
8	Fire in Storage tanks	Rupture of tank, flammable atmosphere, tank damage/ spillage/ leakage, Pressure buildup, mechanical failure, failure of safety control system	Person & Property	Factory Premises only	Regular inspection & maintenance, Safety devices, Trained and qualified operators, Fire Hydrant provided, good house-keeping, PPEs

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Note: Also See Annexure: - 04 for Other Hazard and Control

CHAPTER- 10: DETAILS REGARDING

1. WARNING, ALARM AND SAFETY AND SECURITY SYSTEM

Company has installed electrical siren at prominent location in the Plant and Uniform siren code has been established and implemented for emergency situations which is mentioned in Annexure: - 26

- **Emergency Siren / Hooter Points:** Installed on terrace of the MCC/PCC building.

Note: See Annexure: - 26 for Alarms and signs

➤ SECURITY SYSTEM:

- The factory premise is covered by fully fencing and the Main gate & material gate is secured by guard for 24 hours.
- All transport vehicles are checked at the gate for physical condition of vehicle as per ALL checklist, driver license, MSDS, Emergency Information Panel and for any unwanted / undesired threat & material etc.
- Security staff take rounds throughout the factory for security of the plant & others.

2. ALARM AND HAZARD CONTROL PLANS IN LINE WITH DISASTER CONTROL AND HAZARD CONTROL PLANNING, ENSURING THE NECESSARY TECHNICAL AND ORGANIZATIONAL PRECAUTIONS

- Uniform siren code has been established and implemented for emergency situations which are mentioned in Annexure: - 26.

3. RELIABLE MEASURING INSTRUMENTS, CONTROL UNITS AND SERVICING OF SUCH EQUIPMENTS

- All Measuring Instruments and Control units used at Critical processes and storages are maintained well by the Instrumentation department and records are maintained.

4. PRECAUTIONS IN DESIGNING OF THE FOUNDATION AND LOAD BEARING PARTS OF THE BUILDING:

- Factory premises have been approved by DISH-Government of Gujarat.
- Stability in form no.1 (A) was taken from Government approved Competent Agency

5. CONTINUOUS SURVEILLANCE OF OPERATIONS:

- It has been done by qualified and technical persons on a regular basis.

6. MAINTENANCE AND REPAIR WORKS ACCORDING TO THE GENERALLY RECOGNIZED RULES OF GOOD ENGINEERING PRACTICES:

- It has been done by a qualified and technical person.

➤ POLLUTION CONTROL ARRANGEMENTS

Pollution control arrangements (including organization) for water, air and land are the permanent requirement for a hazardous or polluting factory. If such arrangements are not provided or not working or fail accidentally a major emergency may arise. Therefore, it should be ensured by regular preventive and corrective maintenance that such arrangements and their staff work efficiently. In case of emergency, information of such arrangements will also be necessary.

M/s. Aarti Industries Ltd. (Neo Division), Dahej has ETP for liquid pollutants & Scrubber facilities also available for gas pollutants.

Note: See **Annexure: - 24** for Pollution Control Arrangement.

➤ OTHER ARRANGEMENTS

Arrangements not classified in chapter 2 & above, shall be included here. Particularly emergency heavy vehicles, lifts, cranes, lifting machines, transporters, alternate power and utilities supply, special equipment, instruments, materials, test facilities, specialists, special books and information, rescue team etc. shall be included here.

Note: See **Annexure: - 25** for Other Arrangement

➤ EVACUATION & TRANSPORTATION:

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Non-essential personnel (who are not assigned any emergency duty) will usually be evacuated from the incident area and also from adjacent areas. Evacuation should be to predetermined assembly points in a safe part of the work. In some cases, particularly where toxic releases are being considered, alternative assembly points need to be arranged to allow for the effects of wind direction. Assembly points need to be clearly marked. The plan should designate someone to record all personnel arriving at the assembly point so that the information can be passed to the Emergency Control Centre.



Personnel required to be transported outside for the purpose of medical care or for better shelter; should be transported with care and facilities.

Note: See **Annexure: - 23** for Transportation & Evacuation Arrangement.

➤ **TRAINING, REHEARSAL & RECORDS OF EVACUATION:**

● **Need of Training & Rehearsal**

Extensive experience in the chemical industry with on-site / off-site emergency planning has proved the need and value of rehearsal of emergency procedures.

When finalized, the major emergency procedure should be set down in clear, concise terms and everyone on-site made aware of them, particularly the key personnel and essential workers. They should then be put to the test. This may best be done by arranging a series of preliminary exercises to test certain parts of the procedures e.g. Effectiveness of the communications system, including the alternative arrangements in cases of failure; the speed of mobilization of the factory emergency teams, search, rescue and treatment of casualties, emergency isolation and shut down (on

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operating plants, tags can be used to indicate where valves are assumed to have been closed or opened).



These exercises will help to refine the procedures by identifying deficiencies and difficulties. At this stage, more elaborate exercises can be planned to involve the outside services who should be closely involved at the planning stage. Each exercise should be monitored by a number of independent observers located at various positions, e.g. at the scene, the Emergency Control Centre, works entrance, assembly points, casualty reception area. A follow-up round-the-table discussion between works managers, senior officers of the Emergency Services, Factory Inspectorate and observers will further assist to develop practical and effective procedures. It is recommended that a major emergency exercise should be conducted at regular intervals by arrangements with the outside services.

There is much practical advantage to be gained in situations where people required to work together in handling emergencies, are already known to each other. Close local liaison and combined exercises are invaluable in this respect. At the same time, familiarization visits to works, especially of the Fire Service personnel, will help enormously to acquaint them with the works layout and the nature of the potential hazards.

Emergency plans need to be tested when first devised and thereafter to be rehearsed at suitable intervals. Individual personnel with duties under the plans will generally be qualified by their normal training and experience of day to day operations. Some duties, however, such as firefighting for the

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works fire team, are not routine and special training will be needed. In addition, key personnel will need training in their emergency roles both individually and as a team. For the professional emergency services, the general training may be taken for granted.

Rehearsals or exercises are important for all personnel likely to be involved in an incident on or off the site because, for example:

- a) They familiarize on-site personnel with their roles, their equipment and the details of the plans:
- b) They allow the professional emergency services to test their parts of the plan and the coordination of all the different organizations. They also familiarize them with the special hazards:
- c) They prove the current accuracy of the details of the plan (telephone number etc.) and the availability of special equipment (fire and rescue, breathing sets etc.);
- d) They give experience and build confidence in the team members. In the initial shock and confusion of a real incident the ability to fall back on established initial actions is invaluable.

Employers should ensure that the on-site emergency procedures for each process plant, storage facility etc. are tested regularly and that all employees receive initial and refresher training. Exercises should be arranged to test each part of the emergency plan on each plant, stage by stage, starting with 'first immediate action' Emergency isolation and shut down should be rehearsed (where appropriate by simulation). Representatives from the emergency services and the Emergency Planning Officer (EPO) should be invited to attend on-site exercise and familiarization visits should be encouraged.

The complete plan for each site including both on-site and off-site components should also be tested. Many organizations use table top exercises to test emergency plans; these are very cost effective because they do not interrupt the day-to-day running of the plants and also because many events can be catered for in one session. However, they are theoretical in nature and should

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be complemented by control post exercises designed to test communications and key personnel working from the locations they would use in an emergency. It is, of course, essential that the exercises are carefully prepared, the results analyzed and the lessons learned, circulated and discussed. Full scale practices involving all concerned at suitable intervals are necessary to give the maximum possible confidence that all reasonably practicable measures have been taken.

After each rehearsal or practice the plan should be reviewed to take account of any shortcomings highlighted by the exercise. In addition, its effectiveness should be reviewed every time it is used to deal with a real emergency.

Fix your periodicity to carry out 'table-top-exercises' and real rehearsal of this on-site and off-site emergency plan, including mutual aid agencies.

- **Some Checkpoints**

- a) Does the plan cover the range of incidents that can realistically be anticipated?

The incidents considered should range from small events that can be dealt with by works personnel without outside help, to major accidents. Manufactures should be able to justify the proposals in their emergency plans, including the following points:

- (i) The events considered, and why they were included or excluded;
- (ii) The typical routes to these events;
- (iii) The timescales involved;
- (iv) The size of lesser events if the development is interrupted;
- (v) The likelihood of events, so far as can be assessed.

- b) Have the consequences of the various incidents considered been adequately assessed?

For example, each incident should be assessed in terms of the quantities of release, the effects of explosions, the effects of thermal radiation from fires, the effects of toxic gases, etc.

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- c) Are there sufficient resources in terms of personnel and equipment on the site to carry out the emergency plan for the various incidents in conjunction with the public emergency services?

For example, is there sufficient water for cooling, and if this water is applied via hoses, are there sufficient people to operate them?

- d) Have the timescales been assessed correctly?

The time element is of great significance but is often overlooked. For example, time will elapse between the start of the incident and the arrival of the fire brigade who will then need further time to deploy their men and equipment. In such circumstances the works' resources should seek to contain the incident until the fire brigade takes over.

Some toxic releases may take place quickly. For example, a one tonne of chlorine drum releasing liquid at full flow through and open valve will be empty in about ten minutes, and a cylinder in even less time. If the possibility of such a release is identified, the remedial action must be appropriately quick.

- e) Is there a logical sequence of actions? For each person given a role in the plan?
- f) Were key personnel, especially the nominated incident controllers, consulted in the preparation of the plan?
- g) Is there 24-hour cover to take account of absences due to sickness and holidays, minimum shift manning, silent hours shut-down periods, only security personnel being present, or for unmanned sites etc.?
- h) Is there satisfactory co-operation with the local emergency services and district or regional emergency planning officers?
- i) At sites whether an off-site plan to protect people and the environment outside the site in the event of an incident is appropriate? What is the procedure for initiating the off-site plan and is this satisfactory?

- **Records and Updating the Plan**

All records of various on-site & off-site emergency plan of the factories in the jurisdiction, the District Emergency Control (contingent) plan and modifications by experience and suggestion, the rehearsals and conclusions of such plans and the inquiries shall be well maintained and preserved by the District Emergency Authority or the Emergency Planning Officer and the Factory Inspectorate for the purpose of review and further guidance. The necessary Data Bank shall also be maintained for the utility of industries and others.

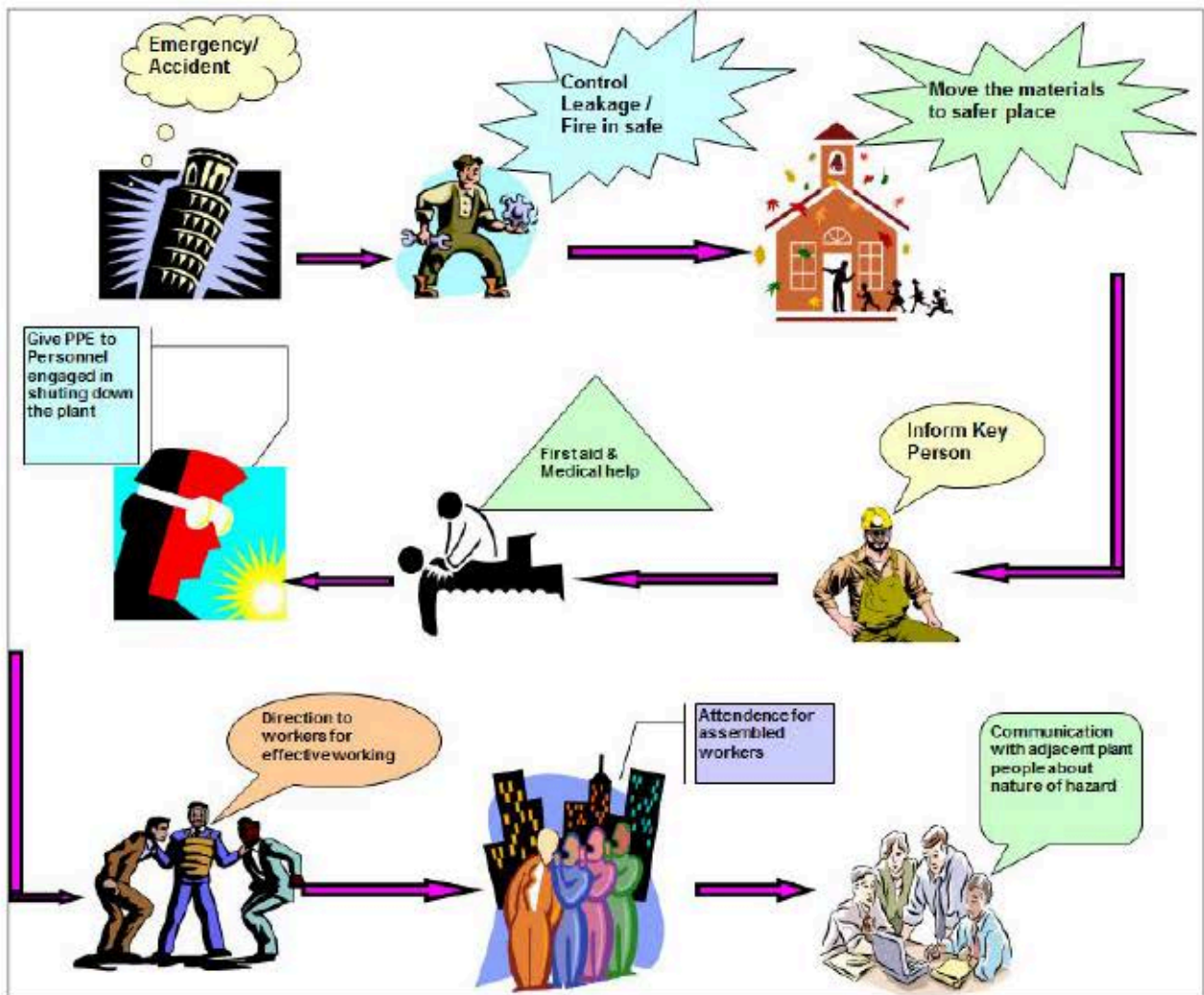
New information and the deficiencies (omission or short-comings) identified during the rehearsal should be reviewed and incorporated in the document for continual up-dating of the plan. Such information should be communicated to the concerned authorities.

- **Emergency Instruction Booklet**

At many places in this plan, it is mentioned that the duties/functions of a particular role shall be mentioned in the last annexure given as an Emergency instruction booklet. For workers, the instructions should be given in their own language.

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Work instruction for on-site emergency plan



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RISK & ENVIRONMENTAL IMPACT ASSESSMENT

- **Preliminary**

Proper planning during the conceptual stage of a chemical unit helps in enhancing the safety of the plant and workers, boosting production and increasing the efficiency of the plant.

Risk associated with the process technology, safety measures, siting of industry, layout of the plant, emergency preparedness and compliance with the regulatory requirements are the factors considered while planning for emergencies.

The steps of planning for emergencies are

1. To assess the hazards potential of an installation
2. To draw up plans to prevent and control emergencies as well as mitigate consequences of an accident.

- **Risk Assessment**

Hazard Analysis is a critical component in planning for emergencies. Hazard Analysis has these basic components.

- i) Hazard Identification
- ii) Vulnerability Analysis
- iii) Risk Analysis

- **Hazard Identification**

This component includes following

- a. Chemical Identity
- b. Location / Site
- c. Quantity of the substances
- d. Nature of Hazard

- **Environmental Impact Assessment**

Environmental Impact Assessment (EIA) may be defined as a document containing environmental analysis which includes identification, interpretation, prediction and mitigation of impacts likely to be caused by proposed action or project.

Generally, such EIA is required at project planning and for clearance of the site for a new project. See also Section 5 of the Environment (Protection) Act, 1986 and section 41-A of the Factories Act, 1948. Once the site is selected it is necessary to go in for a detailed EIA for construction and operational phases.

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The environmental elements (attributes) that are likely to be affected are to be identified and categorized as air, water land, sound, ecology, human aspects, economics and resources. Some of these attributes and their impacts are very closely connected to animal, plant and human life. The environmental impact is measured in terms of changes in attribute values with and without project activity.

Identification and evaluation is necessary for solid, liquid wastes, quantity and quality, gaseous emissions, displacement, human settlement, landscape, vegetation, water courses, aquatic flora, fauna, hazards etc.

Environment includes human beings, other living creatures, plants and property. Amongst these, human beings are the most important and need protection from any adverse impact.

To consider societal risk, whereabouts of the people at risk should be known. They are in two groups (1) those at work on site and (2) those living and/or working in the vicinity.

Of these, the first group is easily known while preparing on-site / off-site emergency plan. The second group i.e. off-site population needs following aspects:

1. Location and number of people normally resident at night.
2. Day time variation to this data.
3. The number and location of more vulnerable people.
4. Proportion of people outdoors.

Above details are enclosed as under:

Note: See **Annexure:** - 10 Gas Dispersion Concentration

Note: See **Annexure:** -11 Evacuation Table

Note: See **Annexure:** - 12 Environment Impact Assessment

Note: See **Annexure:** - 13 Weather Conditions

CHAPTER- 11: DETAILS OF COMMUNICATION FACILITIES AVAILABLE DURING EMERGENCY AND THOSE REQUIRED FOR AN OFF-SITE EMERGENCY

➤ **COMMUNICATION ARRANGEMENTS DURING EMERGENCY AND FOR OFF-SITE EMERGENCY**

After the Risk and their possible environmental impact and after making an organization for the preparedness to control the emergency, the next step is to make ready the communication system. It is a crucial factor in handling an emergency.

Under section 41-b of our factories act, now the disclosure of information to the workers, general public, local authority and the chief inspector is made compulsory. Such advance communication is for the purpose of their emergency preparedness.

For the purpose of on-site and off-site emergency plan, we should have quick and effective communication system to make the emergency known

- (a) Inside the factory
- (b) To key personnel outside normal working hours
- (c) To the outside emergency services and authorities and
- (d) To neighboring factories and the public in vicinity.

The communication system beginning with raising the alarm, declaring the major emergency and procedure to make it known to others is explained below in brief. Siren Code has been given in [Annexure: 26.](#)

❖ **Communication Equipments:**

➤ **Telephones**

Each and every section, area & department of the plant are connected by internal telephones. In hazardous areas, the telephones are flameproof. External phones at the office and residence of the Key Personnel and top executives of the plant is also provided. Mobile phones are available with each employee for communicating during an emergency.

Flameproof Telephones in the plant area will be used by the plant personnel to communicate internally and to avoid congestion of Radio Communication. Emergency contact numbers are displayed near the field telephones.

Lists of Internal / External Telephone Nos. are given in Annexure: 27 & 28.

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➤ Emergency Sirens

The electrical operated and hand operated emergency sirens are provided for communicating emergencies. They are located at various places inside the plant which can be operated from one switch from the Main Control room i.e. from one switch; all or only one siren can be blown. That means, the siren of the affected area only can be blown or all sirens can be actuated at a time.

➤ Messengers/Runner

In case any of the communication equipment is not working, Messengers will be engaged in communication with Emergency Response Team during emergency.

The Communication System begins when any person sees the incident, raising the alarm, telephone messages, declaring the emergency and procedure to communicate the emergency to other persons & general public.

➤ RAISING THE ALARM

Any person who notices any incident of hazardous nature i.e. fire, Explosion, Spillage of Toxic & Hazardous Chemicals, Toxic Gas leakage etc. he will first inform his superior and co-worker.

The Incident Controller/ Respective Incident Controller will order to raise the siren/Rings the manual bell.

The duties of an alarm riser shall be described in the Chapter -2 & Details of alarms and sirens provided in the factory & different siren codes in Chapter -10.

➤ DECLARING THE MAJOR EMERGENCY

The declaration of major emergency puts many agencies in action and the running system may be disturbed which may be very costly at times or the consequences may be serious, therefore such declaration should not be decided on whims or immature judgment or without proper thought.

Ref. Chapter- 2 for Incident Controller & Site Main Controller.

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➤ TELEPHONE MESSAGES

After hearing the emergency alarm and emergency declaration or even while just receiving the emergency message on the phone, a security officer has to play an important role. He/she should be precise, sharp, attentive and quick in receiving and noting the message and then for immediate subsequent action of further communication. Describe his duties in the emergency instruction booklet given.

A form is suggested for a telephone operator to receive and record the first emergency call. You should prescribe such form for your purpose with necessary modification, All Internal and External phones are provided in Chapter - 12.

➤ COMMUNICATION OF EMERGENCY

These should be an effective system to communicate emergencies.

- a) Inside the factory i.e. to the workers including key personnel and essential workers, on duty and inside during normal working hours
- b) To the key personnel and essential workers not on duty and outside during normal working hours
- c) To the outside emergency services and the government authorities and
- d) To the neighboring firms and the general public in the vicinity. Key points are suggested below:

(1) To the employees and workers inside the factory

The communication to all personnel inside the factory is done by Sirens, Telephonic messages and PA system. This will be done by the Control Room Panel Operator/ Telephone Operator. In the specific cases, the trapped employees must be communicated by respective dept. Head. For the same, telephone calls & messengers may be used. On hearing the siren, ERT coordinators & Key personnel will assemble at the respective ECC and locations inside the plant.

(2) To key personnel & Essential workers outside the plant

Generally, because of the planning, Key personnel & essential workers will be available in all shifts. But due to some reason, if someone is outside the factory premises or not on duty and if his help is required, an updated list and telephone, address of the Key

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personnel and Essential workers is available in the ECC. They shall be communicated by Control Room Panel Operator till the arrival of communication team. On arrival, communication team will take over the charge.

(3) To the outside Emergency Services and statutory Authorities

Once the emergency is declared, it is essential that the outside emergency services should be informed in the shortest possible time.

Responsibilities have been fixed as per the Emergency Organization Chart to contact outside agencies for help and to communicate to all the Government and other Authorities such as Fire Brigade, Police, District Emergency Authorities, DISH and Hospital etc.

(4) To neighbouring factories and the General Public in vicinity

A major emergency will affect areas outside the plant and it is essential that neighbouring factories and general public, should be informed to enable them to take prompt action to protect their own employees and to take whatever measures may be possible to prevent further escalation of the emergency due to effects on their own installations, at the same time, they may be required to provide assistance as part of a prearranged mutual aid plan.

Further, responsibilities have been fixed to inform the neighbouring factories and the general public living in the vicinity as per Emergency Organization Chart.

Nearby public will be evacuated by evacuation team and portable PA system will be used for announcement. Village awareness pamphlets also will be distributed to the public in advance and during emergencies for communication.

TO KEY PERSONNEL OUTSIDE NORMAL WORKING HOURS

Generally, because of the planning suggested in **chapter - 2** the key personnel and essential workers will be available in all shifts or on short call. But due to some reason, if some are outside or not on duty and if their help is required, their up-dated lists (Chapter 2) shall be kept and (if located elsewhere) the communications center from which the call in will be made.

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Names should be listed in order of priority. Communicators should be told to call in the personnel in the order given, but not to waste time hanging on unduly for the call to be answered. Instead, they should proceed through the list and return to those where the initial call was unanswered. If the second call remains unanswered, they should try to contact the nominated deputy.

On making contact, the communicator should give a short prearranged message to the effect that a major emergency has been declared at the works. Those contacted should not try to elicit further information at this stage, thereby delaying other calls. Liaison with the police will help to establish means whereby personnel called in can be allowed to proceed through any roadblocks set up as part of their traffic control arrangements.

TO THE OUTSIDE EMERGENCY SERVICES AND THE AUTHORITIES

Once the declaration is made, it is essential that the outside emergency services, if they have not already been called in, are informed in the shortest possible time. Liaison at local level will help to determine the best means of achieving this, for example, by direct line or automatic alarm to the fire brigade or by any emergency system. Predetermined code words to indicate the scale and type of the emergency may be useful.

In high risk works and where there is no full time work emergency team, it may be advisable to provide for the outside emergency services to be informed on all occasions when the emergency alarm is raised. Local discussion with the outside services will help to decide, but it should be borne in mind that it is better for the emergency services to arrive to find a situation already under control than to find one out of hand due to delay in call -in.

The inside and outside emergency services including mutual aid are listed in Chapter 4 & 13. These should be utilized as per need.

The emergency must be immediately communicated to the government control room and other authorities such as fire brigade, police, district emergency authority, factory inspectorate, hospital, etc.

The statutory information to above authorities must be supplied beforehand so that they can be well prepared to operate their offsite emergency control (contingent) plan. As per their advice or consultation your on-site plan should be modified and updated also.

TO NEIGHBOUR FIRMS AND THE GENERAL PUBLIC

A major emergency may affect areas outside the works. The surrounding public will be alerted with a PA system. The police will undertake any necessary action to safeguard members of the public. In the case of other nearby industrial concerns, consideration should be given to the need for a direct

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notification to them of the major emergency. This can serve a dual purpose in that it will enable them to take prompt action to protect their own employees and to take whatever measure may be possible to prevent further escalation of the emergency due to effects on their own installations. At the same time, they may be able to provide assistance as part of a prearranged mutual aid plan.

The statutory information to the general public must be supplied before hand to them for their emergency preparedness. Such information u/s 41-B of the factories act is as under.

1. Name of the factory and address where it is situated.
2. Identification by name and position of the person giving the information.
3. Confirmation that the factory has approval from the factories inspectorate and pollution control board.
4. An explanation in the simple terms of the hazardous process (s) carried on in the premises.
5. The common names of the hazardous substances used which could give rise to an accident likely to affect them, with an indication of their principal harmful characteristics.
6. Brief description of the measures to be taken to minimize the risk of such an accident in compliance with its legal obligations under relevant safety statutes
7. Salient features of the approved disaster control measure adopted in the factory.
8. Details of the factor's emergency warning system for the general public.
9. General advice on the action members of the public should take on hearing the warning.
10. Brief description of arrangements in the factory, including liaison with the emergency services to deal with foreseeable accidents of such nature and to minimize their effects.
11. Details of where further information can be obtained.

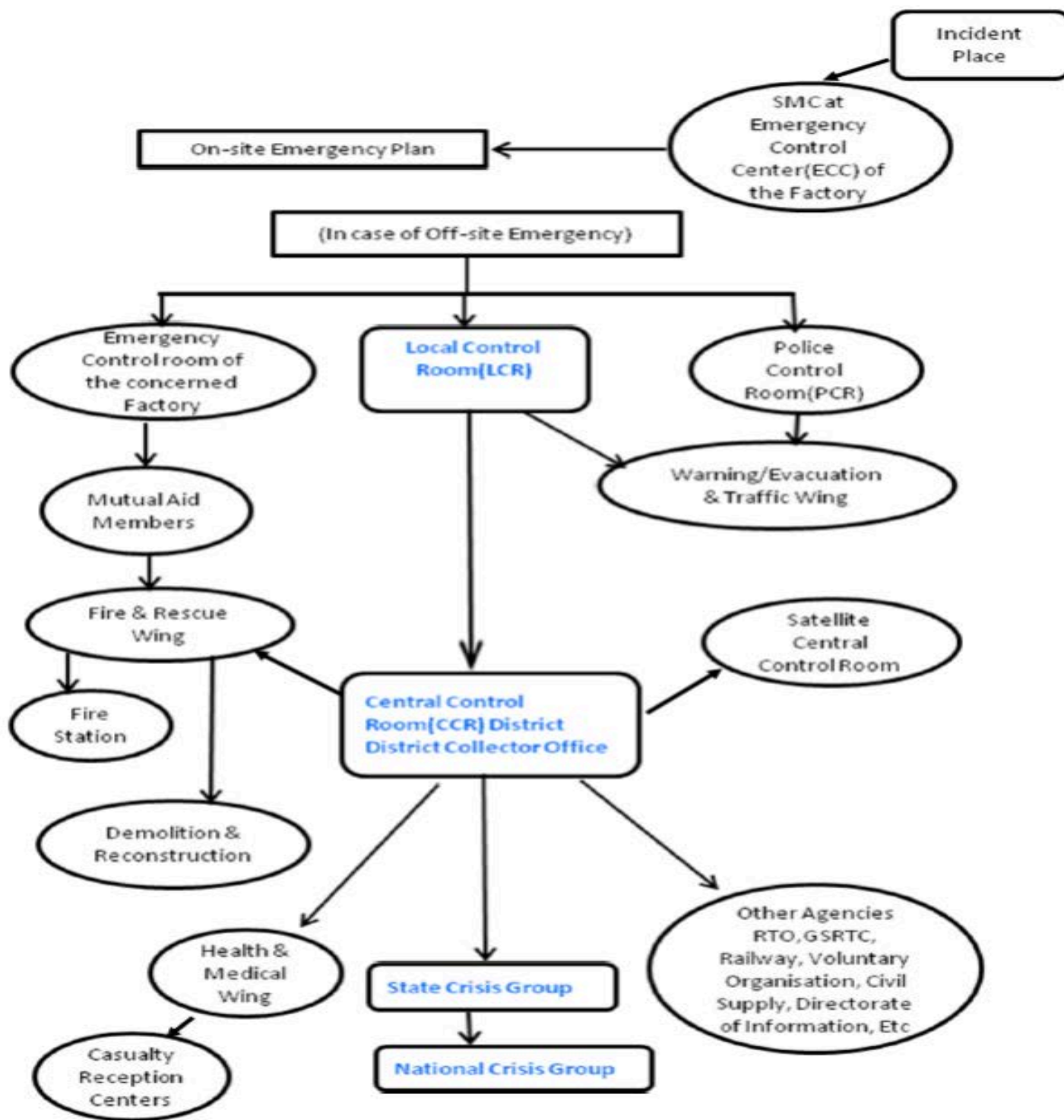
➤ IMPORTANT INTERNAL/EXTERNAL TELEPHONES NUMBERS:

Note: Annexure: - 27 for Internal Telephones

Annexure: - 28 for External Telephones

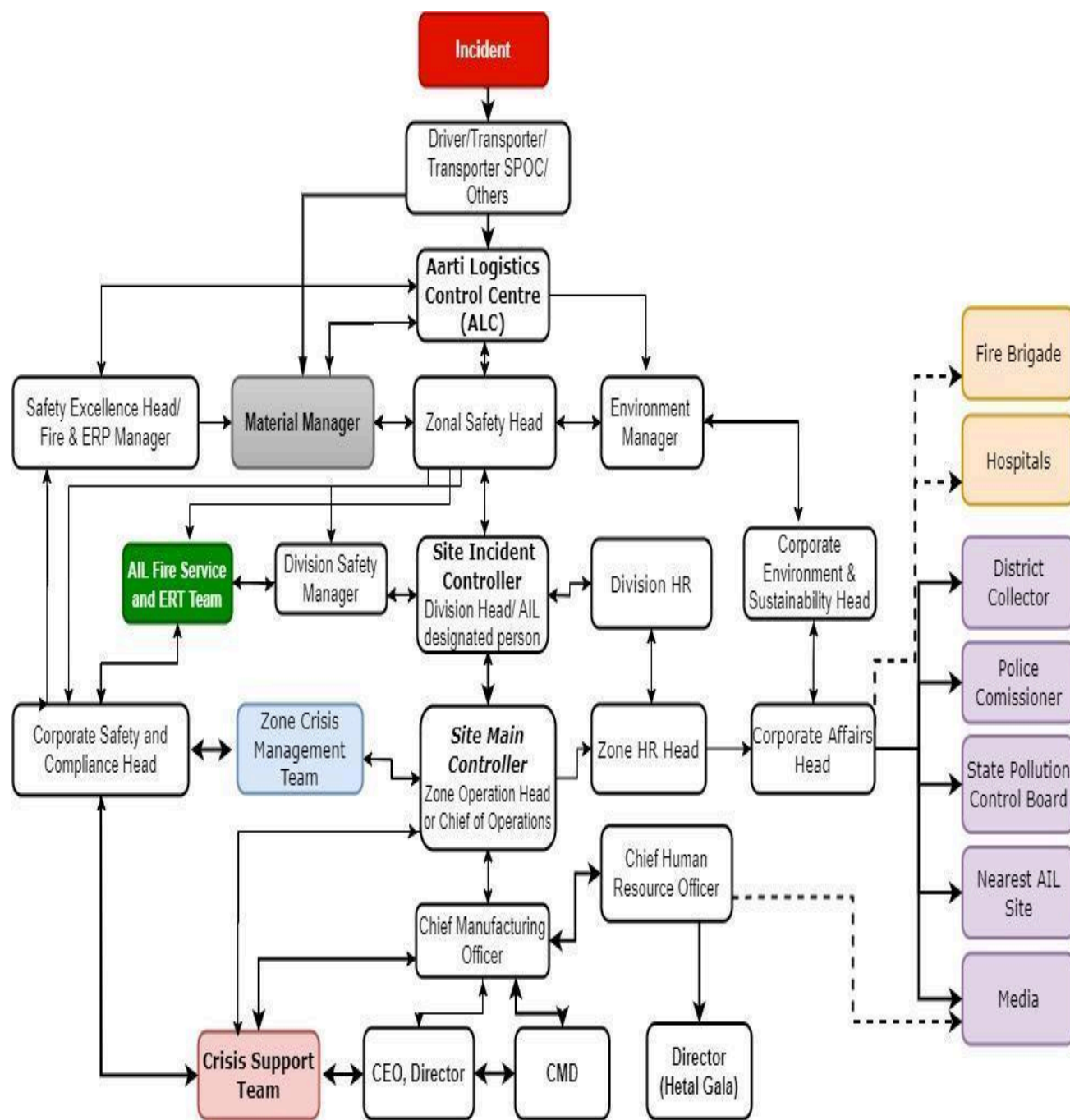
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Arrangement for Off Site Emergency plan and communication:



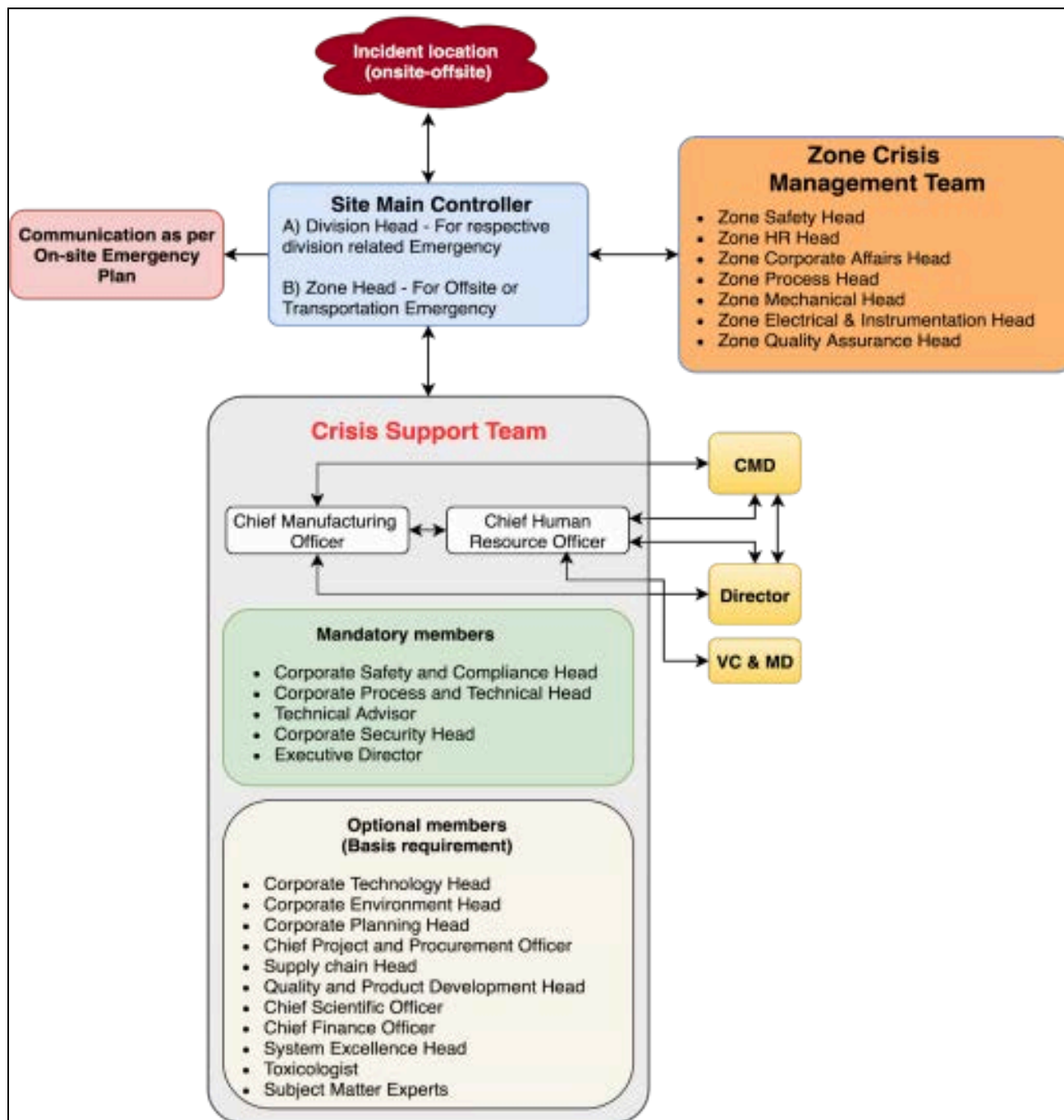
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Emergency Command System applicable for Transport related Emergencies



On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

The crisis management team will have the following structure. The below CMT will be activated by the Corporate Safety and Compliance Head for the emergency scenarios of level 2, 3 and transport emergencies.



➤ **NEED OF THE OFF-SITE EMERGENCY PLAN**

Major accidents may affect areas outside the works. Explosions can scatter debris over wide areas, the effects of blast can cover considerable distances, and wind can spread burning brands or toxic gasses. In some cases, eg.as the result of an explosion, outside damage will be immediate and part of the available resources of the Emergency Services may need to be deployed in the affected areas. In any event, the possibility of further damage may remain, e.g. as the result of further explosion or by the effect of wind spreading burning brands or hazardous materials.

The fact of a major emergency and the spread or potential spread of its effects outside the works may require that road and rail traffic past the works has to be halted or diverted. The responsibility for controlling road traffic flow rests with the police, taking account of the advice of the Site Main Controller. They will also, where necessary, inform the Rail. The problem is almost always exacerbated by members of the public driving to the scene to view the situation. The net effect can be to cause problems to those who have a real need to get to the works, including the key personnel who will have been called out. Liaison at local level will help to devise a means whereby key personnel can readily identify themselves to the Police controllers. The use of a windscreen sticker or other identity label may be advantageous.

The off-site plan is largely a matter of ensuring coordination of existing services and their readiness, as far as possible, for the specific hazards and problems which may arise in an incident. This means that key personnel have been identified, their duties defined and proper training achieved. Emergency Control Centres will also exist. The Chief Executive of the local authority will generally have staff in close liaison with the emergency services (fire, police, ambulance, etc.) and will be able to designate an emergency planning officer to mastermind the off-site plans.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Thus in brief the two main purposes of the off-site emergency plan are:

1. To provide the local/district authorities, police, fire brigade, doctors, surrounding industries and the public, the basic information of risk and environmental impact assessment and to appraise them of the consequences and the protection/prevention measures and control plans and to seek their help to communicate with the public in case of a major emergency. This information from every industry enables the District Authorities to educate the public that what can go wrong, the measures to be taken and train them of the individual role in case of an emergency, and
2. To assist the District Authorities for preparing the off-site emergency (contingent) plan for the district or particular area and to organize rehearsals from time to time and initiate corrective actions based on the lessons learnt.

An in charge of the on-site Emergency Plan or the Site Main Controller will keep liaison, for this purpose, with the district as follows:

An industry should be familiar with such off-site plan and its functions as follows:

➤ **STRUCTURE OF THE OFF-SITE EMERGENCY PLAN**

Organization	Details of Command structure, Coordination arrangements, warning system, implementation procedures, emergency control centers. Names and appointments of: Incident Controller, Site Main Controller, their deputies and other key personnel.
Communications	Identification of personnel involved, communication center, call signs, network, lists of key telephone numbers.
Specialized emergency equipment	Details of availability and location of: heavy lifting gear, bulldozers, specified firefighting equipment, fire boats.
Specialized knowledge	Details of specialist bodies, firms and people upon whom it may be necessary to call, e.g. People or firms with specialized chemical knowledge, laboratories.
Voluntary organizations	Details of organizers, telephone number, resources etc.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Chemical information	Details of the hazardous substances stored or processed on each site and a summary of the risks associated with them (HAZCHEM details),
Meteorological information	Arrangements for obtaining details of weather conditions prevailing at the time and for weather forecasts,
Humanitarian arrangements	Transport, evacuation centers, emergency feeding, treatment of injured-first aid, ambulances, temporary mortuaries.
Public information	Arrangements for (a) dealing with the media press office, (b) informing relatives etc.
Assessment	Arrangements for collecting information on the causes of the emergency, appointment of a historian. Reviewing the efficiency and effectiveness of all aspects of the emergency plan.

➤ **ROLES AND RESPONSIBILITIES OF STAKEHOLDERS INCLUDING EXTERNAL AGENCIES**

The general responsibilities of the various authorities and agencies involved in mitigation of off-site emergencies are listed below. In addition, the authorities and agencies will perform all such tasks as per the demands of the emergency at hand.

➤ **Duties of Site Main Controller**

During Off Site Emergency, Unit's Site Main Controller becomes Co-ordinator & Liaison Man and his duties are as follows:

- He has to extend liaison, coordination and facility to the Chairman of local crisis group or Chairman of district crisis group.
- He has to explain about the disaster, his efforts and what type of help is needed in brief to Chairman of Local Crisis group (Govt. Authority) and Central Control Room.
- He has to communicate about available resources, fatality/injury to his own employees and probable affected surrounding area with maximum credible scenario.
- He has to keep ready with maps, layout of the unit, records, documents, ON SITE Emergency Plan, MSDS., Details of Process Hazards, Safe Handling procedure on specific hazardous chemicals etc.
- He has to advise for special medical treatment and availability of antidotes.
- He has to divert the communication system for Off Site emergencies.
- He has to divert all available resources for an Offsite emergency.
- He has to provide aid and assistance for Off Site Emergency.
- Shutdown plant safely, if hazards are not involved.
- He has to reorganize the work of Key personal & essential workers.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

- Arrangement of food, water, rest etc. for the person engaged in the duty.
- Arrangement of disposal of contaminated water, effluent, solid waste, etc.

➤ Duties of Incident Controller

- He has to show the actual incident to the offsite action group.
- He has to provide proper information to all incoming off-site action groups.
- He has to also explain safe routes for offsite team members, fire crew members, etc.
- He has to describe available resources, other hazardous material near disaster, available PPE, Neutralizing Media, etc.
- He has to show safe & proper parking arrangements for offsite action group members.

➤ District Emergency Authority (DEA – District Collector)

- Take overall responsibility for combating the Off -site emergency
- Ensure the Police and Fire, personnel combat the emergency
- Arrange, if necessary, for warning and evacuating the public, through the Department of Police.
- Communicate with the media to disseminate vital information to the public.
- Arrange for dispensing vital information to the public using arrangements like mass-SMS, public announcement using pre-recorded tapes.
- Direct the team of doctors headed by the Medical Officer.
- Direct the local chief of state transport corporation to arrange for transport of victims and evacuation of people trapped within the hazard zone, if necessary
- Direct the Electricity Board officials to give uninterrupted power supply
- Direct the official in-charge to provide uninterrupted water supply as required.
- If evacuation of population is necessary direct the Revenue officer and the Supply officer to provide safe shelters, food and other life sustaining requirements for the evacuees, if required
- Coordinate with the media
- Arrange for, release and provide necessary funds at various stages of disaster mitigation.
- Direct railways to stop trains, if required.

Police-

Communicate and coordinate with --

- MAH unit
- DEA
- Fire Services
- Transport authorities
- Medical Department
- Media
- Civil Defense and Home Guards
- Local Army establishment as required

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

- Warn and advise the people in the affected area
- Regulate and divert traffic
- Arrange for evacuation
- Maintain law and order in the area
- Ensure protection of life and property of evacuees
- Deal sternly with people exploiting opportunism in wake of a disaster

Fire Service Department-

- Perform fire-fighting operations by deploying men and appliances
- Perform rescue operations in the affected area.
- Communicate and coordinate with Police, Medical Department of necessary information
- Keep knowledge on appropriate response to different chemical emergency scenarios
- Keep adequate stock and resource information on necessary means, material, appliances required to deal with emergency situations with updated details of suppliers and stockists.

Medical Department-

- Arrange for preparing casualties to be sent to government/private hospitals
- Set up temporary medical camp and ensure medical facilities at affected location and neighborhood
- Keep knowledge on appropriate response to different cases of toxic consumption and injuries
- Set up temporary mortuary, identification of dead bodies and post-mortem

Factory Inspectorate Department-

- Provide necessary direction to MAH unit and assistance to DEA, Fire Department, Medical Department among others
- Seek help from and involve assistance of Technical Experts of relevant and appropriate expertise and specialization
- Initiate, facilitate and provide for investigation into the accident

Occupier of MAH Unit-

- Possess up-to-date copy of Off-site Emergency Plan
- Communicate promptly, any foreseeable disaster, to the DEA, Police, Fire Service and Inspector of Factories in-charge of the District
- Communicate changes within the factory that may require inclusion or suitable modification in the off-site plan to the DEA (District Emergency Authority) of the Plan

Technical Experts-

- Promptly respond to provide the necessary technical advice to MAH unit, DEA, Factory

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Inspectors, Fire Department, Medical Department among others

- Provide on-phone help after properly understanding and assessing the situation
- Make visit to the site in coordination with DEA, Factory Inspector(s) to provide for appropriate technical assistance

Mutual AID Groups-

To quickly mobilize the resources required to emergency mitigation at the site or wherever required.

Note: M/s. Aarti Industries Ltd (Diamond division), Dahej is having mutual aid with Dahej Industrial Association (DIA), Dahej Eco Friendly Society (DEFS) & Dahej SEZ Fire station.

Pollution Control Board-

- Project likely areas to be polluted.
- Carry out pollution assessment at suspected locations including soil, river and air assessment.
- Ensure controlling of long-term pollution damage
- Identify unidentified substances, chemical releases, if any
- Transport Fleet Owners Including State Transport
- Act on the direction of DEA or Police
- Ascertain the extent of transport required with pick-points, routes and destinations to transport people
- Promptly arrange for dispatch of vehicles with sufficient fuel for evacuation purposes
- Arrange vehicles to transport water and other provision to camps set up

Media-

- Disseminate vital information to public on direction of DEA, Police and other Authorities
- Act responsibly in disseminating vital information and dispel rumors, if any

Railways-

- Act as per the direction of DEA to stop incoming trains, if required
- Arrange for evacuation, if required

Transporters of Hazardous Chemical-

- Possess up-to-date copy of Off-site Emergency Plan
- Communicate promptly, any foreseeable disaster during transportation to the DEA, Police, Fire Service and Inspector of Factories in-charge of the District
- Communicate new assignments, newly added routes or other changes that may

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

require inclusion or suitable modification in the off-site plan to the DEA (Maintenance Officer) of the Plan

Electricity Board-

- Arrange for uninterrupted power supply to the plant, as required
- Arrange for lighting; at temporary medical camps etc
- Arrange for switching off power supply on request from District Authorities
- Take care of electrical equipment within the damaged zone

Telecommunication Department-

- Ensure working of communication lines to enable effective communication between various responder agencies

Civil Defense-

- Coordinate with Police authorities
- Extend help in evacuation
- Arrange for round the clock security arrangements in the affected and evacuation areas
- Safeguard the properties and belongings of evacuees

National Disaster Response Force-

- Carry out tasks for disaster mitigation as required

Local Government Bodies-

- Mobilize necessary resources in emergency mitigation
- Provide for community halls, town halls for evacuees

Public Works Department-

- Ensure adequate water supply for fire- fighting
- Arrange for drinking water for evacuated persons at rallying posts, parking yards and evacuation centers. Arrange water for cattle.

Water Supply Board-

- Arrange for supply of water to evacuees and all others involved in emergency control operations

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Civil Supplies Department-

- Arrangement to provide food and clothing as necessary, to the evacuees and all others involved in emergency controlling operations

Regional Transport Authority-

- To investigate the cause of road accidents involving hazardous goods carriers and take necessary action.

Note: If any incident happens in plant premises, the responsible person has to rush to the site immediately.

CHAPTER-12: DETAILS OF FIRE FIGHTING AND OTHER FACILITIES AVAILABLE AND THOSE REQUIRED FOR AN OFF-SITE EMERGENCY

Fire and Toxicity Control Arrangements

A good organization should have its own fire station and emergency equipment room in the factory. It should be fully equipped with all necessary firefighting and personal protective equipment in readiness. Trained persons (essential workers) shall always (round the clock) be available at this room who will rush to the emergency point in the shortest time. Warning system (audio-visual) for emergency calls shall always be in working order. The same staff should be regularly trained to meet any emergency due to fire, explosion, spill or toxic release.



In a small factory if such a separate fire station is not required, at least a room shall be kept ready round the clock with sufficient firefighting and personal protective equipment and in the case of emergency, the trained essential workers and the outside fire brigade and mutual aid shall be called in immediately.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

See Annexure: - 20 for Fire and toxicity control arrangements

As per Gujarat Disaster Management Act, as requested

1) Each Factory as defined under the Factories Act 1948, shall-

- (a) Assist the State Government, the Commissioner and the Collector in all disaster management activities;
- (b) Ensure that their staff are adequately trained;
- (c) Ensure that all necessary resources are in a ready-to-use state;
- (d) Ensure that its buildings and other structures are in compliance with all specifications stipulated by the departments of the Government and the Authority;
- (e) Carry out relief operations under the supervision of the Commissioner and the Collector;
- (f) Assist in conducting damage assessment and in carrying out reconstruction and rehabilitation activities in accordance with the guidelines framed by the Authority;
- (g) Prepare a disaster management plan in conformity with the other disaster management plans of local authorities, departments of Government having regard to the guidelines laid down in this behalf by the Authority;
- (h) Take all other steps and provide such assistance to the Authority, the Commissioner and the Collector and take such other steps as may be necessary for disaster management.

(2) Each factory shall be responsible for effective implementation of the plan drawn up by it in this behalf.

(3) Each private and public sector entity shall provide assistance to the Authority, the Commissioner, the Collector and take such other steps as may be necessary for disaster management.

CHAPTER- 13: DETAILS OF FIRST-AID AND HOSPITAL SERVICES AVAILABLE AND ITS ADEQUACY

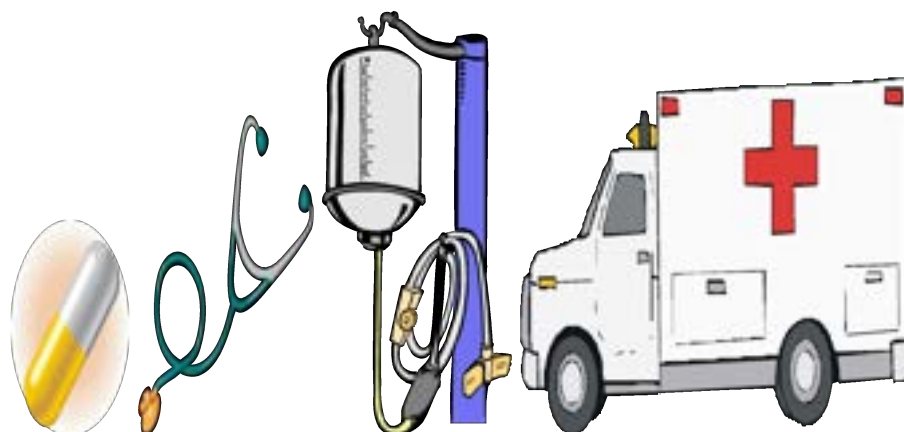
Medical Arrangements

A good organization should have, depending on the size of the factory, its own ambulance room or occupational health Center or dispensary or hospital for medical treatment of the workers in normal working and also at the time of emergency. It should be fully equipped with necessary instruments, arrangements, medicines including antidotes, and staff. It should have sufficient space, capacity and be sited in a safe place (avoiding normal downwind direction). The statutory provisions shall be met with. There shall be sufficient first-aid centers and first-aiders properly trained. The staff shall be available round the clock.



In a small factory if such separate medical Center is not required (It may be statutorily required for a hazardous factory u/s 41-C of the Factories Act) at least a room shall be kept ready round the clock with sufficient first-aid arrangements and in case of emergency, the trained first-aiders and the outside medical help (including doctors, nurses, equipment, medicines, antidotes etc.) shall be called in immediately.

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Where it is statutorily required, a suitable constructed ambulance van shall be maintained in good condition for the purpose of transportation of serious cases of accidents or sickness. The van shall be fully equipped with statutory facilities and available round the clock. In other cases, arrangements shall be made to procure such facilities at short notice from nearby hospitals or other places.

OHC is available for the factory. There is also liaison with the nearby hospitals.

Note: - See Annexure: - 22 for Medical arrangement

Mutual Aid Arrangements:

Note: See Annexure: - 22 for Mutual aid arrangements of first aid and hospital services available.

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List of Annexure: (Attached to On- Site Emergency Plan)

Annexure No.	Annexure Name
1	Identification of the Factory
2	Map of the Area
3	Factory & Fire Hydrant System Layout
4	Storage Hazard and Control, Chemical to Chemical Compatibility Chart
5	Material Safety Data sheet
6	Process and Vessels Hazards & Controls
7	Other Hazards and Controls
8	Trade Waste Disposal
9	Records of Past Incident
10	Gas Dispersion Concentration
11	Evacuation Table
12	Environment Impact Assessment
13	Weather Condition
14	Incident Controllers
15	Deputy Incident Controllers
16	Site Main Controller
17	Key Personnel & its Emergency Contact Numbers

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18	Essential Workers
19	Safe Assembly Points
20	Emergency Control Center
21	Fire and Toxicity Control Arrangements
22	Medical Arrangements
23	Transport and Evacuation Arrangements
24	Pollution Control Arrangements
25	Other Arrangements
26	Alarms & Sirens
27	Internal Telephones
28	External Telephones
29	Nominated Persons to Declare Major Emergency
30	A Form to Record Emergency Telephone call
31	Statutory Communication
32	Separation Distances
33	Emergency Instruction Booklets

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-1: Identification of the factory

Full Name : Aarti Industries Limited				
Address of the company : Plot no. Z/103/C, SEZ-II, Dahej, Tal-Vagra, Dist- Bharuch, Gujrat				
Phones :Factory : Office : 02641-223551				
Fax No. : Not Applicable				
Full Name & Address of the occupier : Shri.Ajay Kumar Gupta			Phones	
A-102, Samsara Flat Chhani Jakat Naka, TP13, Canal Road, Vadodara - 391740			Office	
			Residence	
			9998953992	
			9998953992	
Full Name & Address of the Manager : Mr. Sandip Parekh			Phones	
B/2 Shreeniketan resiplaza Opp INOX multiplex, Zadeshwar road, Maktampur Bharuch.			Office	
			Residence	
			02641 22 3639	
			9727720802	
Manufacturing process: 2,5 DCA , 2,5 DCP ,PDCB, NSA, 2,3,4-TFA				
Name of the shift	Maximum workers at a time			In “workers” include all employees, contract workers, trainees, apprentices, etc.
	Male	Female	Total	
General (G)	368	20	388	
First (A)	108	0	108	
Second (B)	117	0	117	
Third (C)	106	0	106	
Total shifts workers	699	20	719	
First person to be contacted in the case of emergency :				

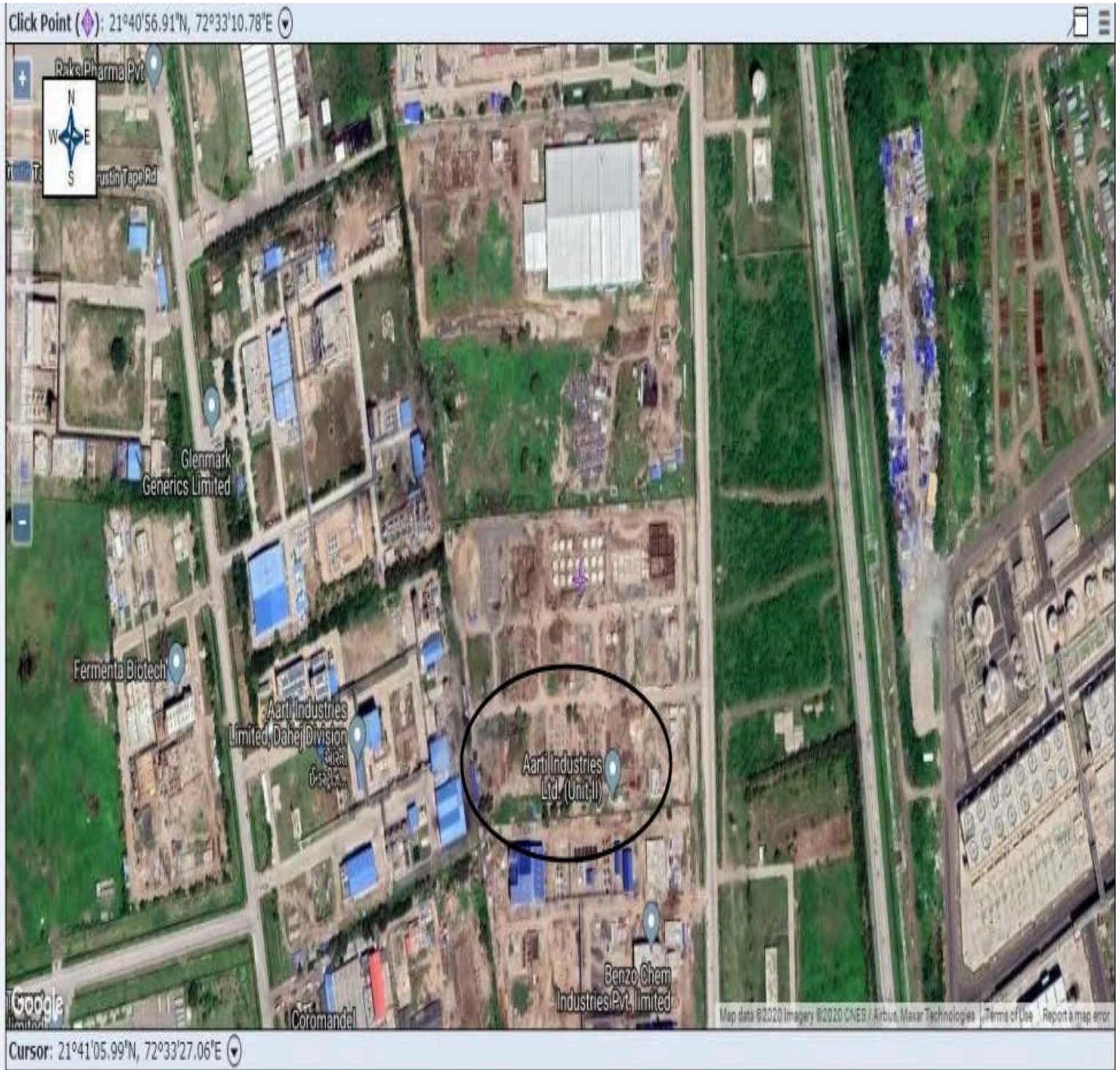
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Name of the shift	Name & designation	Place of availability	Phone No.
General (G) & Off Hours	Mr.Sandip Parekh Division Head	Plot no. Z/103/C, SEZ-II, Dahej, Tal-Vagra, Dist-Bharuch, Gujrat	9227720802 -
First, Second & Night Shift	DCA Plant Shift In charge	Plot no. Z/103/C, SEZ-II, Dahej, Tal-Vagra, Dist-Bharuch, Gujrat	CUG Phone- 6352971755
First, Second & Night Shift	DCP[Plant Shift In charge	Plot no. Z/103/C, SEZ-II, Dahej, Tal-Vagra, Dist-Bharuch, Gujrat	CUG Phone-6352967542
First, Second & Night Shift	SAC/CR/ TAR Plant Shift Incharge	Plot no. Z/103/C, SEZ-II, Dahej, Tal-Vagra, Dist-Bharuch, Gujrat	CUG Phone-6352967585
First, Second & Night Shift	NSA/SO2 & Tank Farm area Shift In charge	Plot no. Z/103/C, SEZ-II, Dahej, Tal-Vagra, Dist-Bharuch, Gujrat	CUG Phone-7984860020 / 6353650390
First, Second & Night Shift	ETP area Shift In charge	Plot no. Z/103/C, SEZ-II, Dahej,Tal-Vagra, Dist-Bharuch, Gujrat	CUG Phone-6353533450

Annexure-2: Map of the area

Note: Print of the Factory Map of the area is attached on another page.

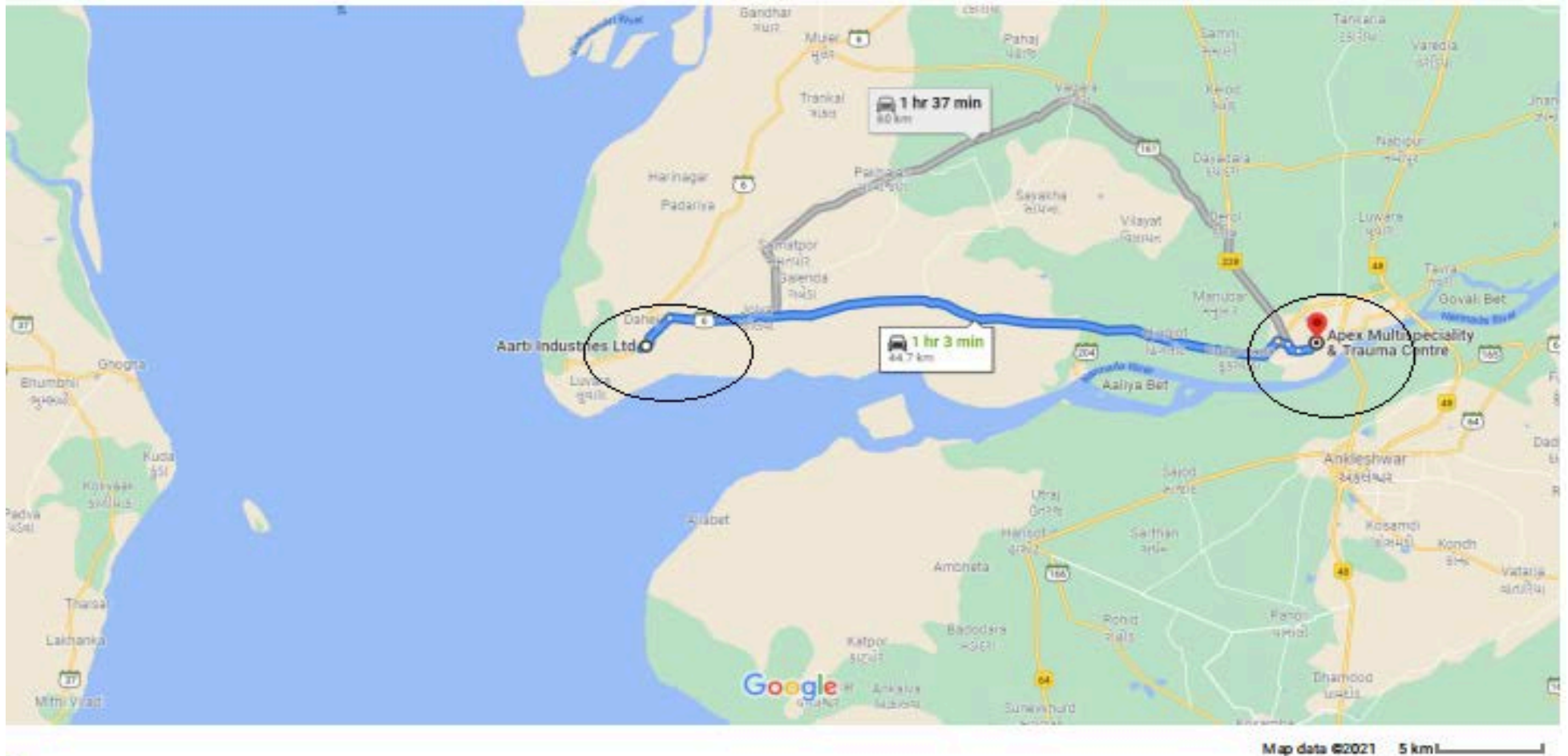
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej



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Key Map-A

M/s. Aarti Industries Ltd (Diamond Division) to Sunshine Global hospital (Apex),
Bharuch (Distance – 50.2 km)

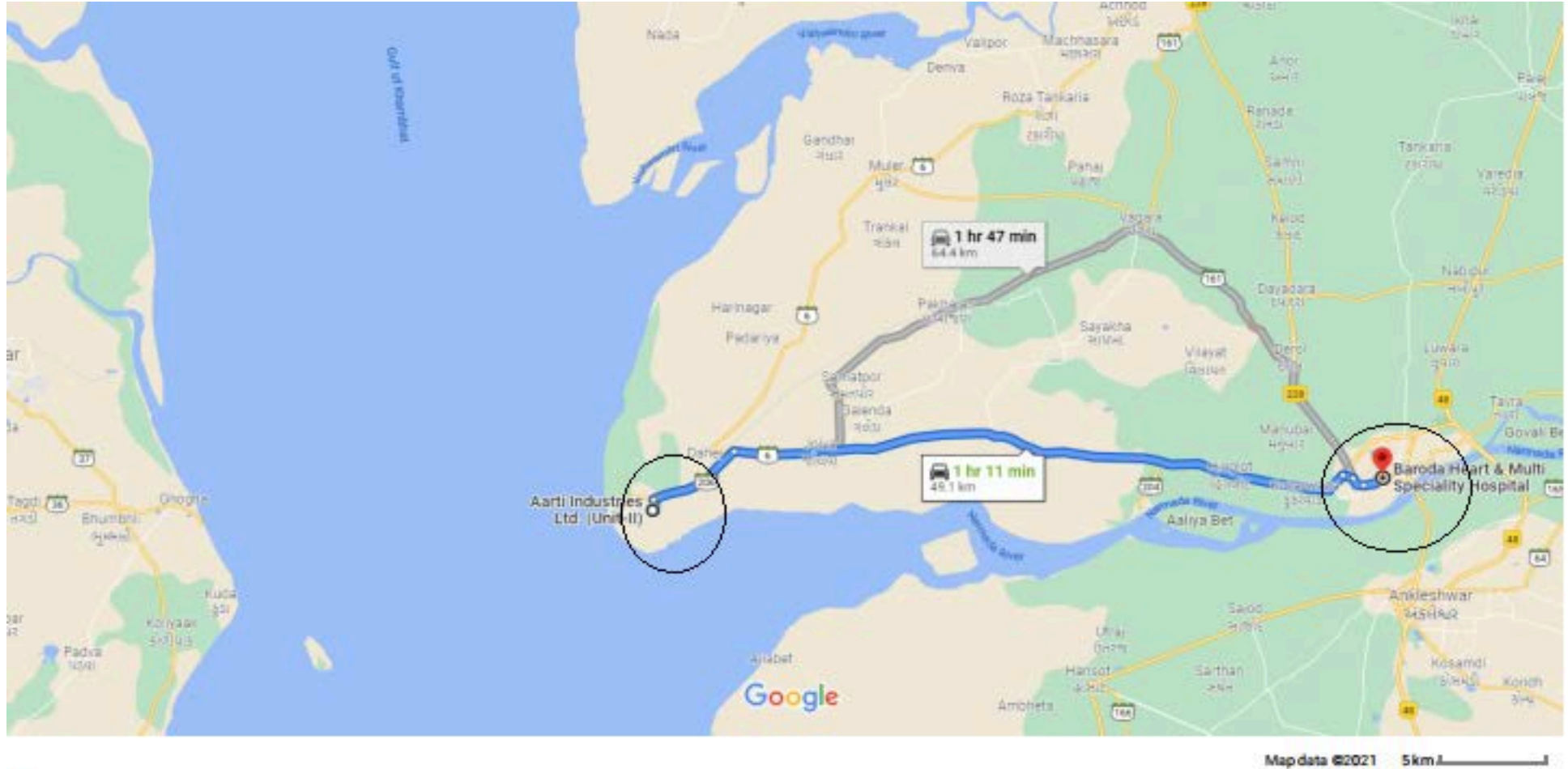


On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Key Map-B

M/s. Aarti Industries Ltd (Diamond Division) to Baroda Heart & Multi Specialty hospital, Bharuch
(Distance – 50.5 km)

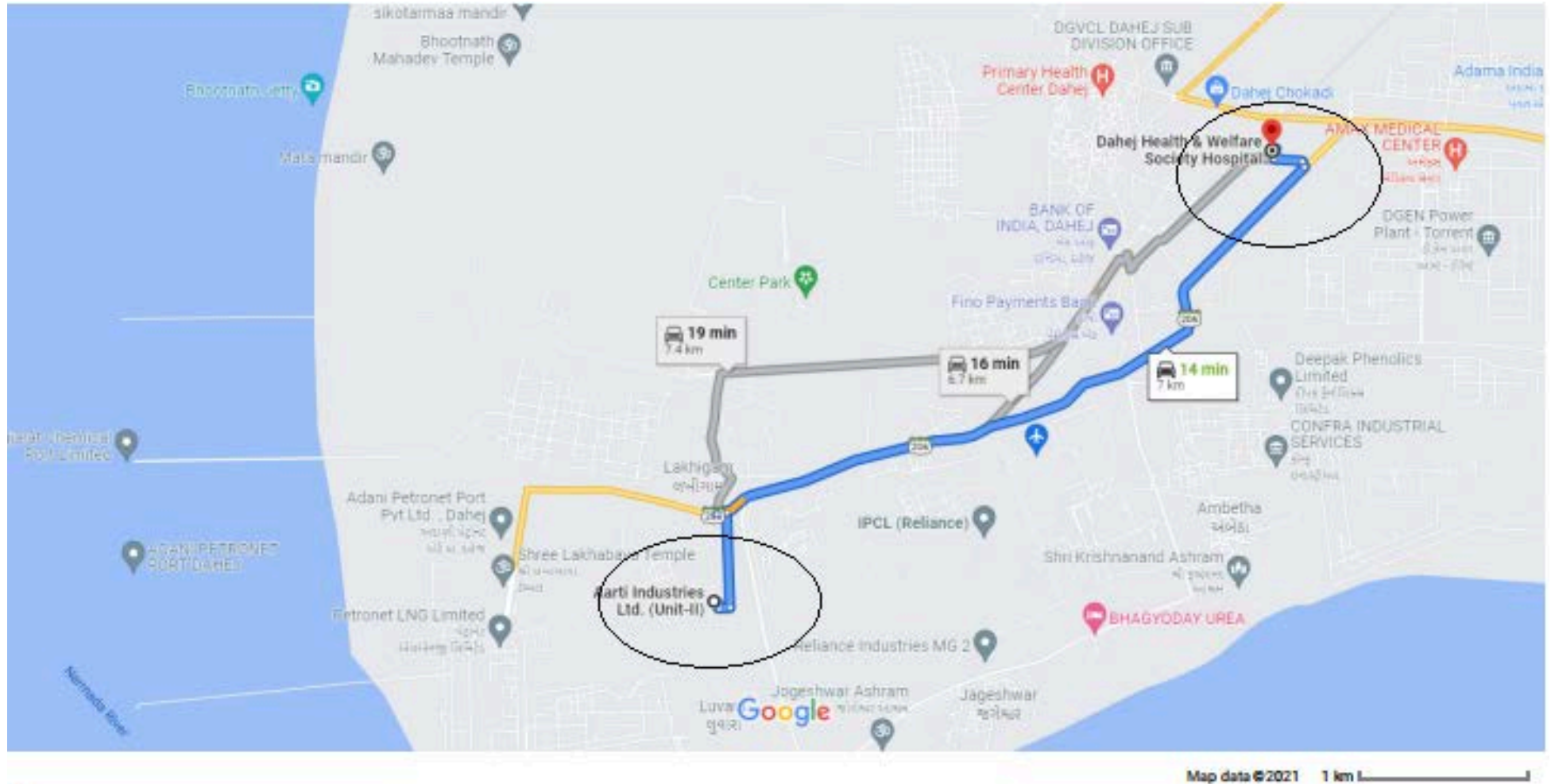
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej



Key Map-C

M/s. Aarti Industries Ltd (Diamond Division) to Dahej Health & Welfare Society Hospital
(Distance – 8.4 km)

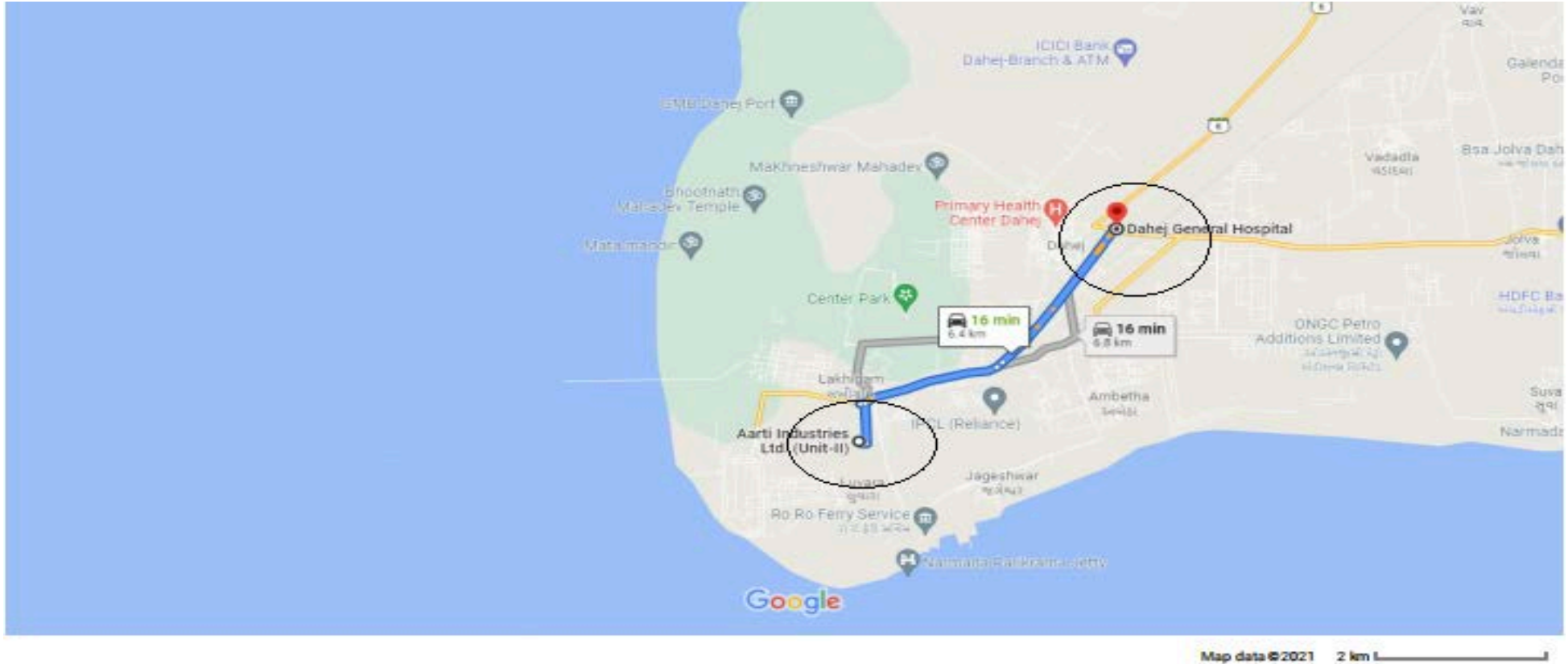
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej



Key Map-D

M/s. Aarti Industries Ltd (Diamond Division) to Dahej General Hospital (Distance – 6.4 km)

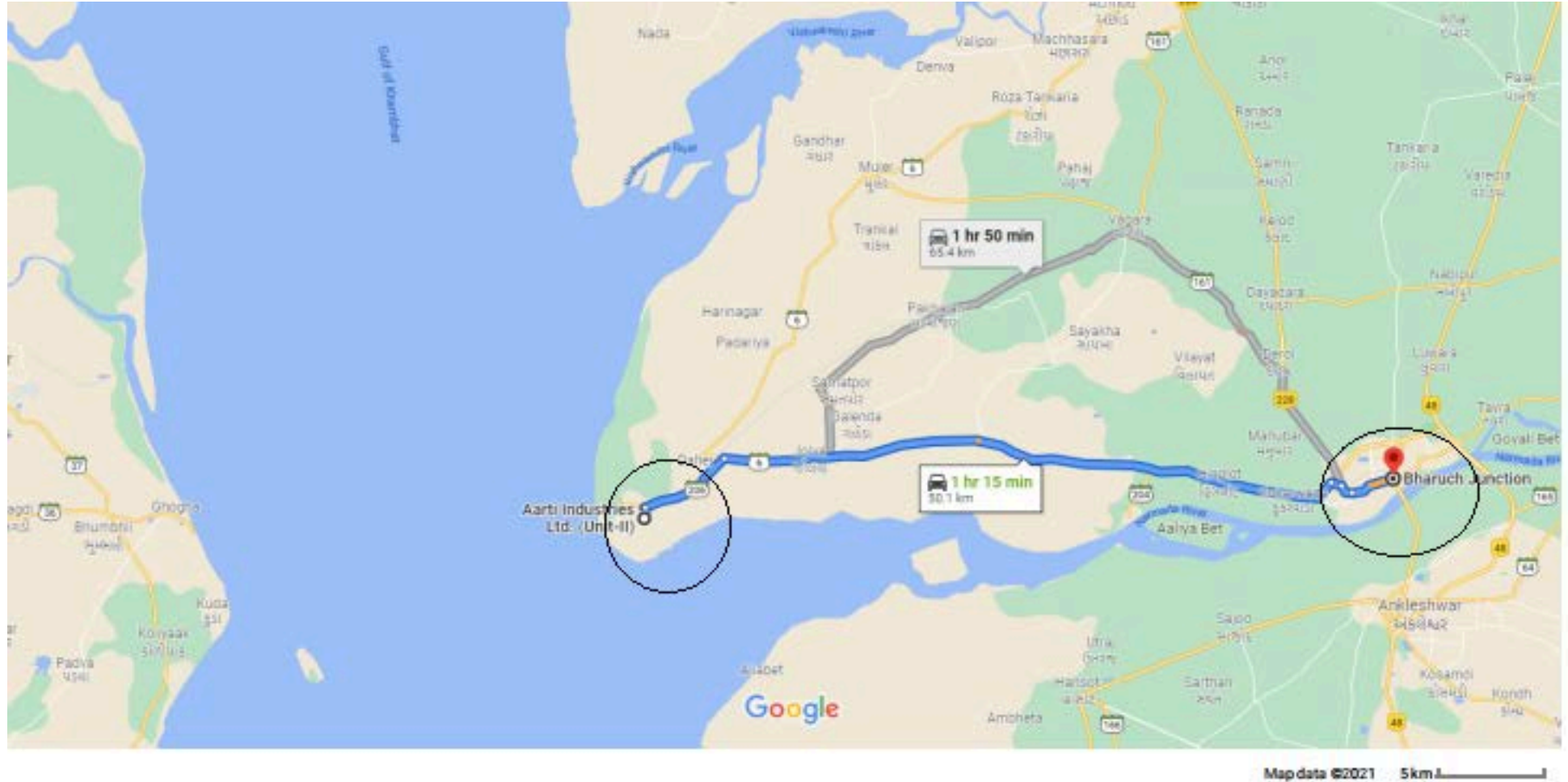
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej



Key Map-F

M/s. Aarti Industries Ltd (Diamond Division) to Bharuch Railway station
(Distance – 50 km)

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej



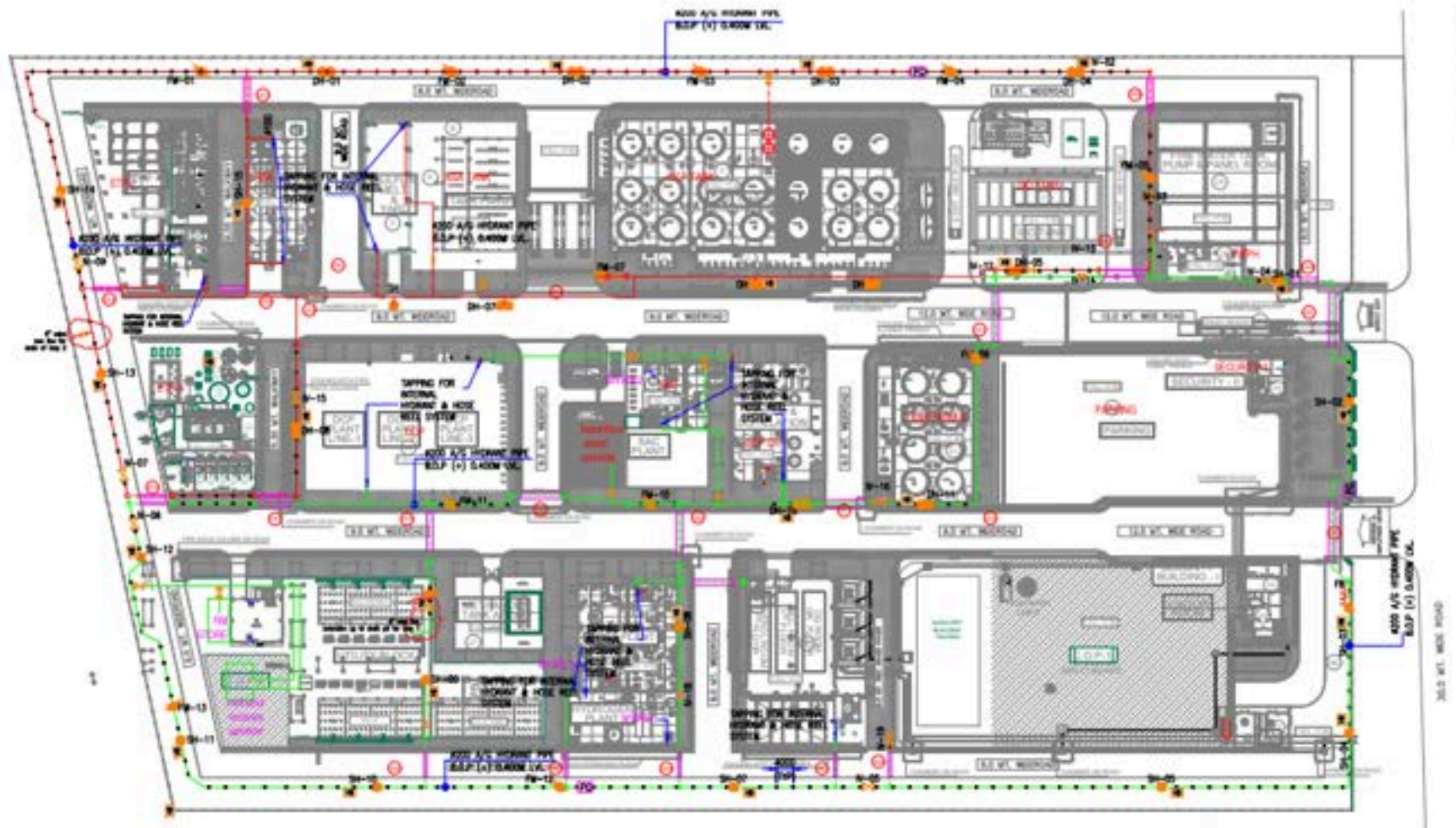
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-3: Factory & Fire Hydrant System layout



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Fire Hydrant System Layout



On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-4: Storage hazards and control, Chemical to Chemical Compatibility Chart

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
1	2,5-DICHLORONITROBENZENE	Raw Material	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS(Overflow Protection) 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen blanketing 8. Vent 9. Earthing 10.Lightning arrestor 11.Scrubber system 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement	200 KL & 240 KL	1*250 & 1*300	SS316 cladded	Tushar Tank	6353959259
2	2,5-DICHLORONITROBENZENE	Product	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS(Overflow Protectin) 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen blanketing 8. Vent	200 KL	2*250	SS316 cladded	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
						9. Earthing 10. Lightning arrestor 11. Scrubber system 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement					
3	2,5-DICHLOROANILINE (CRUDE)	Product	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent, Earthing 9. Lightning arrestor 10. Scrubber 11. Dyke 12. Fire Hydrant system, 13. Spill kit 14. BA line arrangement	200 KL	1*250	SS316 cladded	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
4	3,4-DICHLORONITROBENZENE	Raw Material	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement	200 KL	1*250	SS316 cladded	Tushar Tank	6353959259
5	3,4-DICHLORONITROBENZENE (CRUDE)	Product	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor	200 KL	1*250	SS316 cladded	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
						11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement					
6	PDCB (PARA DICHLOOROBENZ ENE)	Product	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS(Overflow Protection) 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement	240 KL	1*300	SS316 cladded	Vidya Niwas	7874754703

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
7	2,5-DICHLOROP HENOL	Product	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement	240 KL	1*300	SS316 cladded	Tushar Tank	6353959259
8	PARA CHLORO ANILINE (CRUDE)	Product	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor	200 KL	1*250	SS316 cladded	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
						11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement					
9	Methanol	Raw Material	Under Ground	Liquid	Fire & Toxic	1. Design code- ASME SEC. VIII Div. I 2. Process Interlocks 3. Vent 4. FLP fittings 5. Flame arrestor 6. Earthing & bonding 7. Dip pipe 8. PVRV 9. Nitrogen blanketing 10.LEL fixed detector & portable LEL detector 11.Static charge dissipation meter 12.Safety shower 13.Sand bucket 14. Extinguishers 15. FH system with monitor 16.AFFF foam 17.Hazardous area classifications done &	25 KL	1*30	CS	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
						18.flame proof fittings provided					
10	XYLENE	Raw Material	Under Ground	Liquid	Fire	1. Design code- ASME SEC. VIII Div. I 2. Process Interlocks 3. Vent 4. FLP fittings 5. Flame arrestor 6. Earhing & bonding 7. Dip pipe 8. PVRV 9. Nitrogen blanketing 10.LEL fixed detector & portable LEL detector 11.Static charge dissipation meter 12.Safety shower 13.Sand bucket 14. Extinguishers 15. FH system with monitor 16.AFFF foam 17.Hazardous area classifications done & 18.flame proof fittings provided	1	1*30	CS	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
11	PARA CHLORO NITRO BENZENE (PCNB)	Raw Material	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. Safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement	200 KL	1*250	SS316 cladded	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
12	25% NITROSYLSULFU RIC ACID	Product	Above Ground	Liquid	Corrosi ve	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. Dip pipe 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit & safety shower 15. BA line arrangement	2*240 KL	2*300	SS	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
13	36% NITROSYLSULFU RIC ACID	Product	Above Ground	Liquid	Corrosi ve	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. Dip pipe 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit & safety shower 15. BA line arrangement	240 KL	1*300	SS	Tushar Tank	6353959259
14	SULFUR TRIOXIDE	Raw Material	Above Ground	Liquid	Toxic& Corrosi ve	1. Design code- ASME SEC. VIII Div. I 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. PSV,PVRV 6. Dip Pipe 7. Scrubber 8. Earthing	28.5 KL	2*33.5	CS	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
						9. Lighting arrestor 10. FH system 11. Airline respirator 12. SCBA sets 13. Dyke & dump tank 14. Spill kit & safety shower					
15	HYDROGEN PEROXIDE	Raw Material	Above Ground	Liquid	Corrosiv e	1. API 650 2. Interlocks 3. FLP fittings 4. PSV,PVRV 5 Safety shower 6. Scrubber 7. Earthing 8. Lighting arrestor 9. FH system 10. Airline respirator 11. SCBA sets 12. Dyke & dump tank 13. Spill kit 14. Hazardous area classifications done & 15. flame proof fittings provided	2*24 KL	2*30	SS	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
16	SULFUR	Raw Material	Above Ground	Solid	Fire	1. Anti static wrist band during charging 2. FLP fittings 3. FH system	50MT	50kg*1000 nos Bags	NA	Tushar Tank	6353959259
17	SULFURIC ACID	Raw Material	Above Ground	Liquid	Corrosiv e	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. Dip pipe 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit & safety shower 15. BA line arrangement	2*240 KL	2*300	SS	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
18	NITRIC ACID	Raw Material	Above Ground	Liquid	Corrosiv e	1. Design code- ASME SEC. VIII Div. I 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. Dip pipe 6. PSV,PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10.Lightning arrestor 11. Scrubber 12. Dyke 13. FH system 14. Spill kit & safety shower 15. BA line arrangement 16.Hazardous area classifications done & 17.flame proof fittings provided	48 KL	2*60	SS	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
19	OLEUM	Raw Material	Above Ground	Liquid	Corrosiv e	1. Design code- API 650 2. LT & LS (Overflow Protection) 3. Interlocks 4. FLP fittings 5. Dip pipe 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit & safety shower 15. BA line arrangement	24 KL	1*30	SS	Tushar Tank	6353959259
20	HYDROGEN	Raw Material	Under Ground Pipeline	Gas	Fire	1. RD,PSV,PVRV 2. Nitrogen Blanketing during venting 3. IIC FLP fittings 4. Static charge dissipation meter 5. Earthing & bonding 6. Lightning arrestor 7. Flame arrestor 8. O2 analyser	No storage	NA	NA	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
						9.Rotameter 10. steam sparging 11. Venting through vent hold tank 12. Fire & gas detection system 13. Sprinkler system 14. Fire hydrant system 15.Hazardous area classifications done & 17.flame proof fittings provided					
21	SULFUR DIOXIDE	Raw Material	Above Ground	Liquid	Toxic	1. LT & LS 2. Interlock 3. PD,PSV,PVRV 4. Fixed & Portable SO2 detector. 5. FLP Setting 6. Connected to Alkali Scrubber 7. Earthing 8. Lightning arrestor 9. PA announcement in case of leakage. 10. FII System 11. BA line arrangement 12 Spill kit &safetyshower	24 KL	1*30 KL	SS	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
22	2,3,4 TRI FLUORO NITRO BENZENE	Raw Material	Above Ground	Liquid	Toxic	1. Design code- API 650 2. LT & LS 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke 13. Fire Hydrant system 14. Spill kit 15. BA line arrangement	200 KL	1*250	SS316L Cladded	Tushar Tank	6353959259
23	2,3,4-TRIFLUOR O ANILINE	Product	Above Ground	Liquid	Toxic and Corrosiv e	1. Design code- API 650 2. LT & LS 3. Interlocks 4. FLP fittings 5. safety shower 6. PSV, PVRV 7. Nitrogen Blanketing 8. Vent 9. Earthing 10. Lightning arrestor 11. Scrubber 12. Dyke	200 KL	1*250	CS+ SS316L Cladding	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
						13. Fire Hydrant system 14. Spill kit 15. BA line arrangement					
24	25% Ammonia	Raw Material	Above Ground	Liquid	Fire, Corrosiv e & Toxic	1. Fire Hydrant system 2. BA line arrangement 3. Smoke Detector & Alarm	0.4 MT	1*04	HDPE	Inayat Raj	6352971738
25	1% PLATINUM	Raw Material	Above Ground	Solid	Fire	1. Fire Hydrant system 2. BA line arrangement 3. Smoke Detector & Alarm 4..Hazardous area classifications done & 5.flame proof fittings provided	0.3 MT	35*5 Carboy	HDPE	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
26	DIAMMONIUM PHOSPHATE (DAP)	Raw Material	Above Ground	Solid	Toxic	1. Fire Hydrant system 2. Spill kit & safety shower 3. BA line arrangement 4. Spill Containment Pallet	0.4 MT	50*2 Bag	HDPE	Inayat Raj	6352971738
27	TETRA ETHELENE PENTAMINE (TEPA)	Raw Material	Above Ground	Liquid	Toxic & Corrosiv e	1. Fire Hydrant system 2. Spill kit & safety shower 3. BA line arrangement 4. Spill Containment Pallet	0.4 MT	Drum	HDPE	Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
28	SODIUM HYDROXIDE (48 %)	Raw Material	Above Ground	Liquid	Corrosiv e	1. LS 2. Safety Shower 3. BA Line arrangement 4. PPEs	0.4 KL	1*0.5 KL	CS/SS	Inayat Raj	6352971738
29	ODCB	Raw Material	Above Ground	Liquid	Toxic	1. Fire Hydrant system 2. Spill kit 3. safety shower 4. BA line arrangement 5. Spill Containment Pallet 6. PPE's	5 MT	200* 5 Drum	HDPE	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
30	HYDROCHLORIC ACID	Raw Material	Above Ground	Liquid	Toxic & Corrosive	1. Spill containment pallet 2. Fire Hydrant system 3. Spill kit 4. Safety shower 6. PPE's	3MT	Carboy 30*2 1*0.5 KL	HDPE	Tushar Tank	6353959259
31	UREA	Raw Material	Above Ground	Solid	-	1. Safety shower 2. PPE's	0.5 MT	50 *10Bags	NA	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
32	CALCIUM HYDROXIDE	Raw Material	Above Ground	Solid	Corrosiv e	1. Safety shower 2. PPE's	2 MT	40*40 Bags	NA	Inayat Raj	6352971738
33	DOLOMITE	Raw Material	Above Ground	Solid	—	NA	0.5MT	25*20 BAG	NA	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
34	HYPOCHLORITE SOLUTION	Raw Material	Above Ground	Liquid	Corrosive	1. Spill containment pallet 2. Fire Hydrant system 3. Spill kit 4. Safety shower 6. PPE's	0.5 MT	50*20 Carboy	HDPE	Inayat Raj	6352971738
35	SODIUM BICARBONATE	Raw Material	Above Ground	Solid	NA	—	5 MT	50*60Bags	NA	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
36	LIME STONE (CaCo3)	Raw Material	Above Ground	Solid	—	NA	0.2 MT	50*4 Bags	NA	Inayat Raj	6352971738
37	OZONE	Raw Material	Above Ground	Gas	-	1. Detector & Alarm System 2. Flasher on Entry Gate	No Storage	NA	NA	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Name of Material (Full Name)	Raw Material / Product / Waste	Location of Storage (Place, Above Ground/Un derground)	Physical State (Solid / Liquid / Gas)	Type of Hazard (Fire / Explosion /Toxic)	Control Measures (Scrubber, Dyke, fire protection,etc)	Maximum Inventory with Units (As per statutory or Plant internal limit whichever is less)	Nos. of Storage Tanks with Capacity (KL)	MOC of Storage Tanks	Incharge Person	
										Name & Designation	Contact Number
38	NITROGEN	Raw Material	Above Ground	Liquid	-	1. Isolated Storage	250 Liter	5*50 Liter Cylinder	NA	Inayat Raj	6352971738
39	POLY ALUMINUM CHLORIDE	Raw Material	Above Ground	Solid	Toxic & Corrosiv e	1. Spill containment pallet 2. Fire Hydrant system 3. Spill kit 4. Safety shower 6. PPE's	0.5 MT	10 Bags of 50 kg	NA	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Chemical To Chemical Compatibility Chart

Annexure-5: Material Safety Data Sheet

Sr. No.	Chemical Name	SDS No.	MSDS Link	Raw Material / Finished Product / By Product
1	2,5-DICHLORONITROBENZENE	AIL-SDS-101	Link	RM
2	2,5-DICHLOROANILINE	AIL-SDS-087	Link	FG
3	2,5-DICHLOROANILINE (CRUDE	AIL-SDS-087	Link	FG
4	3,4-DICHLORONITROBENZENE	AIL-SDS-096	Link	RM
5	3,4-DICHLOROANILINE (CRUDE)	AIL-SDS-054	Link	FG
6	PDCB (PARA DICHLOROBENZENE)	AIL-SDS-012	Link	FG
7	2,5-DICHLOROPHENOL	AIL-SDS-048	Link	FG
8	PARA CHLORO ANILINE (CRUDE)	AIL-SDS-013	Link	FG
9	METHANOL	AIL-SDS-D-040	Link	RM
10	XYLENE	Not Available	Link	RM
11	PARA CHLORO NITRO BENZENE (PCNB)	AIL-SDS-012	Link	RM
12	25% NITROSYLSULFURIC ACID	AIL-SDS-026	Link	RM
13	36% NITROSYLSULFURIC ACID	AIL-SDS-026	Link	RM
14	SULFUR TRIOXIDE	AIL-SDS-062	Link	RM

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Chemical Name	SDS No.	MSDS Link	Raw Material / Finished Product / By Product
15	HYDROGEN PEROXIDE	AIL-SDS-D-060	Link	RM
16	SULPHUR	AIL-SDS-D-057	Link	RM
17	SULFURIC ACID	AIL-SDS-064	Link	RM
18	NITRIC ACID	AIL-SDS-D-056	Link	RM
19	OLEUM 25%	AIL-SDS-069	Link	RM
	OLEUM 65%	AIL-SDS-070	Link	
20	HYDROGEN	AIL-SDS-028	Link	RM
21	SULFUR DIOXIDE	Not Available	Link	RM
22	2,3,4 - TRIFLUORO NITROBENZENE	Not Available	Link	RM
23	2,3,4 TRI FLUORO ANILINE	AIL-SDS-D-125	Link	FG
24	25% Ammonia	AIL-SDS-100	Link	RM
25	1% PLATINUM	AIL-SDS-D-045	Link	RM
26	DIAMMONIUM PHOSPHATE (DAP)	AIL-SDS-019	Link	RM
27	TETRAETHELENE PENTAMINE (TEPA)	Not Available	Link	RM
28	SODIUM HYDROXIDE (48 %)	Not Available	Link	RM
29	ORTHO-DICHLOROBENZENE (ODCB)	AIL-SDS-082	Link	RM
30	HYDROCHLORIC ACID (LIQUID) 20-38%	AIL-SDS-063	Link	RM
31	UREA	AIL-SDS-D-034	Link	RM
32	CALCIUM HYDROXIDE	AIL-SDS-D-018	Link	RM
33	DOLOMITE	AIL-SDS-D-118	Link	RM

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Chemical Name	SDS No.	MSDS Link	Raw Material / Finished Product / By Product
34	HYPOCHLORITE SOLUTION	AIL-SDS-D-054	Link	RM
35	SODIUM BICARBONATE	AIL-SDS-D-023	Link	RM
36	LIMESTONE (CaCo3)	AIL-SDS-D-031	Link	RM
37	OZONE	Not Available	Link	RM
38	NITROGEN	Not Available	Link	RM
39	POLY ALUMINUM CHLORIDE	Not Available	Link	RM

Note: MSDS Hard Copy available at the safety department, respective plant, laboratory DCS & OHC.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-6: Process and vessels hazards and control

Sr. No	Name of the hazardous process & operation	Plant	Materials in the process / operation with their quantity	Name & No. of the vessel & its location, MOC	Operating parameters pressure, temperature etc.	Type of hazards possible (exothermic run away, pressure, release, toxic release, fire, explosion, etc.)	Control measures/provided	In charge person	
								Name & Designation	Contact Number
1a	Hydrogenation	DCA Plant	H ₂ Gas(100%), DCNB (99.9%), Platinum Catalyst (1%), MeOH (99.0%), DCA (99.9%) (17.43 m ³)	2R0101 Autoclave, DCA 1st Floor CS+SS317L	T=100 Deg.C P=30 kg/cm ²	Fire & explosion, Toxic gas release	API 650 : H ₂ Fixed & portable Detector, FLP fittings (IIC), PSV, flame arrestor, fire hydrant system. earthing & bonding, fire detection system, Fire hydrant system & DCS interlocking, O ₂ analyser, static charge dissipation, Lightning arrestor	Inayat Raj	6352971738
	Solvent Recovery		MeOH(99.9%),	2C-0201, Meoh recovery column, SS317L(B)T O M)+CS(TOP)	T= 105 Deg.C P=Atm.	Fire & explosion, Toxic gas release	API 650 : FLP fittings (IIC), PSV, fire hydrant system. earthing & bonding, PVRV	Inayat Raj	6352971738
	Fractionation		Crude & Pure DCA	2C-0204, Flashing Column, CS	T= 150 P = 755 mm Hg	Fire , Toxic gas release	API 650 : FLP fittings (IIC), PSV, fire hydrant system. earthing & bonding, PVRV	Inayat Raj	6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No	Name of the hazardous process & operation	Plant	Materials in the process / operation with their quantity	Name & No. of the vessel & its location, MOC	Operating parameters pressure, temperature etc.	Type of hazards possible (exothermic run away, pressure, release, toxic release, fire, explosion, etc.)	Control measures/provided	In charge person	
								Name & Designation	Contact Number
1b	Hydrogenation	DCA Plant	H2 Gas(100%), 2,3,4 TFNB(99.9%), Platinum Catalyst (1%), Water (99.0%), 2,3,4 TFA (99.9%) (17.43 m3)	2R0101 Autoclave, DCA 1st Floor CS+SS317L	T=100 Deg.C P=30 kg/cm2g	Fire & explosion, Toxic gas release	API 650 : H2 Fixed & portable Detector, FLP fittings (IIC), PSV, flame arrestor, fire hydrant system. earthing & bonding, fire detection system, Fire hydrant system & DCS interlocking, O2 analyser, static charge dissipation, Lightning arrestor	Inayat Raj	6352971738
	Solvent Recovery		Water(99.9%), 2,3,4 TFA Crude(2.59m3)	2V-0216, DC Coalescer and Separator, SS316L	T= 25 Deg.C P=Atm.	Toxic gas release	API 650 : FLP fittings (IIC), PSV, fire hydrant system. earthing & bonding, PVRV, open vent to overfilled vessel which has open vent to atm	Inayat Raj	6352971738
	Extraction of Aqueous layer		Water(50%), 2,3,4 TFA (2%) TFNB (50%) (12KL)	2R-0102 ,TFNB Extractor, SS316	T= 25-30°C P =atm	Toxic gas release	API 650 : FLP fittings (IIC), PSV, fire hydrant system. earthing & bonding, PVRV, open vent to scrubber	Inayat Raj	6352971738
	Ammonia Removal		25% Ammonia Solution Effluent to ETP, 355.6 ID x 24580 L	2C-0202, Stripper Column, SS316	T= 50°C P=atm	Ammonia release	API 650 : Emergency Scrubber, PSV, fire hydrant system. earthing	Inayat Raj	6352971738
2	Sulphate Preparation	DCP Plant	H2SO4 (90%), DCA (99.9%)	3R-0101, Sulphate Reactor (Third	T= 110 -115 Deg.C P= Atm	Fire , Toxic gas release, Explosion,	API 650 : scrubber, PSV, fire hydrant system. earthing &	Vidya Niwas	7874754703

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No	Name of the hazardous process & operation	Plant	Materials in the process / operation with their quantity	Name & No. of the vessel & its location, MOC	Operating parameters pressure, temperature etc.	Type of hazards possible (exothermic run away, pressure, release, toxic release, fire, explosion, etc.)	Control measures/provided	In charge person	
								Name & Designation	Contact Number
			(6.3 M3)	floor) MSGL		Runway reaction	bonding, PVRV		
	Diazotization		DCA Sulfate, 25% NSA (6.5 KL)	3R-0103, Diazo Reactor (Second Floor) SS316L	T = 48 -52 Deg.C P- Atm.			Vidya Niwas	7874754703
	Hydrolysis		Diazo Mass, (6.5 KL)	3R-0105 ,Hydrolysis Reactor (First Floor) MSGL	T=165 - 175 Deg.C P = 0.5 Kg/cm ²	Toxic gas release	API 650 : Scrubber, PSV, fire hydrant system. earthing & bonding, PVRV, DCS Interlocking	Vidya Niwas	7874754703
	Distillation		DCP Crude, DCP Pure (99.0 %)(1200 IDX16950HT)	3C-0104, Flashing Column, ATFE(CS)	T= 120 - 125 Deg.C P = 745 mmHg			Vidya Niwas	7874754703
3	SO ₂ Reaction	NSA/SO ₂ Plant	Sulphur(99%), Liquid SO ₃ (99.9), Oleum(99%), (13.5KL)	5R-0101, SO ₂ Reactor, (CS)	T=65-70 Deg.C, P=4.5 kg/cm ²	Toxic gas release, runaway reaction	ASME SEC. VIII Div. I and API 650 : Field & portable detector. Alkali Scrubber, Emergency Scrubber, PSV, fire hydrant system. earthing & bonding, PVRV, DCS interlocking	Tushar Tank	6353959259
	NSA Preparation		SO ₂ Gas (99.95%), HNO ₃ (98%), H ₂ SO ₄ (90%), Liquid, SO ₃ (99.9 %), (32.7KL)	5R-0201, 202, 203 NSA Reactor(SS316L)	T=60 - 65 Deg.C, P= 2.5 Kg/cm ²			Tushar Tank	6353959259

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No	Name of the hazardous process & operation	Plant	Materials in the process / operation with their quantity	Name & No. of the vessel & its location, MOC	Operating parameters pressure, temperature etc.	Type of hazards possible (exothermic run away, pressure, release, toxic release, fire, explosion, etc.)	Control measures/provided	In charge person	
								Name & Designation	Contact Number
4	Concentration Stages	SAC	H ₂ SO ₄ (70%), H ₂ SO ₄ (92%) (1296mmid-7541mm TL TO TL)	6C-0101 Strpping Column, GLS	T=190 Deg.C, P=20 bar	Toxic gas release	API 650 : Emergency Scrubber, PSV, fire hydrant system. earthing	Tushar Tank	6353959259
5	PDCB	CR	PDCB 90%(65m3)	4V-0111,0112,10113,0114 Stage Vessel, Static Crystallizer, Chiller (SS316L)	T = 70 P = Atm	Fire, Toxic gas release	API 650 : Fire hydrant system. earthing & bonding, PSV, Scrubber, PVRV, DCS Interlocking	Vidya Niwas	7874754703

Annexure 7: Other Hazards and Controls

Sr. No	Name of the possible hazard or emergency	Its source & reasons	Its effect on persons, property & environment	Place of effect	Control measures provided	In charge person	
						Name & Designation	Contact Number
1	Fire	Hot Work Static Charge	Casualty fatality	DCA/DCP/SAC/ CR/TF-01&02	1.Work permit system being followed to		6352971738

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No	Name of the possible hazard or emergency	Its source & reasons	Its effect on persons, property & environment	Place of effect	Control measures provided	In charge person	
						Name & Designation	Contact Number
		No Usage of non sparking tools Electrical Short circuits & overload Dry run of solvent pump Use of matches box & lighters Hit of the lightning no usage of spark arrestor in vehicle	Loss of livelihoods displacement and economic crisis damage economic assets commercial premises Generation of SOX & NOX, excessive Noise, Shockwave		carry out hot work Job 2.Static dissipation meters installed where flammable liquid & gas being handled 3.Every electrical tools being checked by electrical dept. before taking into use as per the electrical equipment checklist 4.Use of fire booth during hot work 5. Use of non sparking tools at flammable gas & solvent storage area & pipelines 6.All electrical fittings are FLP & pump overload protection considered during design itself 7.Dry run protection available for flammable liquid & gas handling pumps 8.Security checks at gate itself for checking flammable objects 10. Lightning arrestor provided on every plant.	Inayat Raj (Manager -Operation) Tushar tank (Manager -Operation) Vidya Niwas (Sr. Manager- (Manager -Operation))	6353959259 7874754703
2	Explosion	Runway Reaction Decomposition of chemicals Deviation in process parameters Storage of incompatible chemicals. Vent line choking IMCC communication error	Casualty fatality Loss of livelihoods displacement and economic crisis damage economic assets commercial premises Generation of SOX & NOX, excessive Noise, Shockwave	DCA/DCP/SAC/ CR/TF-01&02	1. HAZOP done & recommendations are fulfilled 2.DCS interlocks & critical alarms are provided on critical process parameters 3.Emergency cooling available 4.Availability of Emergency safe shutdown switch at DCS 5.Available of SOP's & SMP's. 6.HOTO system is in place 7.Chemicals being stored as per chemical Compatibility chart	Inayat Raj (Manager -Operation) Tushar tank (Manager -Operation)) Vidya Niwas (Sr. Manager- (Manager	6352971738 6353959259 7874754703

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No	Name of the possible hazard or emergency	Its source & reasons	Its effect on persons, property & environment	Place of effect	Control measures provided	In charge person	
						Name & Designation	Contact Number
		Power Failure.			8.Thoroughly flushing of vent lines as per schedule & as on required 9. IMCC PM is carried out as per schedule 10. UPS backup is available for critical motors 11. DG is available as redundancy backup to cater the plant load	-Operation)	
3	Toxic Gas Leakage & Toxic Chemical Spillage	Runway Reaction Decomposition of chemicals Deviation in process parameters Inadequate design against internal pressure, External forces Corrosion of Primary Containment Overflow of Chemicals Rupture of Pipeline / Vessel / Elbows Weld Joint failure Failure of Scrubber or Ineffectiveness of Scrubbing Media Failure of manual / automatic control system Unsafe operation / maintenance including wrong operation of valve	Casualty, fatality, Loss of livelihoods, displacement and economic crisis, damage to economic assets, commercial premises.	DCA/DCP/SAC/CR/TF-01&02	1. HAZOP done & recommendations are fulfilled 2. DCS interlocks & critical alarms are provided on critical process parameters 3. Emergency cooling available 4. Availability of Emergency safe shutdown switch at DCS 5 New equipment should be taken in use after going through an adequate Hpt/Pn Pressure test. 6. Don't use chemical line for footing & Anchoring Safety Harness and Consider Lifting Plan in case of Lifting/Shifting through Pipe Rack. 7. Anti corrosive paint applies on all the pipelines & equipment. 8. NDT test performed for mechanical equipment pipes fittings, joints & elbows. 9. Sampling of Scrubbing Media to be done in each shift. 10. Training Provided to all Operators and Shift Incharge regarding Process.	Inayat Raj (Manager -Operation) Tushar tank (Manager -Operation)) Vidya Niwas (Sr. Manager- (Manager -Operation)	6352971738 6353959259 7874754703

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No	Name of the possible hazard or emergency	Its source & reasons	Its effect on persons, property & environment	Place of effect	Control measures provided	In charge person	
						Name & Designation	Contact Number
4	Transport Vehicle Collision	Uncontrolled vehicle movement.	Casualty, fatality, Loss of livelihoods, Asset Damage	Entire Factory	Security check provided at both the gate & traffic marshals deploy at prominent location, Speed Limit within 10 km/hr	Ravinder Kumar-Dy. Manager	6353654334
5	Explosion	Compressor & Buffer Tank	Property damage	Utility	1. Hydro pressure test at regular interval 2. Hazardous Area Classification done 3. FLP fitting with earthing done. 4. Portable Fire extinguisher & Fire Hydrant Line	Gaurav Modi - Chief Manager	6353961467
6	Flood	Heavy Rain	Property damage Drowning	Entire Factory	Mutual aid	Sandip Parekh -Zone Operation Head	9727720802
7	Earthquake (Tsunami)	Earthquake	Property damage, Injury	Entire Factory	Mutual aid	Sandip Parekh -Zone Operation Head	9727720802
8	Riot/ Sabotage/ Agitation/War	Riot/ Subotage/ Agitation/War	Property loss/ damage	Entire Factory	Manned with Security staff	Ravinder Kumar-Dy. Manager	6353654334
9	Noise	DG, Chiller	Health hazards	Maintenance	Standby, Silencer, Ear protectors	Gaurav Modi- Chief Manager	6353961467
10	Tide/ Typhoon / Cyclone	Whether effects	Property damage	Entire factory	Due care while design Warning	Sandip Parekh -Zone Operation Head	9727720802
11	Structural collapse	Explosion/ Implosion/ Tide/ Typhoon/ Cyclone/ Flood etc.	Property damage, Injury	Buildings & structures	Periodic inspection and maintenance for structures stability, Stability Certificate	Sandip Parekh -Zone Operation Head	9727720802
12	Drowning of persons	Pits, open tanks	Drowning	Pits	All pits are covered, periodic inspection for pit integrity	Sandip Parekh -Zone Operation Head	9727720802

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No	Name of the possible hazard or emergency	Its source & reasons	Its effect on persons, property & environment	Place of effect	Control measures provided	In charge person	
						Name & Designation	Contact Number
13	Emergency at Neighboring Industries	Neighboring factories	Depends on type of emergency	Entire factory	Depends upon the situation, mutual aid with Dahej Industrial Association	Sandip Parekh -Zone Operation Head	9727720802
14	Electrocution	Electricity	Injury, property damage	Entire factory, Transformer, Panels, cables	Fuses, Circuit breakers, no joints in cable, RCBO	Vipul Mehta - Chief. Manager	7573916720
15	Snake Bite	Grass near by Industry	Poison	Employee	1. Timely Paste Control . 2. Close all small openings . 3. Timely Grass Cutting. 4. Anti venom present at OHC	Priti Singh - Admin Executive	6353961071

Annexure-08: Trade Waste Disposal

DETAILS OF TRADE WASTE					
Sr. No	Name of the trade waste	Place of its generation	Place of its safe disposal	Treatment method of safe disposal (treatment plant, vent gas scrubber, flare, incinerator, water blanketing etc.)	Qty, MT/YR
1	ETP Waste	Filter Press, MEE & DEE	TSDf Site	Land Filling	4800
2	Distillation Residue	DCA, DCP, Tar Plant and Phenol	CHIEF & Co Processing	Incineration	4200

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

DETAILS OF TRADE WASTE					
Sr. No	Name of the trade waste	Place of its generation	Place of its safe disposal	Treatment method of safe disposal (treatment plant, vent gas scrubber, flare, incinerator, water blanketing etc.)	Qty, MT/YR
		Recovery Plant			
3	Gypsum	NSA/SO ₂	TSDf Site	Land Filling	7200
4	Sulfur Sludge	SO ₃	TSDf,CHIEF & Co Processing	Land Filling & Incineration	84
5	Discarded Containers/Bags	Process Plant	Authorized Recyclers	Decontamination	Whatsoever generated
6	Used Oil	Process Plant	Authorized Recyclers	Reprocessing	6
7	Insulation Waste	Process Plant	TSDf Site	Land Filling	Whatsoever generated
8	Non Recyclable Plastic Waste/PPE Waste/Bags/Cotton Waste	Process Plant	TSDf Site	Land Filling	25
9	Spent Carbon	ETP	TSDf Site	Land Filling & Co Processing	60
10	Spent Catalyst	Process Plant	Authorized Recyclers	Recycling	3.6
11	Glass Waste	Laboratory	Authorized Scrap Processors	Scrap Processing	2
12	Paper Waste	-	Authorized Scrap Processors	Scrap Processing	1

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

DETAILS OF TRADE WASTE					
Sr. No	Name of the trade waste	Place of its generation	Place of its safe disposal	Treatment method of safe disposal (treatment plant, vent gas scrubber, flare, incinerator, water blanketing etc.)	Qty, MT/YR
13	Cotton Waste	-	TSDf Site	Land Filling & Co Processing	1
14	Wooden Waste	-	Authorized Scrap Processors	Scrap Processing	2
15	E-Waste	IT, Instrument & Electrical	Authorized E-Waste Handlers	Recycling	1

Note: - Company to be maintained records of trade waste & its disposal at the Environmental department as per above format.

Annexure-09: Records of Past Incident

Sr. No	Level of Emergency	Type of incident (major accident emergency or disaster)	Date & time of occurrence	Location of Emergency	Duration	Time required in controlling it	No. of workers working at the time	Persons affected		Persons died		Effects on the survivors		Subsequent safety measures provided	Other details if any(e.g. antidotes used etc)
								Inside the factory	Outside the factory	Inside the factory	Outside the factory	Immediate	Delayed		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

1	Level-1	LTI	22.06.2023	Tank Farm-1	-	10 Min	1	1	0	0	0	Burn Injury	Burn Injury	-	-
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Note: - Company maintained at Safety department as per above format.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-10: Gas Dispersion

Definitions		
Flash Fire	Flash fires arise from delayed ignition of a well-mixed flammable gas/ vapor cloud in the absence of significant confinement or obstruction. There are minimal overpressure effects and primarily local impacts.	
Jet fire	This outcome occurs following the immediate ignition of a flammable material, usually from a pressurized source.	
Pool Fire	Pool Fire is the flame over a pool of flammable liquid. Pool fires could only occur if the liquid leak resulting pool gets in contact with an ignition source. The combustion of the vaporized flammable material releases heat, which supply energy to vaporize the liquid.	
Vapor Cloud Explosion	When a flammable vapor or gas mixes with air and its concentration lies between the lower Explosive limit (LEL) and upper Explosive limit (UEL). An ignition source will ignite the mixture. If this event takes place in a confined space then the enclosure usually suffers a significant internal overpressure for a short duration.	
LEL	Lower Explosive Limits	The lowest concentration of gas or vapour which will burn or explode if ignited
UEL	Upper Explosive Limits	The highest concentration of gas or vapour which will burn or explode if ignited.
IDLH	Immediately Dangerous To Life or Health	The term immediately dangerous to life or health (IDLH) is defined by the US National Institute for Occupational Safety and Health (NIOSH) as exposure to airborne contaminants that is "likely to cause death or immediate or delayed permanent adverse health effects or prevent escape from such an environment."
STEL	Short Term Exposure Limit	Short-term exposure limit (STEL) is the acceptable exposure limit to a toxic or an irritant substance over a short period of time (time-weighted average), usually 15 minutes. STEL is the maximum concentration of a chemical to which workers may be exposed continuously for a short period of time without any danger to health, safety or work efficiency.
TWA	Time weighted Average	TWA is the employee's average airborne exposure in any 8-hour work shift of a 40-hour work week which shall not be exceeded

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Damage Criteria		
Thermal Radiation Effects		
Radiation kW/m ²	Damage to Equipment	Damage to People
4	-	Causes pain if duration is longer than 20 seconds. Blistering is unlikely.
12.5	Minimum energy to ignite wood with a flame; Melts plastic tubing.	First degree burns in ten seconds. 1% Fatality in 20 sec, 30% Fatality in 30 seconds.
37.5	Severe damage to plant	100% Fatality

Damage Produced by Blast		
Overpressure ranges	Mechanical Damage to Equipment	Damage to People
0.206-0.551 bar (3-8psi)	Heavy damage to plant & structure	Fatality probability = 1 for humans indoor as well as outdoor > 50% eardrum damage > 50% serious wounds from flying objects
0.14-0.206 bar (2-3psi)	Repairable damage	1% death > 1% eardrum damage > 1% serious wounds from flying objects
0.0206-0.14 bar (0.3- 2psi)	Major glass damage/10% glass damage	Slight injury from flying glass

Pasquill-Gifford Stability Class	Description
F	Very Stable
E	Stable
D	Neutral
C	Slightly Unstable
B	Moderately Unstable
A	Very Unstable

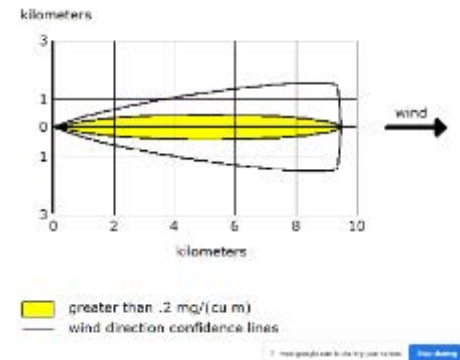
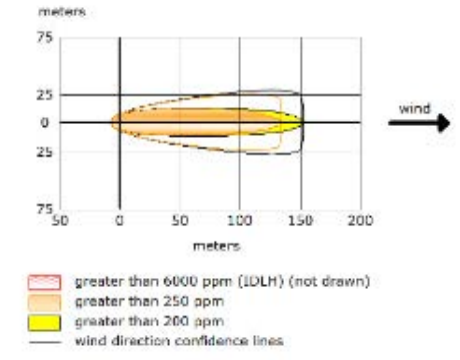
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Basis of Modeling	
Wind Speed	5 m/s
Leak Size	25 mm
Atmospheric Stability class	D - Neutral

Abbreviation	
IDLH	Immediately Dangerous To Life or Health
STEL	Short Term Exposure Limit
TWA	Time weighted Average

Chemical Name	Release Rate	IDLH			STEL			TWA			Dispersion Graph
		Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	
Nitric Acid	16.9 Kg/min	25	262	45	4	746	90	2	1100	120	<p> ■ greater than 25 ppm (IDLH) ■ greater than 4 ppm ■ greater than 2 ppm — wind direction confidence lines </p>

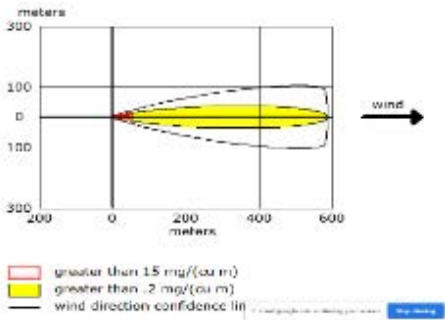
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Chemical Name	Release Rate	IDLH			STEL			TWA			Dispersion Graph
		Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	
Sulfur Trioxide	15 kg/min	-	-	-	-	-	-	0.2 mg/m ³ or 0.06108 ppm	9500	500	 <p>The graph shows a yellow plume representing concentrations greater than 0.2 mg/m³ extending to 9500 meters. Wind direction confidence lines are shown as dashed lines. The y-axis is in kilometers (0 to 3) and the x-axis is in kilometers (0 to 10).</p>
Methanol	26.5 Kg/min	6000	13	3	250	135	20	200	153	30	 <p>The graph shows three nested plumes: red (greater than 6000 ppm IDLH), orange (greater than 250 ppm), and yellow (greater than 200 ppm). Wind direction confidence lines are shown as dashed lines. The y-axis is in meters (-75 to 75) and the x-axis is in meters (-50 to 200).</p>

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Chemical Name	Release Rate	IDLH			STEL			TWA			Dispersion Graph
		Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	
Hydrogen Peroxide	0.9 kg/min	75	20	6	STEL not Known	-	-	1	433	60	
Sulfur dioxide	0.94 kg/min	100	45	13	5	207	40	2	335	50	

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Chemical Name	Release Rate	IDLH			STEL			TWA			Dispersion Graph
		Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	
Oleum	13.44 kg/min	15 mg/m ³ or 4.58 ppm	55	15	-	-	-	0.2 mg/m ³ or 0.06108 ppm	591	90	
Xylene	4.91 kg/min	900	10	2	150	20	6	100	30	9	Threat zone was not drawn because effects of near-field patchiness
DCNB	As this chemical is solid at ambient conditions so toxic Dispersion is not possible	-	-	-	-	-	-	-	-	-	-

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Chemical Name	Release Rate	IDLH			STEL			TWA			Dispersion Graph
		Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	Concentration (PPM)	Distance (m)	Occupancy (No.)	
DCA	As this chemical is solid at ambient conditions so toxic Dispersion is not possible	-	-	-	-	-	-	-	-	-	-
DCP	As this chemical is solid at ambient conditions so toxic Dispersion is not possible	-	-	-	-	-	-	-	-	-	-

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Fire scenario																												
Chemical Name	Pressure (bar)	Temperature (Deg C)	Hole size	Release Rate (kg/min)	Weather	Jet Fire Downwind Distance (m)						Flash fire Downwind Distance (m)				Pool fire Downwind Distance (m)						Vapour cloud explosion (m)						
						Radiation level 4 kW/m2	Occupancy (No.)	Radiation level 12.5 kW/m2	Occupancy (No.)	Radiation level 37.5 kW/m2	Occupancy (No.)	LFL	Occupancy (No.)	0.5 LFL	Occupancy (No.)	Pool Diameter (m)	Radiation level 4 kW/m2	Occupancy (No.)	Radiation level 12.5 kW/m2	Occupancy (No.)	Radiation level 37.5 kW/m2	Occupancy (No.)	Overpressure (0.03 bar)	Occupancy (No.)	Overpressure (0.14 bar)	Occupancy (No.)	Overpressure (0.21 bar)	Occupancy (No.)
Hydrogen (Pressure reducing station Manifold discharge leak)	45	Amb.	25 mm	0.87	5D (Neutral weather with 5m/s wind velocity)	10	2	10	2	10	2	11	3	16	4	-	-	-	-	-	-	-	11	3	10	2	10	2

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Fire scenario																												
Chemical Name	Pressure (bar)	Temperature (Deg C)	Hole size	Release Rate (kg/min)	Weather	Jet Fire Downwind Distance (m)						Flash fire Downwind Distance (m)				Pool fire Downwind Distance (m)						Vapour cloud explosion (m)						
						Radiation level 4 kW/m2	Occupancy (No.)	Radiation level 12.5 kW/m2	Occupancy (No.)	Radiation level 37.5 kW/m2	Occupancy (No.)	LFL	Occupancy (No.)	0.5 LFL	Occupancy (No.)	Pool Diameter (m)	Radiation level 4 kW/m2	Occupancy (No.)	Radiation level 12.5 kW/m2	Occupancy (No.)	Radiation level 37.5 kW/m2	Occupancy (No.)	Overpressure (0.03 bar)	Occupancy (No.)	Overpressure (0.14 bar)	Occupancy (No.)	Overpressure (0.21 bar)	Occupancy (No.)
Methanol	Amb.	Amb.	-	26.5	5D (Neutral weather with 5m/s wind velocity)	-	-	-	-	-	-	10	2	10	2	Bund area 150 m2	18	6	14	4	10	2	-	-	-	-	-	-

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Fire scenario																												
Chemical Name	Pressure (bar)	Temperature (Deg C)	Hole size	Release Rate (kg/min)	Weather	Jet Fire Downwind Distance (m)						Flash fire Downwind Distance (m)				Pool fire Downwind Distance (m)						Vapour cloud explosion (m)						
						Radiation level 4 kW/m2	Occupancy (No.)	Radiation level 12.5 kW/m2	Occupancy (No.)	Radiation level 37.5 kW/m2	Occupancy (No.)	LFL	Occupancy (No.)	0.5 LFL	Occupancy (No.)	Pool Diameter (m)	Radiation level 4 kW/m2	Occupancy (No.)	Radiation level 12.5 kW/m2	Occupancy (No.)	Radiation level 37.5 kW/m2	Occupancy (No.)	Overpressure (0.03 bar)	Occupancy (No.)	Overpressure (0.14 bar)	Occupancy (No.)	Overpressure (0.21 bar)	Occupancy (No.)
Xylene	Amb.	Amb.	-	4.91	5D (Neutral weather with 5m/s wind velocity)	-	-	-	-	-	-	10	2	10	2	Bund area 150 m2	53	15	35	10	22	7	-	-	-	-	-	-

Note: - Gas Dispersion information is given above in Chapter-08.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-11: Evacuation Table

Name of Chemicals	SMALL SPILLS			LARGE SPILLS		
	(From a small package or small leak from a large			(From a large package or from many small packages)		
	First isolate in all directions	Then protect persons downwind during		First isolate in all directions	Then protect persons downwind during	
	in	Day	Night	in	Day	Night
	m	km	km	m	km	km
Hydrogen	100	0.8	0.8	100	1.6	1.6
Methanol	50	0.05	0.05	800	0.8	0.8
Nitric acid	30	0.1	0.3	150	0.6	1.1
Sulfuric acid, fuming (Oleum)	60	0.4	1	300	2.9	5.7
Sulfur Di- oxide	60	0.3	1.2	400	2.1	5.7
Sulfur trioxide	60	0.4	1	300	2.9	5.7
NSA	30	0.1	0.4	300	0.8	2.5

Note:

1. Evacuation Table is as per Emergency Response Guidebook – 2020 (A guidebook intended for use by first responders during the initial phase of a transportation incident involving dangerous goods/ hazardous materials by U.S. Department of Transportation **Pipeline and Hazardous Materials Safety Administration**).
2. More details Please, given in chapter 8.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-12: Environmental Impact Assessment

Sr. No.	Distance (radius) from the factory	Environment (employees, hutment, neighboring colonies, villages, water courses, river, school, hospital, public place vegetable / food market, crops, tall structure flora, fauna, etc.)	Population with Composition						Possible consequence & Assessment of control measures necessary						
			Day time			Night time			Type of risk & effect possible	Vulnera ble	Risk assessment			Untenable in one factory	Required from outside
			Healthy	Vulnera ble	Total	Healthy	Vulnera ble	Total			No. of people name & amount (Rs) of property & other Environme nt that may be of Affected	Freque ncy of the hazard (i.e. one such incident in what time)	Accepta ble criteria		
1	50 M	Own premises	5	5	10	Night time vulnerable persons in neighboring village will be half			Health & Fire Related Risk	Toxic Risk	--	--	--	--	--
2	100 M	Own premises	6	6	12						--	--	--	--	--
3	200 M	Own premises	8	8	16						--	--	--	--	--
4	300 M	Own premises	9	9	18						--	--	--	--	--
5	400 M	Own premises	11	11	22						--	--	--	--	--
6	500M	Neighboring Village	140	20	160						--	--	--	--	--
7	600 M	Neighboring Village	200	50	250						--	--	--	--	--
8	700 M	Neighboring Village	300	50	350						--	--	--	--	--

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Distance (radius) from the factory	Environment (employees, hutment, neighboring colonies, villages, water courses, river, school, hospital, public place vegetable / food market, crops, tall structure flora, fauna, etc.)	Population with Composition						Possible consequence & Assessment of control measures necessary						
			Day time			Night time			Type of risk & effect possible	Vulnera ble	Risk assessment			Untenable in one factory	Required from outside
			Healthy	Vulnera ble	Total	Healthy	Vulnera ble	Total			No. of people name & amount (Rs) of property & other Environme nt that may be of Affected	Frequen cy of the hazard (i.e. one such incident in what time)	Accepta ble criteria		
9	800 M	Neighboring Village	400	100	500						--	--	--	--	--
10	900 M	Neighboring Village	500	100	600						--	--	--	--	--
11	1 KM	Neighboring Village	1000	200	1200						--	--	--	--	--
12	2 KM	Neighboring Village	2000	500	2500						--	--	--	--	--
13	Further if necessary	Not applicable	--	--	--						--	--	--	--	--

Note: - Updated Information for EIA is maintained at each Department in the above given format.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-13: Weather condition

Sr.No	Month	Wind Velocity M/Second	Wind Direction		Weather Conditions : Dry, Moist, Rainey, Cold, Hot, Stable, Unstable, Stormy etc	Pasquill Classification A to F
			Day	Night		
1	January	1.25	NW	South	Cold & Stable	D
2	February	1.5	NW	South	Dry & Stable	D
3	March	1.5	SW	South	Dry & Stable	D
4	April	1.9	SW	North	Dry & Stable	D
5	May	2	SW	North-West	Hot	D
6	June	2	SW	North	Moist & Hot	D
7	July	2	SW	North	Hot & Rainy	D-F
8	August	1.5	SW	North	Hot & Rainy	D-F
9	September	1.5	SW	South	Hot & Rainy	D-F
10	October	1	SW	East-South	Moist	D
11	November	1	NW	East	Dry	D
12	December	1	NW	East	Cold & Stable	D

Note- 1) The above values for wind speed for Ankleshwar station is given.

2) Courtesy : Indian Meteorological Department (IMD)

Note:- Updated Information for weather is maintained at the Environment Department in the above given format.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-14: Incident controller

Incident controller							Runner's		
Name	Designation	Qualification	Place of availability		Phone No.		Name & Designation	Place of availability	Phone
			In the Factory	Residence address	In the Factory	Residence			
Tushar Tank	Manager - Operation	B.E.	1st floor, Admin Building	B-2/401, SANSKAR AVENUE, B/H-YOGI PETROL PUMP, ZADESHWAR ROAD, ZADESHWAR-	Ext:3612 6353959259	6353959259	Suresh Vishwakarma & Deputy Manager	Plot no.Z/103/C	9601462004
Vidya Niwas	Manager - Operation	B.E.	1st floor, Admin Building	D-405, RANG SKY CITY , TAVARA ROAD BHARUCH	Ext:3632 7874754703	7874754703	Keyulsinh Rathod & Deputy Manager	Plot no.Z/103/C	8141615397
Inayat Raj	Manager - Operation	B.Sc	1st floor, Admin Building	169,Sabena, Park Society, Mohammadpura Bharuch	Ext:3611 6352971738	6352971738	Saurabh Shyam & Deputy Manager	Plot no.Z/103/C	7069005109
Vipul Mehta	Manager-Electrical	B.E.	1st floor, Admin Building	C402, SHREEJI SADAN VILLA, TAVRA ROAD, ZADESHWAR	Ext:3648 7698197926	7698197926	Milan Patel & Additional Manager	Plot no.Z/103/C	9722117815
Gaurav Modi	Manager-Mechanical	B.E.	1st floor, Admin Building	852,Mukti Nagar Society, GHB, Shaktinath Bharuch.	Ext:3634 6352967113	6352967113	Rahul Gohil & Assistant Manager	Plot no.Z/103/C	6352967630

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Gaurang Rayaguru	Manager-QC	B.E.	1st floor, QC Building	B-80, Shree Rang Krishna Avenue -1 (Duplex), Tavra Road, Beside Zulelal hospital, Bharuch - 392011	Ext:3649 9327535994	9327535994	Soyab Shaikh & Deputy Manager	Plot no.Z/103/C	6352966393
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Annexure-15: Deputy Incident controller

Sr. No.	Name	Designation	Qualification	Residence		Phone number
				Residence address	In the Factory	
1	Nikunj Chauhan	Asst. Manager	B.E Chemical	B1/73 Narayan Kunj Vihar, B/h Prabhat flat, Near Tulsidham, Zadeshwar road, Bharuch, Gujarat, India, 392015	DCA Porta Cabin	6352971755
2	Aadil Shaikh	Asst. Manager	B.E Chemical	925, Adrus Dargah, Near Jain derasar, Bharuch, Gujarat-392001	DCA Porta Cabin	9033197253
3	Dhruvil Modi	Asst. Manager	B.E Chemical	B-401, R.K. Casta, Station Road, B/H Patel Super Market Bharuch, Gujarat-392001	DCA Porta Cabin	6352971755
4	Darshit Patel	Junior Manager	B.E Chemical	1134, Ramnagar, Po.Sajod, Ankleshwar, Bharuch, Gujarat-393020	DCA Porta Cabin	6352971755
5	Kunjan Modi	Asst. Manager	B.E Chemical	A/16, Ravipoojan Society, Beside Hyundai Showroom, Zadeshwar Chokdi, BHaruch, Gujarat - 392001	SAC/CR porta Cabin	6352967585
6	Harshil Rana	Sr. Executive	B.E Chemical	Eskon Green City Tavera Road Behind Petrol Pump,Opp Narmada College Zadeshwar,Bharuch Gujarat-392011	SAC/CR porta Cabin	6352967585
7	Abhinav Srivastava	Asst. Manager	B.Tech Biotechnology	B, 101 Shivalik Avenue,Osara Haldawara Road Vadadla, Near Narmdeshwar Hanumanji Temple, 392015	ETP Porta Cabin	6358941926

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8	Yagnik Songara	Asst. Manager	B.E Chemical	B-2, Satyam Society, Valia Road, Ankleshwar	DCP Porta Cabin	6352967542
9	Vinod Chopra	Junior Manager	B.E Chemical	Vadi vi hanamangadh, ta kalyanpur, Hanamangadh, Bankodi, Jamnagar, Gujarat-361315	DCP Porta Cabin	6352967542
10	Kavan Rana	Asst. Manager	B.E Chemical	28, Nilkanth Nagar, Sevarshram Road, G H Board, Bharuch, Gujarat-392001	DCP Porta Cabin	6352967542
11	Srujal Modi	Asst. Manager	B.E Chemical	B-67, Ganga Jamna Society, Ankleshwar, Bharuch, Gujarat-393001	DCP Porta Cabin	6352967542
12	Divyangkumar Mori	Asst. Manager	B.E Chemical	At & Po. Juna Tavra, Mahakali Mata Mandir Faliyu, Juna Tavra, Bharuch, Gujarat, India, 395001	NSA Porta cabin	7069902270
13	Keyur Dudhagara	Junior Manager	B.E Chemical	Pragati Park Society, Plot 56-57-58/4, Near Mehul Nagar, Exchange, Bharuch	NSA Porta cabin	7069902270
14	Piyush Patel	Deputy Manager	Msc. Chemistry	1- A, Madhopur Dharang, Lal Ganj, Azamgarh, Uttar Pradesh-276202	ETP Porta Cabin	6352968042
15	Mubarak Shaikh	Asst. Manager	B.E Chemical	A-305, Sabar Residency, By-pass Road, Jambusar Chokdi, Bharuch, Gujarat - 392001	ETP Porta Cabin	6358941926

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-16: Site main controller

Name	Designation	Plant	Shift	Place of availability		Phone No.	
				In the Factory	Residence address	In the Factory	Residence
Mr. Sandip Parekh (SMC)	Division Head / Zone operation Head	Entire Site	General	1st floor, Admin Building	Sriniketan Residency Plaza - Zadeshwar road Buaruch	Extn.No.3639	9727720802
Mr. Vinod Mishra	Chief Of Operation	Entire Site	General	1st floor, Admin Building	A 6, Malhar Green City, Near GAIL Township, Nandelav, Bharuch, Gujarat - 392015.	Extn.No.4598	7069010692
Day Duty Officer	DDO	Entire Site	General	ECC	Not Applicable	Extn.No- 4563	9054985197
Night Duty Officer	NDO	Entire Site	Night	ECC	Not Applicable	Extn.No- 4563	9054985197

Note: - Mr. Vinod Mishra, DDO, NDO plays the Role of SMC in the absence of Mr .Sandip Parekh for L1 & L2 Emergency & Mr.Vinod Mishra for L3 emergency.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-17: Key Personnel & its Emergency Contact Numbers

Key Personnel and their responsibilities									
S. No	Plant	Name	Company Designation	ECS Designation	Normal Sitting Location	Contact Nos. (Mobile/Office)	Residential Contact Nos.	Emergency Role & Responsibility	Emergency Sitting Location
1	Diamond	Sandeep Parikh	Division Head/ Zone Opeartion Head	Site Main Controller (SMC)	Admin Block	9727720802	9727720802	Overall Controller	ECC Room
2	Diamond	Vidya Niwas	Plant Manager	Alternate Designated SMC for L1 & L2 Emergency	Admin Block	6353534689	7874754703	SMC in case of absence of SMC	ECC Room
3	Diamond	Inayat Raj	Plant Manager	Alternate Designated SMC for L1 & L2 Emergency	Admin Block	6352971738	6352971738	SMC in case of absence of SMC	ECC Room
4	Diamond	Tushar Tank	Plant Manager	Alternate Designated SMC for L1 & L2 Emergency	Admin Block	6353959259	6353959259	SMC in case of absence of SMC	ECC Room
5	Diamond/DCA	Inayat Raj/Saurabh Shyam/Piyush Patel	Incharge	Incident Controller (IC)	Operation Porta cabin	6352971738 7069005109 7573955240	6352971738 7069005109 7573955240	IC in respective plant	DCA & ETP
6	Diamond/DCP	Vidya Niwas/ Keyulsinh Rathod	Incharge	Incident Controller (IC)	Operation Porta cabin	7874754703 8141615397	7874754703 8141615397	IC in respective plant	DCP SAC/CR
7	Diamond/NSA	Tushar tank / Suresh Vishwakarma	Incharge	Incident Controller (IC)	Operation Porta cabin	6353959259/ 9601462004	6353959259/ 9601462004	IC in respective plant	NSA/SO2/ Tank Farm
8	Diamond/MCC	Vipul Mehta/ Milan Patel	Incharge	Incident Controller (IC)	Operation Porta cabin/MCC Building	7698197926/ 9722117815	7698197926/ 9722117815	IC in respective plant	MCC building
9	Diamond/Utility	Gaurav Modi / Rahul Gohil	Incharge	Incident Controller (IC)	Operation Porta cabin	6353961467/ 6352967630	6353961467/ 6352967630	IC in respective plant	Utility

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Key Personnel and their responsibilities									
S. No	Plant	Name	Company Designation	ECS Designation	Normal Sitting Location	Contact Nos. (Mobile/Office)	Residential Contact Nos.	Emergency Role & Responsibility	Emergency Sitting Location
10	Diamond/ Shared area	Ravinder Kumar / Nikhil Sharma	Sr. Executive	Incident Controller (IC)	Admin Block	6353654334 /6353962851	6353654334 /6353962851	IC in respective plant	Shared Plant

Annexure-18: Essential Personal Team

ERT Members						
Sr. No.	Shifts	Name	Designation	Phone Number		Personal protective equipment required
				In the Factory	In the Residence	Available PPEs
1	Shift	ABHISHEK VARA	ENGINEER	NA	9099095087	Yes
2	Shift	ASHVIN A. PARMAR	OPERATOR	NA	8140521310	Yes
3	Shift	FARHAN MALEK	OPERATOR	NA	8530628515	Yes
4	Shift	DIVYANGKUMAR MORI	SR. EXECUTIVE	NA	9328796964	Yes
5	Shift	VIPUL M. PARMAR	OPERATOR	NA	7574997948	Yes
6	General	SHUBHAM KUMAR KACHHIYA	OPERATOR	NA	9978948408	Yes
7	Shift	UMESH D. MISTRY	OPERATOR	NA	7405428602	Yes
8	Shift	AMIT VASAVA	OPERATOR	NA	9106353398	Yes
9	Shift	NITESH PATEL	OPERATOR	NA	9879816959	Yes
10	Shift	PATEL CHIRAG M.	OPERATOR	NA	9429471379	Yes

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ERT Members						
Sr. No.	Shifts	Name	Designation	Phone Number		Personal protective equipment required
				In the Factory	In the Residence	Available PPEs
11	Shift	YASH GOSWAMI	OPERATOR	NA	9104660624	Yes
12	Shift	HARSH MISTRY	OPERATOR	NA	7046863304	Yes
13	Shift	NIMIT MAKWANA	SUPERVISOR	NA	9173138403	Yes
14	Shift	RAHUL M PARMAR	OPERATOR	NA	7573888255	Yes
15	G	PRIYANKSINH RAJ	SR. EXECUTIVE	NA	7984493373	Yes
16	Shift	MIHIR PARMAR	ELECTRICIAN	NA	9824829729	Yes
17	Shift	DHRUPALSINH RAJ	OPERATOR	NA	7043081181	Yes
18	Shift	KIRTAN PATEL	Staff Trainee	NA	9099024845	Yes
19	Shift	JEETENDRA PADHIYAR	TECHNICIAN	NA	9998886821	Yes
20	Shift	KISHAN PATEL	CHEMIST	NA	8153998493	Yes
21	Shift	SACHIN KHOKHARI	ELECTRICIAN	NA	9687466006	Yes
22	Shift	PRAKASH PARMAR	ELECTRICIAN	NA	8140990133	Yes
23	Shift	SIDDHARTH THAPA	SEFF. TRANIEE	NA	7016084499	Yes
24	Shift	SUKANI GAURANG N.	OPERATOR	NA	7359426735	Yes
25	Shift	NAEEM A. UGHRADAR	SR. TECHNICIAN	NA	9998665011	Yes
26	Shift	RAVINDRA KUMAR	D.M.	NA	8169310321	Yes
27	Shift	NAVIN KUMAR BARIYA	CHEMIST	NA	7622028922	Yes
28	Shift	MUKUND TANDEL	OPERATOR	NA	9157711893	Yes

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ERT Members						
Sr. No.	Shifts	Name	Designation	Phone Number		Personal protective equipment required
				In the Factory	In the Residence	Available PPEs
29	Shift	DIXIT D. PATEL	SR.SUPERVISOR	NA	9998991276	Yes
30	Shift	JAY KAYASTH	SUPERVISOR.	NA	7041919011	Yes
31	G	NIKHIL SHARMA	SR. EXECUTIVE	NA	9592312255	Yes
32	Shift	JENISH PRAJAPATI	SR. SUPERVISOR	NA	8460141779	Yes
33	Shift	NEHAL PARMAR	SR. SUPERVISOR	NA	9904090556	Yes
34	Shift	SHIVANGSINH RAJ	EXECUTIVE	NA	9033548532	Yes
35	Shift	MISTRY VIKRAM	ELECTRICIAN	NA	8200445730	Yes
36	Shift	ANIRUDDHSINH KOSAMIA	SUPERVISOR	NA	9687027862	Yes
37	Shift	CHOPDA VINOD	EXECUTIVE	NA	9328173935	Yes
38	Shift	SAURABH SHYAM	SECTION INCHARGE	NA	7041563353	Yes
39	Shift	PATEL URVI	CHEMIST	NA	8849756827	Yes
40	G	JAYDEEPKUMAR GOHIL	SUPERVISOR	NA	7990930991	Yes
41	Shift	SANJAY PATHER	SUPERVISOR	NA	6354923531	Yes
42	Shift	NIZAMA DHRUV	OPERATOR	NA	9825547304	Yes
43	Shift	HEMANT AAHIR	OPERATOR	NA	7574990338	Yes
44	Shift	PARTH PATEL	CHEMIST	NA	9978296483	Yes
45	Shift	RAJPUT KULDEEPSINH	CHEMIST	NA	8160528485	Yes

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ERT Members						
Sr. No.	Shifts	Name	Designation	Phone Number		Personal protective equipment required
				In the Factory	In the Residence	Available PPEs
46	Shift	KRUNAL D PRAJAPATI	OPERATOR	NA	8238985132	Yes
47	Shift	VASAVA DINESH M	OPERATOR	NA	7567649155	Yes
48	Shift	JAINISH PATEL	SUPERVISOR	NA	8347100584	Yes
49	Shift	GOHIL CHETAN	SUPERVISOR	NA	8160586915	Yes
50	Shift	JAYDIP B. MORI	TECHNICIAN	NA	9773145792	Yes
51	Shift	EKTA PATEL	JR. CHEMIST	NA	8758095866	Yes

First Aid Members						
Sr. No.	Shifts	Name	Designation	Phone Number		Personal protective equipment required
				In the Factory	In the Residence	Available PPEs
1	Shift	Dinesh Parmar	Field Operator	NA	9714933588	Yes
2	General	Prajapati Vaibhav	Operator	NA	9904024403	Yes
3	Shift	Natvar Gohil	Operator	NA	9904140732	Yes

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First Aid Members						
Sr. No.	Shifts	Name	Designation	Phone Number		Personal protective equipment required
				In the Factory	In the Residence	Available PPEs
4	Shift	Imran Rana	Shift Incharge	NA	9723113927	Yes
5	Shift	Bhavin Gohil	Field Operator	NA	8734800724	Yes
6	Shift	Ritesh Rana	Male Nurse	NA	94996 68131	Yes
7	Shift	Mehul Parmar	Male Nurse	NA	7359829265	Yes
8	Shift	Amit Das	Male Nurse	NA	8866671902	Yes
9	Shift	Latif Raj	Lab Assistant	NA	9904320737	Yes
10	Shift	Surendrasinh Raj	Executive	NA	9737427072	Yes
11	Shift	Sagar Rajput	Chemist	NA	8698941853	Yes
12	Shift	Farhan Malek	Shift incharge	NA	8530628515	Yes
13	Shift	Chandrakant Machhi	Supervisor	NA	7096763723	Yes
14	Shift	Lalit	Supervisor	NA	9807516141	Yes
15	Shift	Pradip Parmar	Supervisor	NA	9624450054	Yes
16	Shift	Yash Presswala	AM	NA	9104660624	Yes
17	Shift	Rakesh Gohil	Jr Manager	NA	9081530712	Yes
18	Shift	Hitendra	AM	NA	7383163253	Yes
19	Shift	Ashwin	Supervisor	NA	9409508925	Yes
20	General	Dinesh Parmar	Chemist	NA	9714933588	Yes

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First Aid Members						
Sr. No.	Shifts	Name	Designation	Phone Number		Personal protective equipment required
				In the Factory	In the Residence	Available PPEs
21	Shift	Mitul Gohil	Supervisor	NA	8238515487	Yes
22	Shift	Gautam Gohil	Supervisor	NA	7567819165	Yes
23	Shift	Kishor Gohil	Supervisor	NA	7567663697	Yes
24	Shift	Jaydip Prajapati	Supervisor	NA	9913819505	Yes
25	Shift	Manish Rathod	Supervisor	NA	9033222745	Yes
26	Shift	Dixit Patel	Supervisor	NA	9998991276	Yes
27	Shift	Ronak Sharma	Supervisor	NA	9687211699	Yes
28	Shift	Jenish Prajapati	Supervisor	NA	8460141779	Yes
29	Shift	Kishan Devaliya	Supervisor	NA	9687178971	Yes
30	Shift	Nehal Parmar	Supervisor	NA	9904090556	Yes
31	Shift	Piyush Kumar	AM	NA	7433900929	Yes
32	Shift	Abhishek Vala	Jr Manager	NA	7016310074	Yes
33	Shift	Bhavesh Patel	Supervisor	NA	6354536268	Yes
34	Shift	Umesh Prajapati	Supervisor	NA	7818997576	Yes
35	Shift	Mehulsinh Parmar	Supervisor	NA	7359829265	Yes
36	Shift	Chirag Machi	Supervisor	NA	9157999722	Yes
37	Shift	Atul Patel	DM	NA	7588875673	Yes

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

First Aid Members						
Sr. No.	Shifts	Name	Designation	Phone Number		Personal protective equipment required
				In the Factory	In the Residence	Available PPEs
38	Shift	Chirag Chaniyara	AM	NA	7567093536	Yes
39	Shift	Parneet Dutt	AM	NA	7340922414	Yes
40	Shift	Saurabh Patel	Supervisor	NA	8758718784	Yes
41	Shift	Hetivi Patel	Chemist	NA	9664795876	Yes
42	Shift	Ranu Kumar	DM	NA	7725841474	Yes
43	Shift	Harsh Mistry	Supervisor	NA	7046863304	Yes
44	Shift	Dhruv Mistry	Supervisor	NA	6354215104	Yes
45	Shift	Dhruv Nizama	Supervisor	NA	9825547304	Yes

Annexure-19: Safe Assembly Point

Sr. No. of the Assembly point	Location	Accommod ation Capacity	At the time of emergency					
			Person in charge	Person in charge		Person in charge		PPE that may be required
			Name & designation	Place of availability		Phone Number		
				In the Factory	Residence	In the Factory	In the Residence	

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Assembly Point No-1	Security Gate No-01 COP Area	500 nos.	Sunil Patil Deputy. Manager	Office	Bharuch	63529 70850	9624280897	Helmet, Apron, Goggles, Safety shoes, Hand Gloves, Gas mask, Dust mask, BA set
Assembly Point No-2	Cooling Tower Back side COP Area	100 nos.	Sunil Patil Deputy. Manager	Office	Bharuch	63529 70850	9624280897	Helmet, Apron, Goggles, Safety shoes, Hand Gloves, Gas mask, Dust mask, BA set

Annexure-20: Emergency control center (ECC)

1. Location of the center	Near Security Gate No-01
2. Telephone Nos. of the center:	CUG Mobile- DCPO- 6352968816, Intercom No- 3604

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No	Items kept in the ECC center	Numbers or quantity	Person who will handle / operate these
1	Plot plan on entire factory indicating	1	SMC & Essential Personnel (ERT/First Aider)
	a) Hazardous storage area	1	
	b) Location of safety system and its storage	1	
	c) Fire fighting system	1	
	d) Entry and emergency exist and road ways	1	
	e) Assembly point	1	
	f) Parking area	1	
2	MSDS of Hazardous chemical	1	
3	External telephone line	1	
4	Walkie-Talkie	1	
5	MCP panel	1	
6	Existing stock of hazardous goods	1	
7	Hard copy of Emergency Plan	1	
8	Count of personnel	1	
9	List of key personnel with their address, telephone nos, etc	1	
10	Hot line to the DCG	1	
11	Writing pads 10 nos	1	
12	Pencils 10 nos	1	
13	Emergency telephone (only incoming)	1	
14	Personal Protective Equipment	-	
	a) SCBA	1	

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

	b) Fire suit	1	
	c) Chemical suit	5	
	d) Helmets	5	
	e) Safety Shoes	5	
	f) Gloves	5	
	g) Goggles	5	
15	CCTV footage	1	
16	Muster roll of employees	1	
17	Work permit book	5	
18	List of Emp. Blood-group	1	
19	Contract Labour Register	1	
20	Security Checklist	1	
21	General Visitors Checklist	1	
22	Key Register	1	
23	Security Register	1	
24	QRA Report	1	
25	On-site Emergency Plan	1	
26	Signed copy of mutual aid agreement with neighbouring industries	1	

Annexure-21: Fire and toxicity control arrangements

For Toxic substances storage see Annexure- 4 and for their process Hazards see Annexure – 6

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Fire water : No of reservoirs - 01_No. of tanks (Compartment)- 02 nos. Total Quantity - 2460 m3										
Other source & capacity	No. of hydrant Points		No. of fire pumps, type & capacity	No. of hose reels & total length	No. of fire tenders & Capacity	No. of Sprinklers System	No. of Monitors			Alternate power arrangement
	Single Hydrants	Double Hydrants					Fixed Monitors	Portable Monitors		
Diamond division fire Tender /From SEZ Fire service and DMC -Dahej	60 Nos	11 Nos	2 Nos Electrical Pump- 410 M3/Hour 2 Nos Diesel operated Pump - 410 M3/Hour 2 Nos Jockey Pump- 18 M3/Hour each	47 Nos & 30 meter length of each Hose pipe.	1 multipurpose Fire Tender, 1000 Ltrs Foam capacity & 5000 Ltrs water capacity	08 Nos	13 Nos - 1750 Lpm at 7kg/cm2	01 No - 400-2000 Lpm at 7kg/cm2		02 Nos DG Sets
CO2 Type Fire Extinguishers			Dry Chemical Powder Type Fire Extinguishers (ABC Type)				Foam Type Fire Extinguishers			Clean Agent Type Fire Extinguishers
4.5 Kg Capacity	09 Kg Capacity	22.5 Kg Capacity	09 Kg Capacity	75 Kg Capacity	06 Kg Capacity	04 Kg Capacity	09 liter Capacity	60 liter	06 Liter	04 Kg Capacity
41 Nos	22 Nos	02 Nos	164 Nos	04 Nos	30 Nos	01	59 Nos.	22 Nos.	17 Nos.	12 Nos.
							AFFF Foam- 3000 liter			

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Personal protective Equipments										
Respirator PPEs				Non-Respiratory PPEs						
Dust Mask	Cartridge Mask	SCBA Set	Escape Hood Mask	Hand Gloves	Safety Goggles	Safety Helmet	Safety Shoes	Gum Boots	Face Shield	PVC Suit
200 Nos	100 Nos	25 Nos	23 Nos	100 Pairs	100 Nos	50 Nos	100 Nos	25 Nos	20 Nos	20 Nos

Annexure-22: Medical arrangement

First – Aid Centers / Ambulance / OHC / Hospital Details								
Location	Telephone Number	FMO Details			Facilities	Antidote available	First Aiders available	Accommodation available
Occupational Health Center at MainGate, Security office	CUG No-7984859963 Intercom No-3553/3554	Name & Designation	Residence		OHC is fully equipped as per factory Act requirements.	Methylene Blue, ASV, Milk of Magnesia, Activated Charcoal Tab.	Yes, First-Aider list attached in Annex- 18	Medical emergency transport facility available.
		1.Dr. Sabir Ahmed Patel Dy. Manager	Phone Number	Address				
			9773284258	Bharuch				

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Ambulance Arrangement					Doctors Details (nearby)			Other Medical staff Details		
Place of availability	Capacity	Facilities in the Ambulance	Driver Name	Phone Number	Doctor Name	Address	Phone Number	Name	Address	Phone Number
Nearby Security Gate No-01	02 Patient	02 Cylinder, Stretcher, Pulse meter, First Aid kit	1.Afzal, 2.Rahul, 3.Jignesh There are 03 drivers round the shift	CUG No-6359951251	Shrey Clinic, Dr. Naresh Gadhvi	Dahej	9979891252	1.Dinesh Parmar 2.Shoyeb shaikh 3.Jitendra Puri	Bharuch	CUG No-7984859963

Annexure-23: Transportation & Evacuation Arrangements

For key personnel and essential workers see Annexure – 17 & 18 and for Assembly points See Annexure - 19										
Own Transport Center						Own Vehicles Details				
S. No.	Name & location	Phone No.	In charge person			Sr. No.	Type & No.	Capacity	No. & type of Public Warning instruments	Driver’s Name & address
			Name & designation	Residence						
				Phone	Address					
1	Security Officer- At Security Gate No-01	CUG Phone-7575093595	Ravinder Kumar- Security Incharge	6353654334	Bharuch	1	Bus 03 nos	150 Nos	PA System-01	Drivers are on rotation and available round the clock
						2	Innova 1 no.	5 Nos	PA System-01	Drivers are on rotation and available round the clock
3	FMO, Near Security Gate 1	CUG Phone-7069008074	Dr. Sabir Ahmed	9773284258	Bharuch	3	Ambulance 01 no.	02 Nos	Light and Siren is available-01	Drivers are on rotation and available round the clock

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

4	Fire Tender -Fire control Centar	CUG Phone-6352968816	Manish Abaliya	9770312257	Bharuch	4	Fire Tender	5 Nos	PA system-01	DCPO are on rotation and available round the clock
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Outside shelters for evacuated persons							
Sr No.	Name address & distance	Phone No.	In charge person		Accommo dation capacity	Facilities available	
			Name & designation	Residence			
				Phone			Address
1	Narmada Chokdi - Company Guest House	6353652566	Mr. Vikas Singh HR	6353652566	Bharuch	40 No.	Water, Toilet and Rooms, Recreation Center
2	PJ Cheda School, Dahej	98244 75576	Mr. Hitesh Shah - Coordinator Disaster Management Centre, Dahej	--	--	300	AIL will be taking care and actions for the facilities of their workers. Only shelter will be provided by School
3	Shelter House - Rahiyad Village			--	--	1000	
4	Primary School, Lakhigam			--	--	300	
5	Primary School, (Prathmik Mix Shala), Luvara			--	--	70	
6	Primary School, (Haridham Vidyalay),			--	--	130	

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

	Jageshwar						
7	Primary School, Ambetha			--	--	120	

Mutual Aid Arrangements											
Sr. No.	Name & address of the factories & outside transport centers including Bus & Railway stn.	Distance	Phone No.	In charge person			Vehicles available				
				Name & designation	Residence		Sr. No.	Type & No.	Capacity	No. & type of public warning instruments	Driver's name & address
					Phone	Address					
1	M/s Fermenta Biotech Limited, Sez II Dahej	100 mtr	99980 24791	Mr. Vishal Prajapati Sr. Executive Safety	9998024791	Bharuch	1	Bus / Tempo Traveller -1,1	75	Siren-01	As per availability.
2	M/s Coromandel International Limited, Sez II Dahej	100 mtr	81413 88288	Mr. Prathmesh Bhatt SHE Head	8141388288	Bharuch	2	Bus / Tempo Traveller -1,1	75	Siren-01	As per availability
3	M/s Benzochem Industries Pvt. Limited, Sez II Dahej	100 mtr	86051 19959	Mr. Girish Kakade SHE Manager	8605119959	Bharuch	3	Bus / Tempo Traveller -1,1	75	Siren-01	As per availability
4	M/s Glenmark Life Sciences Limited, Sez II Dahej	100 mtr	97241 59623	Mr. Mr. Vivekanand Pandit SHE Manager	9724159623	Bharuch	4	Bus / Tempo Traveller -1,1	75	Siren-01	As per availability

Note- Company arranged a sufficient number of Buses and Cars for Evacuation arrangement. Company had mutual aid with the nearest Hotel for shelters.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure- 24: Pollution control arrangements

For key personnel & essential workers, see Annex: 17 & 18 For Trade Waste disposal See Annex: 8

Water pollution controls					Air Monitoring					
Type & capacity of effluent treatment plant	No. of sample monitoring centers & its frequency	Other control measures	Log book & records	In charge person's name address & phones	No and place of sample monitoring centers	Type parameters & frequency of tests	Wind direction & velocity meters	Instruments available	Log Book & records	In charge person's name address & phones
Biological Aeration (60 KLD)	2	Primary,Biological, Tertiary & Advanced Treatment	Yes	Piyush Patel-7573955240	AAQM-1 (Near Main Gate)	PM10,PM2.5, SOx & NOx	-	Air Sampling Device	Yes	Jayesh Kathrotiya 9510336061

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Desilication (250 KLD)	2	Primary,Biological, Tertiary & Advanced Treatment	Yes	Piyush Patel-7573955240	AAQM-2 (Near ETP Plant)	PM10,PM2.5, SOx & NOx	-	Air Sampling Device	Yes	Jayesh Kathrotiya 9510336061
Primary Treatment (200 KLD)	2	Primary,Biological, Tertiary & Advanced Treatment	Yes	Piyush Patel-7573955240	AAQM-3 (Near DCS PCC Control Room)	PM10,PM2.5, SOx & NOx	-	Air Sampling Device	Yes	Jayesh Kathrotiya 9510336061

STACK MONITORING						SCRUBBERS INCINERATORS				LAND POLLUTION CONTROLS				Pollution control Board	
No. & Location of sample places	Type Pare-meter s & frequency of tests	Contr ol meas ures provid ed	Instru ments provid ed	Log book & recor ds	In charge person's name address & phones	Location	Type & capac ity	For what	In charge person's name address & phones	No. of sampl e monit oring center s & freque ncy of monit oring	Other	Log-book & records	In charge person's name address & phones	Permission obtained	Conditions fulfilled
DG SET 1	PM , SOX , NOX - Monthly	-	Temp Prob	Yes	Vipul Mehta 7698197926	SAC	Alkali Scrub ber	Neutraliz ation	Vidya Niwas 6353534689	—	—	—	Piyush patel 6352968042 (Sundervan Apartment,	Yes	Yes Valid CC&A is available.
DG SET 2	PM , SOX , NOX - Monthly	-	Temp Prob	Yes	Vipul Mehta 7698197926	NSA	Alkali Scrub ber	Neutraliz ation	Tushar Tank 6353959259	—	—	—			

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

DG SET 3	PM , SOX , NOX - Monthly	-	Temp Prob	Yes	Vipul Mehta 7698197926	DCP	Alkali Scrub ber	Neutraliz ation & VOC Control	Vidya Niwas 6353534689	—	—	—	near haveli chowk)		
____ NA ____						Tankfar m-1	Alkali Scrub ber	Neutraliz ation & VOC Control	Tushar Tank 6353959259	—	—	—			
____ NA ____						Tankfar m-2	Alkali Scrub ber	Neutraliz ation & VOC Control	Tushar Tank 6353959259	—	—	—			

Annexure-25: Other Arrangement

Sr. No.	Type and name of arrangements available	Qty	Place of availability	Incharge person's			Mutual Aid Arrangements					
				Name & designation	Residence		Place from where the same thing is available	Qty	Incharge person's			
					Phone	Address			Name & designation	Phones		Address
										Office	Resi	

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

1	Heavy Vehicles. 1 2 3	Bus -02	SEZ - Corridor	Mithun Chakrawarti-Manager	7984849069	Bharuch	Bharuch / Ankleshwar	As Per Availability	Nirav Patel - OM from Shree Rangkrupa Mobin Bhai - OM from Shreenath Travel Gaurang Bhai - OM from Align Travel Ravi Kishan - Narendra Logistics	9879173073 8866077155 7405506191 9678278377	9879173073	Bharuch
2	Lifts, Cranes etc, 1 2 3	Lift -01	Diamond	Gaurav Modi Chief Manager	6353961467	Bharuch	Bharuch / Ankleshwar	As Per Availability -crane	Arunsingh - Owner	9913454590	9913454590	Bharuch
3	Transporters for materials 1 2 3	Restruck -02	Warehouse	Mahesh Shukla Sr.Manager	9099939368	Bharuch	Bharuch / Ankleshwar	As Per Availability - Forklift , Restruck	MB Enterprise - Moin - 9898676655 Staff Manpower - Mosin- 9833758521	9898676655 9833758521	9898676655	Dahej - Jolva Mumbai
4	Power alternatives 1 2	3 DG Set	MCC	Vipul Mehta Sr.Manager	7698197926	Bharuch	NA	—	—	—	—	—

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

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On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

6	Special equipments / instruments	H2 PRS	DCA	Rabikant Rajput Manager	6352969104	Bharuch	NA	—	—	—	—	—
7	Test facilities	Instrument Lab + QC Lab	Admin Office/ QC Lab Office	Rabikant -Instrument Gaurang Rajyaguru - QC	6352969104 9327535994	Bharuch	NA	—	—	—	—	—

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Note: - For key personnel and Essential personal team see Annexure – 17 & 18

For Mutual aid arrangements of first aid and hospital services See Annexure - 22

Annexure-26: Alarms and signs

Sr. No.	Plant wise alarm points											
	Plant / Dept. / Location			Sr. No. of the alarm point	Sr. No. place of location (with floor No. of any)	Type of the alarm or siren	Its Period of checking	The Alarm (signal) is heard (Seen)	Type of emergency	Type of alarm or siren	Duration of sounding	Type of sound of alarm / siren
	Name & location	No. of floors	Area of each floor									
1	Process Plant	4	-	1	Single siren as it's capacity to cover whole premises & it is located on the MCC/PCC building	Electrical	Every Day at 8:15 and 17:15 hr 1 minute continuous sounding	Entire factory	Level -2 Toxic Release	Declaring On Site Emergency	2 Min	20 Sec Wailing x 6 time = 2 Minute No of Cycle-1


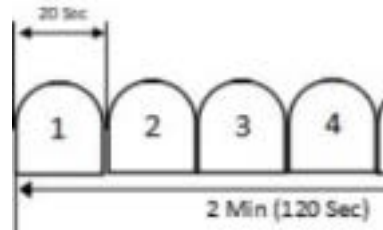
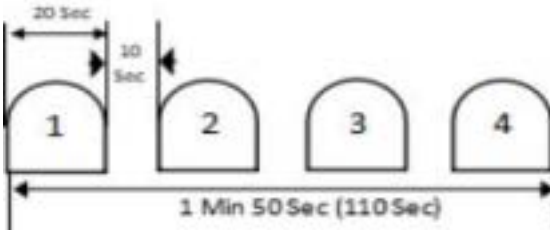
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

					terrace							
									Level -2 Fire	Declaring On Site Emergency	1 Min 50 Sec	20 Sec On + 10 Sec Off = 30 Sec No of Cycle-4 Total Duration- 110 Sec
									Level 3	Declaring Off Site Emergency	14 Min	20 Sec Wailing x 6 Times + 2 Min Off = 4 Mins No of Cycle- 4
									All Clear	Declaring Normal- All clear	1 Min	Continuous 01 Minute No of cycle-1

Emergency Alarms and Siren Codes

Siren and Alarm			
Test / All clear Siren		Level 1 Emergency Siren	
Type of emergency	-	Type of emergency	All
Cycle duration	1 min	Cycle duration	-
No. of cycles	1	No. of cycles	-
Total duration	1 min	Total duration	-

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		No siren, Only MCP/Hooter with Beacon	
Level 2 Emergency Siren		Level 2 Emergency Siren	
Type of emergency	Toxic Release	Type of emergency	Fire and others
Cycle duration	20 Sec Wailing X 6 times = 2 Mins	Cycle duration	20 Sec On + 10 Sec Off = 30 Sec
No. of cycles	1	No. of cycles	4
Total duration	2 min	Total duration	1 min 50 Sec
			
Level 3 Emergency Siren			

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Type of emergency	All
Cycle duration	20 Sec Wailing X 6 times + 2 Min off = 4 Mins
No. of cycles	4
Total duration	14 min

The diagram shows a timeline of the emergency cycle. It consists of four identical cycles. Each cycle includes a 20-second wailing period (represented by 6 arches) followed by a 2-minute (120-second) off period. The total duration of the four cycles is 14 minutes (840 seconds).

Annexure-27: Internal Telephones

Sr. No.	Name & location of the plant, department of area (including internal emergency services)	Person available on this phone			
		Name	Designation	Residence	
				Phone Number/EXT- No	Address
1	Site Main Controller	Sandeep Parekh	Zone Operation Head	9727720802/ Ext. 3542	Bharuch
2	Succession	Gaurav Modi	Chief Manager	6353961467/ EXT 3634	Bharuch
3	Succession	Tushar Tank	Manager	6353959259/ EXT 3612	Bharuch
4	Succession	Vidya Niwas	Sr.Manager	6353534689/ EXT 3632	Bharuch
5	Succession	Vipul Mehta	Chief Manager	7698197926 /EXT 3648	Bharuch
6	Fire & Safety Coordinator	Deepak Sali		7043086002	Bharuch

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7	Succession	Prateek Katiyar	Manager	9839989858/ EXT 3659	Bharuch
8	Succession	Ranu Kumar	Dy. Manager	7725841474/ EXT 3602	Bharuch
9	Succession	Sunil Patil	Dy. Manager	6352970850/EXT 3559	Ankleshwar
10	Utilities Coordinator	Gaurav Modi	Chief Manager	6353961467 / EXT 3634	Bharuch
11	Succession	Rahul Gohil	Deputy Manager	8487007382/ EXT 3636	Bharuch
12	Welfare/ Media / Relief Coordinator	Vikas Singh	Zone Head - HR & Admin	6353652566	Bharuch
13	Succession	Mr. Mithun Chaterjee	Security & Admin Manager	9479801367	Bharuch
14	Security / Traffic Coordinator	Ravinder Kumar	Dy. Manager	6353654334/EXT 3351	Bharuch
15	Succession	Nikhil Sharma	Assist. Manager	6353962851	Bharuch
16	Medical Services Coordinator	Dr.Abidkhan Malek	Manager	7069008074	Bharuch
17	Succession	Dr. Sabir Ahmed	Joint. Manager	9773284258/EXT 3553/3554	Bharuch
18	Electrical Coordinator	Vipul Mehta	Chief Manager	7698197926/ EXT 3632	Bharuch
19	Succession	Shift Incharge	Engineer	Ext. 3506	Bharuch
20	Mechanical Coordinator	Gaurav Modi	Chief Manager	6353961467/ EXT 3634	Bharuch
21	Succession	Rahul Gohil	Deputy Manager	8487007382/ EXT 3636	Bharuch

Annexure-28: External Telephones

EMERGENCY CONTACT NUMBERS			
Sr. No.	Name / Agency	Designation	Number
FIRE			
1	Dahej SEZ 2 Limited	Fire Station Officer	02641 291101 / 8347420101
2	Mr. Bhupendra Singh Dahej SEZ Limited	Safety Officer	800454090
3	Disaster Management Centre Dahej	Fire Control Room	02641 256670 / 257101,

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

	(DEFS)		9924937101, 992490000
4	Disaster Management Centre Dahej (DEFS)	DMC Admin Officer	9824475576, 9913153042 7698880414
5	Bharuch Fire Station	Control Room	02642 220151 / 241101
6	DPMC, Ankleshwar	Fire Control Room	9099071561, 942688961 02646 220229 / 226101
MEDICAL			
7	Dr. Naresh Gadhvi	FMO	9979891252
8	Shrey Clinic Hospital -Emergency	Medical emergency	9429037301
9	Civil Hospital Bharuch	02642-243515	
10	Patel Welfare Hospital Bharuch	02642-244881	
11	Bhailal Amin General Hospital(Vadodara)	0265-285555	
12	Global Hospital Bharuch	02642 264800 / 265800 / 266800 / 267800 ,8980006817, 8758780000	
13	Baroda Heart Hospital, Bharuch	9727746344, 7405411258, 9727763817	
14	Eye Q Hospital, Bharuch	9979155044	
15	Healing Touch Hospital, Bharuch	8905963528	
16	Ambulance Service	108	
POLICE, GPCB ,DISH			
17	Police Station Dahej	100/02641-256233	
18	DSP Control Room Bharuch	02642-223083/223303	
19	GPCB Bharuch	02642 -246 333	
20	DISH Bharuch	02642-240421,225838	

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21	Bharuch Collector Office (Emergency operation control room)	02642 242300, 9428057174	
EMERGENCY LOCAL NUMBERS			
22	Dahej Eco-Friendly Society	DEFS	02641-256670/9924937101
23	Bharuch Collector Office	DMCR	02642-242300
24	Reliance Industries Limited	Fire Control Room	02641 356023 / 356001 9998001085
25	Hindalco Industries Limited	Control Room	02641-256004 / 05 / 06 - 9723555846
26	GCPTCL	Control Room	02641-261101,261035 / 36, - 9998950550
27	Gujarat Alkalies Chemical Limited	Fire Control Room	02641 613203,613333 -9979891873
28		Plant Control Room	02641 613203 / 32 / 93 -9879604102
29	Petronet LNG Limited	Fire Control Room	02641 670247, 300445 / 447
30		Main Plant Control Room	02641-300101 / 102
31	Torrent Pharmaceuticals Ltd.	Safety Dept.	9979872328
32	Glenmark Generics	Safety Dept.	8238851642
33	Coromandel Industries Ltd.	Safety Dept.	8141614954
34	Fermenta Biotech Ltd.	Safety Dept.	9428886259
35	Rallis India Ltd.	Safety Dept.	8128552977
36	Benzo Chem Industries Pvt. Limited	Safety Dept.	7972781911
AARTI INDUSTRIES LTD.(UNIT DIAMOND)			
37	Mr. Vinodkumar Mishra	Chief of Operation-Zone 03	7069010692 Ext. No.- 5598
38	Mr. Sandep Parekh	Division Head	9727720802 Ext. No. - 3639
39	Mr. Vikas Singh	Zonal Head (HR)	6353652566 Ext. No. - 5906

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40	Mr. Dipak Sali	Zonal Safety Head	7069006535 Ext. No. - 5907
41	Mr. Ranu Kumar	Dy. Manager (Safety)	7725841474 Ext. No. - 3627
42	Mr. Gaurav Modi	Chief Manager (Mechanical)	6353961467 Ext. No. - 3634
43	Inayat Raj	Sr.Manager (Operation)	6352971738 Ext. No. - 3611
44	Vidyaniwas Kushwaha	Sr.Manager (Operation)	7874754703 Ext. No. - 3632
45	Mr. Rabikant Rajput	Manager (Instrument)	9904258654 Ext. No. - 3631
46	Mr. Vipul Mehta	Chief Manager (Electrical)	7698197926 Ext. No. - 3648
47	Mr. Mahesh Shukla	Sr.Manager (Materials)	9099939368 Ext. No. - 5528
48	Mr. Piyush patel	DM Manager (ETP)	7573955240 Ext. No. - 3621
49	Mr. Rahul Gohil	Dy. Manager (Utility)	6352967630 Ext. No. - 3637
50	Mr. Mithun Chaterjee	Manager(Corporate Affairs)	7984849069Ext. No. - 5551
50	Dr. Sabir Ahmed Patel	Jt. Manager	7984859958 Ext. No. - 3553 (OHC)
51	Mr. Ravinder kumar	Dy. Manager (Security)	6353654334 Ext. No. - 3552
52	OHC - AIL	Male Nurse	7069007938 Ext-3553/54
53	Fire Tender-DCO - AIL	DCOP	6352968816, Ext-3600
	EMERGENCY CUG NUMBER		
	FIRE		63529 68816 Ext. No. - 3600
	OHC		79848 59963 Ext. No. - 3553/54

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

	SECURITY	75750 93595 Ext. No. - 3551/52
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Annexure-29: Nominated persons to declare major emergency

Sr. No.	Name of the plant department or location	Name & designation of the nominated persons to declare major emergency	Duty of designation given if any under the on-site/off-site emergency plan	Phone No.	Residence	
					Phone No.	Address
1	ECC	Mr. Sandip Parekh - Zonal Opearation Head	SMC for Onsite Emergency	02641 223639 Ext. 3639	9727720802	B/2,Shriniketan Residency,Opp.Inox,Zades hwar road,Bharuch392001

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2	ECC	Mr. Vinodkumar Mishra Chief of Operation	SMC for Offsite Emergency	02641 285599 Ext. 4598	70690 10692	A 6, Malhar Green City, Near GAIL Township, Nandelav, Bharuch, Gujarat - 392015.
3	ECC	Day Duty Officer	SMC on Sunday and Public Holidays	02641 285563 Ext 4563	70690 02335	Not Applicable
4	ECC	Night Duty Officer	SMC on Night Shift	02641 285563 Ext 4563	70691 02335	Not Applicable

Annexure-30: Tele Record Form

Date:-	
Time:-	
Informed By:-	
Plant:-	
Location:-	

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Type of Incident (Fire / Explosion / Liquid Spill / Gas release):-	
Injury details; (if any)	
Brief Description:-	
Incident information converted to:-	1) 2) 3)

Note: In case of any emergency communication record will be maintained in the above format

Annexure-31: Statutory communication

In event of Major accident following authorities to be notified

S No	Name & Address of Authority	Designation	Contact No	Remarks
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On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

1	Shri. P.M.Shah Director Office of the Director Industrial Safety & Health, 3rd Floor, Shram Bhavan, Rustom Cama Marg, Near Gun House, Khanpur, Ahmedabad-380001	Director Industrial Safety and Health	079-25502346, 079-25502364, 079-25502349	Rule 103, Gujarat Factories Rules 1963, Within 12 hours of incident also form 21/21A to be submitted. Notification of major accident as per Rule 68 J (5) (Schedule 6) within 48 hours.
2	Shri D.K.Vasava Deputy Director Office of the Industrial Safety & Health, 2nd Floor, Multi Storeyed Building, Opp. Gayatri Nagar, Bharuch-392001	Deputy Director Industrial Safety and Health	02642-240 421 02642-225 838	Rule 103, Gujarat Factories Rules 1963, Within 12 hours of incident also form 21/21A to be submitted. Notification of major accident as per Rule 68 J (5) (Schedule 6) within 48 hours
3	Shri B.D. Prasad GPCB Regional Office Shed no. C – 1/119/3, GIDC Estate, Narmadanagar, Bharuch- 392015	Environmental Engineer	03642 246 333	Notification of major accident as per Rule 68 J (5) (Schedule 6) within 48 hours
4	Shri Falgun Modi GPCB Regional Office Shed no. C – 1/119/3, GIDC Estate, Narmadanagar, Bharuch- 392015	Regional Officer	02642 246 333	Notification of major accident as per Rule 68 J (5) (Schedule 6) within 48 hours

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

5	Shri. P.Kumar Chief Controller of Explosives, A Block CGO Complex , Fifth floor Seminary Hills, Nagpur-(Maharashtra), 440006	Chief Controller of Explosives	0712 251 0248 0712 251 0103	Notification of major accident as per Rule 68 J (5) (Schedule 6) within 48 hours
6	Shri. K.P. Sharma 9th Floor, Park Paradise, Kalali Rd, Vadsar, Kalali, Bill, Vadodara, Gujarat 390012 Contact : 0265-2361035	Deputy Chief Controller of Explosives	0265 222 5159 0265 236 1035	Notification of major accident as per Rule 68 J (5) (Schedule 6) within 48 hours
7	Vipul Gagiya Police Station, Beside Harsiddhi Mataji Temple Dahej 392130	In-charge Police Inspector	02641 256 233	Rule 103, Gujarat Factories Rules 1963, Within 12 hours of incident also form 21/21A to be submitted.
8	Shri N.R. Dhandhal, Mamlatdar & Executive Magistrate Office, Railway Colony, Bharuch, Gujarat 392001	SDM (Prant Officer)	02642 257335 02642 257261	Rule 103, Gujarat Factories Rules 1963, Within 12 hours of incident also form 21/21A to be submitted.
9	Shri Tushar Sumera, District Collector Office, Railway Colony, Bharuch, Gujarat – 39200	Collector & District Magistrate	02642 222 332, 02642 268 872, 02642 240 600	Rule 103, Gujarat Factories Rules 1963,

Note: Call on Toll Free No. 18004190272 OR Send Whatsapp message on 7228809573 under Transportation Safety and Emergency Response Program.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-32: Separation Distance

Sr. No.	Substance	Tanks		Separation distance (M)
		Capacity (T)	Nos.	
1	2,5-DICHLORONITROBENZENE	260MT	2	
2	2,5-DICHLOROANILINE	260MT	2	
3	2,5-DICHLOROANILINE (CRUDE)	260MT	1	
4	3,5-DICHLOROANILINE (CRUDE)	Not Used	1	
5	3,4-DICHLORONITROBENZENE	260MT	1	
6	3,4-DICHLOROANILINE (CRUDE)	260MT	1	
7	PDCB (PARA DICHLOROBENZENE)	325MT	1	
8	2,5-DICHLOROPHENOL	325MT	1	
9	2,5-DICHLOROPHENOL (CRUDE)	260MT	1	
10	PARA CHLORO ANILINE (CRUDE)	260MT	1	
11	Methanol	26MT	1	
12	XYLENE	26MT	1	
13	PARA CHLORO NITRO BENZENE (PCNB)	260MT	1	
14	25% NITROSYLSULFURIC ACID	440MT	2	
15	36% NITROSYLSULFURIC ACID	440MT	1	
16	SULFUR TRIOXIDE	36MT	2	
17	HYDROGEN PEROXIDE	18MT	2	
18	SULFURIC ACID	830MT	2	
19	NITRIC ACID	60MT	2	

As per Plot Plan drawing approved by
DISH

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Substance	Tanks		Separation distance (M)
		Capacity (T)	Nos.	
20	OLEUM	50MT	1	
21	2,3,4-Trifluoro aniline	278MT	1	
22	2,3,4-Trifluoro aniline(Crude)	278MT	1	
23	2,3,4 Tri Fluoro Nitro Benzene	308MT	1	
24	2,4- Di Fluoro Aniline	No Storage	1	
25	2,4- Di Fluoro Nitro Benzene (2,4 DFNB)	No Storage	1	
26	3-chloro-2-methylAniline (3-chloro-Ortho Toluidine)	No Storage	1	
27	2-chloro-6-nitrotoluene	No Storage	1	

Note: - Separation Distance of tanks has been maintained in above format at HSE department as per PESO Guidelines.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Annexure-33: Emergency Instruction Booklet

Sr. No.	Role to be played as (name emergency designation Viz. Incident Controller, particular key person or essential worker doing the job of)	His emergency duties / functions (Define in short and clear sentences and in 1, 2, 3.....)	Also refer (Other relevant document of the factory viz. safety manual etc.)	He should report at (the incident place or Emergency control Center etc.)
1	Incident Controller (I. C.)	<ol style="list-style-type: none"> 1. Rush to the accident site. 2. Ask the field operators to close the required valves & operation / process at the accident site. 3. Assess the scale of the emergency. 4. Take necessary actions to activate the emergency procedure. 5. Ensure safety of personnel and arrange to issue all required personal protective equipment. 6. Alert the hospital authorities and arrange for necessary antidotes. 7. Direct Key Personnel & Essential Workers to carry out their duties to control the situations. 8. Ensure that outside emergency services have been called in. 9. Decide for continuing the operation of the plant. 10. Ensure the affected area is cordoned off. 11. Ensure that all non-essential workers in the affected area evacuate and assemble to safe assembly point. 12. Brief site main controller and intimation to Local Crisis Group. 13. Preserve all evidence for subsequent fact finding investigation. 14. Provide necessary information to authorities who are investigating the matters. 	Emergency Control Booklet	Emergency Control Center

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Sr. No.	Role to be played as (name emergency designation Viz. Incident Controller, particular key person or essential worker doing the job of)	His emergency duties / functions (Define in short and clear sentences and in 1, 2, 3.....)	Also refer (Other relevant document of the factory viz. safety manual etc.)	He should report at (the incident place or Emergency control Center etc.)
2	Site Main Controller (SMC)	1. Immediately rushed to the scene on knowing about the emergency. Consult Incident Controller, get details	Emergency Control Booklet	
		from the emergency control center and assessing the situation, declare emergency.		
		2. Ensure mutual aid & outside help and intimation to District Crisis Group.		
		3. Ensure availability of all the important personnel, key people.		
		4. Shutdown and evacuate the plant.		
		5. Ensure that the injured or casualties are receiving adequate attention and relatives are advised / informed.		
		6. Ensure accounting of personnel.		
		7. Intimate to Local/District Crisis Group, and other statutory authorities.		
		8. Continuously review possible developments.		
		9. Direct for vehicle, transportation, medical, fire fighting, leak-control, traffic control.		
		10. Arrange for relief of personnel.		
		11. Issue authorized statements to news and media.		
		12. In case of escalation, arrange to warn & necessary information to nearby population.		
		13. Take action for rehabilitation of victims at Hospitals.		
		14. Arrange for chronological records on emergency to be maintained.		

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Sr. No.	Role to be played as (name emergency designation Viz. Incident Controller, particular key person or essential worker doing the job of)	His emergency duties / functions (Define in short and clear sentences and in 1, 2, 3.....)	Also refer (Other relevant document of the factory viz. safety manual etc.)	He should report at (the incident place or Emergency control Center etc.)
3	Key Personnel (K. P.)	1. Rush to the site, with required equipment & gadgets and act as assigned their respective duties for handling emergencies in consultation with IC & SMC.	Emergency Control Booklet	
		2 Will take other directives from IC & SMC.		
		3. Direct and help the mutual aiders, outside agencies, traffic vehicles etc. according to the instruction.		
		4. Do not leave the place of incident unless permitted.		
		5. Do not take any decision on your own. If any self generated idea for control measures first consult with IC/SMC then put it into action, as per discussion.		
		6. Keep proper and exact all records of relevant matters pertaining to emergency / incident.		
4	Essential Workers (E. W.)	1. On hearing the siren, immediately rush to the scene of the incident and act according to directives given by IC/SMC or assigned duties of emergency plans.	Emergency Control Booklet	
		2 .Assist & help fire fighting, leak control, first aid, closing valves or supply or other work.		
		3. Do not take any decision on your own. However, any good idea pertaining to handling emergencies effectively, get consulted with IC/SMC & do accordingly.		
		4. Do not act which will duplicate the same work & without wasting of time & delay, carry out your assigned functions with personal protective equipment.		
		5. Do not leave the place of incident without permission.		

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Sr. No.	Role to be played as (name emergency designation Viz. Incident Controller, particular key person or essential worker doing the job of)	His emergency duties / functions (Define in short and clear sentences and in 1, 2, 3.....)	Also refer (Other relevant document of the factory viz. safety manual etc.)	He should report at (the incident place or Emergency control Center etc.)
		6. Report all matters pertaining to emergency to IC / SMC.		
5	Non-Essential Workers	1. On hearing the emergency siren, take instructions from shift in charge or supervisor and act accordingly.	Emergency Control Booklet	
		2. Assemble at safe assembly points if the situation demands or check wind direction and rush to the safe place.		
		3. Do not get panicky.		
		4. Do not obstruct any activity being done for controlling an emergency.		
		5. Do not engage with any phone to know about an emergency.		
		6. Be alert to hear clear instructions from authority.		
		7. Ensure your presence and help to count numbers.		

Note: Please see chapter 2 for Role to be played as (name emergency designation Viz. Incident Controller, particular key person or essential worker doing the job of) & His emergency duties / functions.

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Appendix: 1: Actions for Critical Man Made and Natural Emergency Situations

Following Situation may require immediate local level immediate actions to prevent emergency Situation. It may not require activating this On Site Emergency Plan
Bomb Threat
Earthquake
Lighting & Thunderstorm
Flood
Cyclone
Poisoning, First Aid & Antidotes
Spillage Control
Oil Spill on Land
Special emergency situations
Snake Bite
Dog Bite
Bee Stings
Wasp Bites
Fire in Substation

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Transport emergency

We have kept a link for recommendations to take actions for above.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

1. Bomb Threat:

With increase in terrorist activities and the chemical industry having, significant role in national economy sabotage & bomb threats should also be considered in the On-Site emergency Plan. In any such situation, city police/ administration should be informed immediately, and their help should be sought.

Bomb Threats made by telephone are usually to the organizations listed telephone number and hence are received by the telephone operator who manages the switch board. While only about 2% of reported bomb threats turn out to be real, there is no way of predicting whether a threat call is a thoughtless prank, a method of harassment designed to cause disruption or panic or a real warning of an impending explosion, Therefore All threats have to be treated as genuine.

Whenever an observed Bomb threat, it is important that Management does not over react. An excessive response can cause panic & confusion and in necessary shutting down of certain vital sections of the plant, the problem compounded – as will probably be the case – the threat turns out to be a hoax.

In places where important petroleum products are held, it should be remembered that a bomb threat may also be a decoy or diversion for a robbery attempt. If this is possible, then physical security should be reinforced at key locations.

Bomb threat evacuation methods & instruction

1. All responders should leave through the main or fire exit in a quiet and orderly manner and walking place should be used. Running will only cause panic and injuries.
2. Personnel should assemble in prearranged safe areas after evacuation. The supervisor will then hold a roll call to ensure that all personnel and visitors are accounted for. Anyone not present should be immediately reported to security.
3. As they leave, staff should be told to disconnect any electrical apparatus such as calculators, fans or electronic typewriters.

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4. The personnel should be told to open all doors and windows, as they leave. They should also be told to take their personal belongings with them. As this will make the search easier.
5. Elevators should not be used during evacuation.
6. Building Custodians should switch off major equipment such as Air Conditioners, Generators, etc.

It is recommended that the basic list of evacuation instructions as given below be issued to all personnel or displayed, for handling bomb threat situations.

Bomb threat Evacuation procedures

1. Walk out of the building in a quiet and composed manner. Do not causes panic by running.
2. Go to the designated location and wait for instructions.
3. Do not use elevators when you leave.
4. Leave table drawers, doors and windows open.
5. Tank your Personal belongings with you when you leave.

Search techniques

Since the terrorist does not label the device with the word “Bomb”, searching operations are very difficult, for no one knows what the bomb looks like. It can be packaged in many different ways as the techniques/imagination will allow.

There are, however three types of bomb search techniques; these are given below:

1. **Employee Search (immediate work area):** An Employee Search of the immediate work area is probably the first and most efficient response to the bomb threat. Only employees will be able to determine at a glance whether the objects around them are harmless or does anything give rise to suspicion. They can quickly detect any strange or displaced items in their normal working environment. Immediately after receiving intimation about the bomb threat

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each employee will search his desk and the area around him and then leave accordingly to the evacuation procedure.

2. **Security personnel (Mainly Potential bomb plant Area):** Security officers should search such areas as reception, lounge, corridors, rest rooms, lockers rooms, laboratories, space under staircases. Elevator shafts, trash bins and fire hose racks. While this list is not complete, it can give an idea where a time – delayed explosive or an incendiary device may be concealed.
3. **Police Search (utilizing mobile detective apparatus, sniffer dogs, etc.):** In the event the above two searches prove negative, the installations/plant requires further investigation and the Police Bomb Disposal Squad should then take control of the operation. Such Squads may be equipped with remote control detection and examination equipment, explosive sniffing dogs or devices for sniffing explosives etc.

The purpose of searching is to detect and report hazardous devices to the Police Bomb Squad Specialist. If there is something which could be all explosive device no one should touch it or even approach it too closely.

Some precautions to be taken after receipt of a Bomb Threat:

1. If time is sufficient or no fixed time has been given by the caller. It is advisable to maintain evacuation for 70 minutes and then organize search after that period, this is normally set to go off within an hour i.e. when the two hands of clock overlap one another.
2. The vehicle gate should be closed down, however, i.e. should be easily accessible to incoming police and fire services.
3. In the event of a bomb warning being given, small parcels and plastic type shopping bags, transistors, toys and other foreign objects left in odd corners or near entrances should at once be suspected and dealt with accordingly.
4. Remove all vehicles from the premises as soon as a bomb threat is received.

General Precautions at all Bombs threat Locations

1. Register all incoming – outgoing persons, vehicles and stores.

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2. Control Entrance of visitors, suppliers and contractors to the administrative block. Ensure a record of the movement of persons and/or vehicles.
3. Do not allow visitors to enter on any pretext without prior confirmation that they are expected/welcome. Arrange confirmation from the reception point/main gate in cases of doubt.
4. Ensure that the standard of housekeeping around buildings is such that unfamiliar objects will at once become noticeable.
5. Establish a central control point which will not be evacuated, unless there is a substantiated positive danger to it. This should have means of communication with outside authorities.
6. It is a safe practice to display near the switch board and in the security room/control
7. At locations where frequent bomb threats are received, it is advisable not to park any visitor's vehicle within the installations/plant. Carefully enforced measures in parking of company vehicles should also be resorted to. No vehicle should be parked close to the plant area where an explosive device can cause immense damage.
8. Repeated dry runs on action to be taken on receipt of bomb threat are the only way to handle a real threat call with calmness and without causing any panic.
9. Discuss the bomb threat procedures/plans with the local police / bomb disposal squad and take their advice on evacuation procedures that they may like to suggest.

Emergency Action for Bomb Threat

- The persons inside the Depot should be evacuated as soon as possible.
- Depot personnel should contact district authorities like collector, police immediately.
- Any new or doubtful thing should not be touched.
- All pipeline and tank valves should be closed and all the operations inside the Depot should be stopped.
- In case of fire, city fire brigade should be called.

2: Earthquake

During Earthquake, if indoors:

- ✓ Take cover under a piece of heavy furniture or against an inside wall and hold on.
- ✓ Stay inside.
- ✓ The most dangerous thing to do during the shaking of an earthquake is to try to leave the building because objects can fall on you.

During Earthquake, if outdoors:

- ✓ Move into the open, away from buildings, street lights, and utility wires.
- ✓ Once in the open, stay there until the shaking stops.

During Earthquake, if in a moving vehicle:

- ✓ Stop quickly and stay in the vehicle.
- ✓ Move to a clear area away from buildings, trees, overpasses, or utility wires.
- ✓ Once the shaking has stopped, proceed with caution. Avoid bridges or ramps that might have been damaged by the quake.

After Earthquake

- ✓ Be prepared for aftershocks. Although smaller than the main shock, aftershocks cause additional damage and may bring weakened structures down. Aftershocks can occur in the first hours, days, weeks, or even months after the quake.
- ✓ Help injured or trapped persons.
- ✓ Give first aid where appropriate.
- ✓ Do not move seriously injured persons unless they are in immediate danger of further injury.
- ✓ Call for help.
- ✓ Listen to a battery-operated radio or television for the latest emergency information.
- ✓ Remember to help your neighbors who may require special assistance--infants, the elderly, and people with disabilities.
- ✓ Stay out of damaged buildings.
- ✓ Return home only when authorities say it is safe.

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- ✓ Use the telephone only for emergency calls.
- ✓ Clean up spilled chemicals or other flammable liquids immediately. Leave the area if you smell gas or fumes.

Note: Guideline shall be followed by National Disaster Management Guidelines (Management of Earthquakes).

Source Site: <https://ndma.gov.in/en/ndma-guidelines>

3: Lighting & Thunderstorm

Before

- ✓ Thunderstorms are invariably accompanied by lightning. A single stroke of lightning has 125, 00, 000 volts of electricity. That's enough power to light a 100-watt light bulb for more than 3 months, or enough to seriously hurt or to kill someone. Know what steps to take in the event of an oncoming thunder storm & lightning. Lightning is something you should not be careless about, so seek a safe shelter immediately! Be warned, lightning can and does strike just about any object in its path. When you see lightning, follow these safety rules.

Indoors

- ✓ Stay or go indoors! If you hear thunder, don't go outside unless absolutely necessary. Stand clear from windows, doors, and electrical appliances.
- ✓ Stay away from anything that could conduct electricity. This includes electric, lines, Electric Instruments, wires etc and phones Unplug appliances well before a storm strikes – never during.
- ✓ Don't use any plug-in electrical instruments. If lightning strikes your building they can conduct the charge to you.
- ✓ Don't use the telephone during the storm. Lightning may strike telephone lines outside. Use the telephone only for emergencies quickly. Avoid contact with piping including sinks, baths and faucets.

Outdoors

- ✓ When outdoors, seek shelter from lightning! Buildings are best for shelter, but if no buildings are available, you can find protection in a cave, ditch, or a campus. Trees are not good cover. Tall trees attract lightning. Never use a tree as a shelter.
- ✓ Stay in your vehicle if you are travelling, vehicles gives you excellent lightning protection. Get in a hard topped car.
- ✓ If you can't find shelter avoid the tallest object in the area. If only isolated trees are nearby, your best protection is to crouch in the open, keeping twice as far away from isolated trees are high. Avoid areas that are higher than the surrounding landscape.
- ✓ Don't use metal objects outside. Keep away from metal objects including bikes, electric or telephone poles, fencing, machinery etc.

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- ✓ Get out of the water. Immediately get out and away from pools, lakes, and other bodies of water.
- ✓ When you feel the electrical charge – if your hair stands on end or your skin tingles- lightning may be about to strike near you. Immediately crouch down and cover your ears. Do not lie down or place your hands on the Ground .
- ✓ Victims of lightning shock are administered CPM (Cardiopulmonary resuscitation) i.e. artificial respiration, if necessary. Seek medical aid.

Note: Guidelines shall be followed by National Disaster Management Guidelines (Guidelines on Prevention & Management of Thunderstorms & Lightning/Squall/ Hailstorm & Strong Winds).

Source Site: <https://ndma.gov.in/en/ndma-guidelines>

4: Flood

- ✓ Stay out of the basement.
- ✓ Stop all jobs outside.
- ✓ Heavy rain many times accompanies high-speed wind. Stop all work at height.
- ✓ Disconnection power supply to all electrical Machines in open yards.
- ✓ Cover all JBs\DBs where chances of water coming to it are there.
- ✓ Keep Gumboot, Raincoat and umbrellas ready.
- ✓ Keep all dewatering pumps ready in working order.
- ✓ Move valuable objects upstairs only if safe to do so, without straining yourself
- ✓ Keep yourself indoors and away from rivers and creeks
- ✓ Stay away from low/lying areas
- ✓ Avoid walking through a waterlogged area on foot; you can get swept away easily.
- ✓ Assemble everyone inside shelters or buildings.
- ✓ Close windows and blinds.
- ✓ Evacuate rooms that might bear the full force of the wind
- ✓ Avoid enclosures that have long roof spans.
- ✓ Keep the office radio tuned to a local station for current advisory information
- ✓ Trained Flood rescue team available.

Note: Guideline shall be followed by National Disaster Management Guidelines (Management of Floods).

Source Site: <https://ndma.gov.in/en/ndma-guidelines>

5: Cyclone

- ✓ Listen to the Transistor for advance information and advice. Allow considerable margin for safety. A cyclone may change direction speed or intensity within a few hours, so stay tuned to the Transistor for updated information.
- ✓ If storm-force winds or severe gales are forecast for your area, then;
 - o Store or secure loose boards, corrugated iron, rubbish tins or anything else that could become dangerous.
 - o Tape up large windows to prevent them from shattering.
 - o Move to the nearest shelter or vacate the area if ordered / warned by the appropriate government agency.
- ✓ When the storm hits;
 - o Stay indoors and take shelter in the strongest part of your plant/office.
 - o Listen to the Transistor and follow instructions.
 - o Open windows on the sheltered side of the plant /office, if the roof begins to lift.
 - o Find shelter if you are caught out in the open.
 - o Do not go outside or into a beach during a lull in the storm.
- ✓ Cyclone is often accompanied by large storm surges from the ocean and the precautions listed for floods should be taken if you live near the coast.

Note: Guideline shall be followed by National Disaster Management Guidelines (Management on Management of Cyclones).

Source Site: <https://ndma.gov.in/en/ndma-guidelines>

6: Poisoning, First Aid & Antidotes

☐ Poisoning

- Some substances when taken into the body in fairly large quantities can be dangerous to health or can cause death. Such substances are poisons.
- Poisons get into body by swallowing or by breathing poisonous gases, or by injection & skin contact.

● Poisoning by Swallowing

Sometimes acids, alkalis, disinfectants etc., are swallowed by mistake. They burn the lips, tongue, throat, and food passage and stomach and cause great pain. Other swallowed poisons cause vomiting, pain and later on diarrhea. Poisonous fungi, berries, metallic poisons and stale food belong to the latter group some swallowed poisons affect the nervous system. To this group belong (a) alcoholic (methylated spirit, wine, whisky etc.) when taken in large quantities, and (b) tablets for sleeping, tranquilizers, and pain killing drugs (aspirin or largecil). All these victims must be considered as seriously ill. The symptoms are either delirium or fits or coma (unconsciousness). Some poisons act on nervous system-(belladonna, strychnine).

● Poisoning by Injection

Poisoning get into the body through injection bites of poisonous snakes and rabid dogs, or stings by scorpions and insects. Danger to life is again by choking and coma.

✓ General first Aid in Poisoning

- Poisoning is a serious matter. Patient must be transfer to a hospital or a doctor be with a note of the findings and, if possible, the name of the poison.
- Preserve packets or bottles which you suspect contained the poison and also any vomits, sputum etc., for the doctor to deal with.
- If unconscious - (a) do not induce vomiting (b) Make the casualty lie on his back on a hard, flat bed without any pillow and turn the head to one side. As there is no pressure on the stomach and the neck is horizontal, the vomited matter will not get into the voice box and the tongue will not close the air passage. This is also the best posture for giving artificial respiration, if needed (c) Sometimes when there is excess of vomiting the three-quarter-prone posture (i.e.. the casualty is made to lie on his side with one leg

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stretched, the other bent at knee and thigh) will make things easier for the casualty. (d) If breathing is very slow or stopped, start artificial respiration and keep it up till the doctor comes.

- If conscious- (a) Aid vomiting by tickling the back of throat or make him drink tepid water mixed with 2 tablespoons of common salt for a tumbler of water. (b) Even if conscious, when the poison is corrosive do not induce vomiting. Signs of corrosive: Lips, mouth and skin show gray white or yellow, patches that are to be looked for: acids, alkalis etc., cause such burns. First aid: Factories, which use certain poisons, shall have the respective antidotes ready and displayed in an easily available place. The personnel should be taught about the use of antidotes- so that anyone can render assistance in case of emergency.
- The poison must be diluted by giving large quantities of cold water (chilled, if possible). This will dilute the irritant and delay absorption and will replace fluid lost by vomiting. Tender coconut water will be even better as this will be a food and also a diuretic.
- Soothing drinks should be given. Milk, egg beaten and mixed with water or sojee congee are good for the purpose.

✓ **Carbon Monoxide Poisoning**

- Carbon monoxide poisoning may occur in the chemical industry where it is used for synthesizing certain organic compounds (acetone, methyl alcohol, phenol etc.)
- The early symptoms are headache, heaviness in the head, nausea, and dizziness, noise in the ears, and palpitation. Later muscular weakness and vomiting occur. If the victim remains in the poisonous atmosphere, the weakness intensifies, somnolence, clouding of consciousness, and despond develop. The skin turns pale and sometimes bright and red spots appear on the body. In further exposure to carbon monoxide the patient's respiration becomes shallow, convulsions develop, and paralysis of the respiratory center terminates in death.
- **First aid:** The victim must be immediately removed from the poisonous surroundings, better into the open air in warm weather. If his breathing is weak and shallow or arrested, artificial respiration should be continued until adequate natural breathing or the true signs of biological death appear. Rubbing should be carried out and hot-water bottles applied to the legs. A brief whiff of ammonium hydroxide is beneficial. A patient with severe carbon

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monoxide poisoning must be immediately hospitalized in order to prevent possible grave complications in the lungs and nervous system which may develop later.

✓ **Poisoning with Acids and Alkalis**

- In poisoning with concentrated acids and alkalis, a grave condition rapidly develops due, in the first place, to extensive burns in the mouth, throat, oesophagus, stomach, and often the larynx. Later, the absorbed toxins affect the vital organs (e.g. liver, kidneys, lungs, or heart). Concentrated acids and alkalis are able to destroy tissues. The mucous membranes, being less resistant than the skin, are destroyed and necrosis occurs more rapidly involving deeper layers.
- Burns and scabs form on the mucous membrane of the mouth and lips. When a burn due to sulfuric acid the scabs are black, in a burn due to nitric acid they are grayish-white.
- Alkalis more easily penetrate the skin and affect deeper layers. The burnt surface is loose, decomposed, and whitish in colour.
- As soon as an acid or alkali is swallowed the patient feels strong pain in the mouth, behind the breastbone and in the epigastrium.
- When laid he tosses in bed from unbearable pain. There is almost always tormenting vomiting often with admixtures of blood. Pain shock rapidly develops. The larynx may swell, and asphyxia develops. When an acid or alkali is taken in great amount cardiac weakness and collapse rapidly develops. The larynx may swell, and asphyxia develops. When an acid or alkali is taken in great amounts cardiac weakness and collapse rapidly develop.
- Poisoning with ammonium hydroxide takes a grave course. The pain syndrome is attended by asphyxia because the airways are also affected.
- The person who is rendering first aid must find out at once which chemical caused the poisoning because the treatment varies according to the type of poison.
- If the poisoning was caused by concentrated acids and the symptoms of esophageal or gastric perforation are absent the stomach should be lavaged through a thick stomach tube using for it 6-10 liters of warm water mixed with magnesium oxide (20 g per liter of liquid),

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or lime water. Sodium carbonate is contraindicated for a gastric lavage. "Minor lavage", i.e. drinking 4-5 glasses of water and then inducing vomiting, will not alleviate the patient's condition and sometimes may even promote absorption of the poison.

✓ **Alcohol Poisoning**

- Alcohol taken in considerable (toxic) quantities may cause fatal poisoning. A fatal dose of ethyl alcohol is 8 g per 1 kg body weight. Alcohol affects the heart, blood vessels, gastrointestinal tract, liver, kidneys, and mainly the brain. In a case of severe intoxication, sleep is followed by an unconscious state. Vomiting and involuntary urination are frequent symptoms. The respiratory center is drastically inhibited, which is manifested by irregular breathing. Death ensues when the respiratory center becomes paralyzed.
- **First aid.** Fresh air should be provided (a window open or the victim taken outside), vomiting induced by "minor lavageas" If the patient is still conscious, he should be given hot strong coffee. A respiratory arrest is managed by artificial respiration

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Common Poisons and Their First Aid

Poison	First Aid
Acacia, yellow, willow thicket	Gastric lavage with water, adding activated carbon. Saline purgative. Rest, Warming of the body.
Ammonium hydroxide	Gastric lavage with copious amount of water, adding citric or acetic acid. Orally: 1 percent solution of either of these acids.
Aniline (Aniline dyes, Nitrobenzene, Tolidine)	In natural breathing fresh air and inhalation of oxygen. In respiratory arrest: artificial respiration. In internal poisoning: gastric lavage adding activated carbon, administration of saline purgative (30 g) and Vaseline oil (150 ml); emetics (apomorphine). Milk, oils and spirit are forbidden.
Arsenic and its compounds	Copious gastric lavage with water adding either activated carbon or magnesia solution (20 g per one liter of water), or arsenic antidote solution (100 ml per 2-4 liters of water). Internally repeated every 5 minutes 1 tablespoonful of arsenic antidote or metal antidote, magnesia. Saline purgative, milk, oil, Warming of the body, hot water bottle on the belly.
Atropine (Beladonna, Henbane, thorn apple)	Gastric lavage with water, adding either activated carbon or potassium permanganate solution (1 : 1000); introduction of saline purgative through a stomach tube. Bed-rest; cold to the head. In weakness: caffeine tablets; in respiratory disorders; artificial respiration and oxygen inhalation.
Benzene, Kerosene, Acetylene	In poisoning with vapors: inhalation of oxygen, fresh air, artificial respiration, warming of the body: internally: caffeine, ascorbic acid (vitamin C). In internal poisoning: the same treatment and gastric lavage with water and activated carbon; purgative: castor oil, and black coffee and hot milk to drink.

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✓ Specific (Antidote) Treatment of Acute Poisoning

Poison	First Aid
Acids	Diphoterine
Aniline, Potassium permanganate	Methylene blue (1 percent solution), ascorbic acid (5 per cent solution)
Anticoagulants: heparin and other agents	Protamine sulphate (1 percent solution), vitamin K (1 percent solution)
Atropine	Pilocarpine (1 percent solution), proserine (neostigmine methyl sulphate) (0.05 per cent solution)
Barbiturates	Beme Ground Fluoride (0.5 percent solution)
Barium and its salts	Magnesium sulphate (100 ml of 30 per cent solution)
Cardiac glycosides	Tetacin calcium (sodium calcium edetate) (10 per cent solution), potassium chloride (0.5 per cent solution), atropine sulphate (0.1 per cent solution)
Carbon monoxide, Hydrogen sulphate, Carbon disulphide	Inhalation of oxygen
Formalin	Ammonium chloride (3 per cent solution) or ammonium carbonate (3 per cent solution)
Hydrocyanic(prussic) acid	Sodium nitrite (1 percent solution), sodium thiosulphate (30 per cent solution), chromosome (1 percent methylene blue in 25 percent glucose solution)
Snake Bite	Anti Snake Venom

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✓ Antidotes And Emergency Treatment-Table

Sr.No.	Name of Chemical	Treatment/Antidotes
1	Acids	Ingestion: Give the person half to one glass of milk/water within 30 minutes of ingestion. Antacids like Aluminum hydroxide or milk of Magnesia. Do not induce vomiting. Dermal/Eye exposure: Wash with plenty of water or saline for 15-20 minutes Inhalation: Move to fresh air. 100% oxygen. Complete rest for 24-48 hours. Note: Do not use alkali to neutralize acid
2	Alkali	Ingestion: Give the person half to one glass of milk/water. Do not induce vomiting Dermal/Eye exposure: Wash with plenty of water or saline for 15-20 minutes Inhalation: Supportive treatment Note: Do not use acid to neutralize alkali
3	Aniline, Nitrobenzene, Toluidine and other dye intermediates	Cyanosis occurs when methemoglobin levels exceed 15%. Give 1-2 mg/kg of 1% Methylene blue I/V slowly over a period of five minutes. Repeat doses of methylene blue may be needed . Do not exceed the total dose of 7 mg/kg.
4	Alkali	Ingestion: Give the person half to one glass of milk/water. Do not induce vomiting Dermal/Eye exposure: Wash with plenty of water or saline for 15-20 minutes Inhalation: Supportive treatment Note: Do not use acid to neutralize alkali
5	Ammonia	Inhalation: Move the person to fresh air Dermal/Eye exposure: Wash with plenty of water or saline for 15-20 minutes Ingestion: Give the person half to one glass of milk/water. Do not induce vomiting
6	Aniline, Nitrobenzene, Toluidine and other dye intermediates	Cyanosis occurs when methemoglobin levels exceed 15%. Give 1-2 mg/kg of 1% Methylene blue I/V slowly over a period of five minutes. Repeat doses of methylene blue may be needed. Do not exceed the total dose of 7 mg/kg.
7	Antimony	A. Treatment is primarily symptomatic. There are no specific antidotes, but DMSA, D-penicillamine, BAL, and DMPS (Unithiol) have been used

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		as chelating agents. Metallic antimony is not highly toxic and usually only causes gastrointestinal effects. Various salt forms may cause significantly more irritation, and stibine is a highly toxic, hemolytic gas.
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Quick Reference for Spill Clean-ups

Chemical Spilled	Clean-Up Procedures
Acids, organic	Apply sodium bicarbonate. Adsorb with spill pillow or vermiculite.
Acids, inorganic	Apply sodium bicarbonate/Calcium Oxide or sodium carbonate/calcium oxide. Adsorb with spill pillow or vermiculite. NOTE: Hydrofluoric acid is an exception to the general practice, see below.
Acid Chlorides	Do not use water. Absorb with sand or sodium bicarbonate.
Aldehydes	Absorb with spill pillow or vermiculite.
Aliphatic Amines	Apply sodium bisulfite. Adsorb with spill pillow or vermiculite.
Aromatic Amines	Absorb with spill pillow or vermiculite. Avoid skin contact or inhalation.
Aromatic Halogenated Amines	Absorb with spill pillow or vermiculite. Avoid skin contact or inhalation.
Azides	Absorb with a spill pillow or vermiculite. Neutralize with 10% ceric ammonium nitrate solution.
Bases (caustic alkalis)	Neutralize with acid, citric acid, or commercial chemical neutralizers. Absorb with spill pillow or vermiculite.
Carbon Disulfide	Adsorb with spill pillow or vermiculite.
Chlorohydrins	Absorb with spill pillow or vermiculite. Avoid skin contact or inhalation.
Cyanides	Cover solids with damp paper towel and push onto dust pan or use a HEPA filter vacuum to collect the solids. Absorb liquids with spill pillow or vermiculite.
Halides, organic or inorganic	Apply sodium bicarbonate.
Halogenated Hydrocarbons	Absorb with spill pillows or vermiculite.
Hydrazine	Avoid organic matter. Apply "slaked lime". Adsorb with spill pillow or vermiculite.
Hydrofluoric Acid	Adsorb with calcium carbonate (limestone) or lime (calcium oxide) rather than sodium bicarbonate. The use of sodium bicarbonate will lead to the formation of sodium fluoride, which is considerably more toxic than calcium fluoride. Be careful in the use of spill pillows used to adsorb the acid. Some pillows contain silicates which are incompatible with hydrofluoric acid.
Inorganic Solutions Salt	Apply soda ash
Mercaptans/Organic Sulfides	Neutralize with calcium hypochlorite solution. Absorb with spill pillow or vermiculite.
Nitriles	Sweep up solids. Absorb liquids with spill pillows or vermiculite.
Nanoparticles	Pick up particles with a HEPA or ULPA filtered vacuum.
Nitro compounds/Organic Nitriles	Absorb with spill pillow or vermiculite. Avoid skin contact or inhalation.

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Chemical Spilled	Clean-Up Procedures
Oxidizing Agents	Apply sodium bisulfite.
Peroxides	Absorb with spill pillow or vermiculite.
Phosphates, organic and related	Absorb with spill pillow or vermiculite.
Reducing Substances	Apply soda ash or sodium bicarbonate.

7: Spillage Control

✓ General Guidelines for Responding to spill or Leak

- Shut off ignition sources; no flares, smoking, or flames in hazardous area
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch spilled material. Do not touch damaged containers or move anything, except to rescue people.
- Detour pedestrian and vehicular traffic.
- Detain anyone who has been in the area of the spill or area of suspected contamination (except for victims requiring emergency medical care).
Delay cleanup until the authorities arrive.
- Minimize dispersal of material (by wind, rain, etc.) by covering with a tarp, plastic sheet, etc.
Tie down or use weights as necessary.
- If a right-of-way must be cleared before radiological emergency assistance arrives, move vehicles and debris the shortest distance required to open a pathway. Then, before permitting traffic to pass on the cleared path, spillage should be washed or wetted and swept to the edge with a minimum dispersal of wash water and spilled material.
- If radiation protection experts are not able to get to the scene within a reasonable period of time because of weather or other constraints and prompt action is required, do the following:

Small Spills: Cover with sand or other non-combustible absorbent material and place into containers for later disposal.

Large Spills: Build a dyke far ahead of the spill to contain spilled material for later disposal & follow SOP written in plant emergency manual.

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✓ Scrubbing / Neutralising/ Inactivating Media

Sr.no	Chemical Gases	Scrubbing, Neutralizing or Inactivating Media	Material of Construction
1.	Sulfur dioxide SO ₂	Caustic soda solution	SS316L scrubber.
2.	Nitrous acid fumes	Caustic/Thiosulfate	SS304/CS
3.	Hydrogen H ₂	Vent Hold Tank, Steam Sparger, N ₂ Purging, Flame Arrestor	CS
4.	Organic gasses	Water/Caustic soda	SS316L
5.	Sulfuric acid (H ₂ SO ₄)	Lime/Caustic/Water	PP FRP
6.	Nitric acid (HNO ₃)	Lime/Caustic/Water	PP FRP
7.	Molten Sulphur (S)	Lime/Caustic/Water	PP FRP
8.	Sulfur trioxide/Oleum	90% Sulfuric acid	SS316L/CS

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8: Oil Spill on Land

- When oil is spilled on land, attempt to contain the spilled material and prevent further spread. Dikes or barriers of earth, sand or clay materials can be quickly constructed with bulldozers or similar equipment. Motorized equipment should not be used near flammable or explosive vapors or gasses. Adequate shovels may be arranged for manual cleaning.
- Once the spilled material has been contained, the next step is to remove it from the environment.
- Following methods shall be adopted for Ground Floors clean-up of contaminated Ground Floor surfaces:
 - Use of compatible pumps, hoses, and tanks, drums, or vacuum trucks to collect pools of accumulated liquids.
 - Use of soil, sand, clay, straw, saw dust, fly ash, cement powder, vermiculite, or commercially available mineral or plastic sorbing materials to absorb and mop up liquid residues. Dispose-off the same as per procedure.
 - Removal of contaminated surface layers (where cleaning in place is not practical) by shovels or mechanical means.
 - Application of special mutant bacterial cultures to contaminated soils and liquids to "digest" contaminants over a period.

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9: Special emergency situations

✓ Emergency due to Visit/Inspection of outside plant by employee

Company employees visiting outside plant for inspection/maintenance related activity are at risk for any road accident.

Step in case of road accident -

- Provide first aid to injured
- Contact nearby site / company. It will provide help & make arrangements for medical assistance & treatment.

Company vehicles are driven by experienced drivers & over speeding are avoided.

✓ Emergency due to raw material/finished goods transport at outside

Raw material & finished goods are transported through vehicles. Emergency situations will arise due to road accidents.

Step in case of emergency:

- Inform to commercial department & Transporter
- Follow emergency steps given in TREM card in case of any leakage/Spillage
- Contact nearby site. It will provide help & make arrangements for handling emergency situations.

✓ Food poison

- Inform personal department.
- Contact Occupational health center for medical treatment.
- If required transfer victim to the nearby hospital through vehicle & avail treatment.

✓ Riots:

Surviving a riot comes down to these basic actions:

- Avoid them in the first place
- Don't let curiosity get the best of you
- Practice your situational awareness skills
- If with companions stick together – safety in numbers

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- If caught in the middle, move away from the violence with the least amount of attention as possible
- Get to know your neighborhoods and potential escape routes.

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✓ ETP overflow:

When ETP will be overflow, following actions to be taken in emergency:

- Stop the inlet immediately.
- If secondary containment is available, then proceed ahead.
- Stop the pumps of the inlet.
- Outlet of the tank which is overflowing should be fully open till effluent pass out.

✓ Emergency shutdown:

- Remove from heat
- Stop adding new substances.
- Stop the mixing process.
- To dilute the substance inside.
- Infuse with water.
- Introducing inert gas (nitrogen).
- Moving the chemical in the container.
- Deactivated catalyst.

Adopt whichever of the above methods is more effective, convenient and safe to suit the situation. Removing the heat means turning off the heating as well as starting the cooling

✓ Biological emergencies:

Before-

- Watch television, listen to radio, or surf the internet for official news of any outbreak.
- Practice good hygiene and keep your premises clean
- Use mosquito nets/repellents at night
- Boil water before drinking. Chlorinate it, if possible.
- Thoroughly wash all vegetables/fruits before cooking/eating
- Use insecticides to contain the vectors
- Don't consume stale or contaminated food products
- Immediately report any sickness with unusual and/or suspicious symptoms in the family neighborhood to health authorities
- Seek medical attention if you are sick; keep a stock of your regular prescribed medicines.

During-

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- Keep distance from and avoid direct contact with the affected person
- Avoid going to crowded areas
- Use a respiration mask for protection

After-

- Follow official instructions and help authorities dispose of contaminated items such as food, poultry, crops, vectors and other materials, if advised.
- Ensure that all the required immunizations are done and necessary precautions taken.

✓ Chemical emergencies:

For individuals

Before-

- Don't mix chemicals, even common household products. Some combinations, such as ammonia and bleach, can create toxic gasses.
- Store chemical products properly.
- Store non-food products tightly closed in their original containers for easy identification.
- Dispose of unused chemicals properly.
- Improper disposal is harmful as it may contaminate the local water supply.
- Do not smoke or light fire in the identified hazardous areas.
- Avoid staying near industries which process hazardous chemicals, if possible.
- Keep emergency contact numbers handy,
- including that of nearby hazardous industries.
- Participate in capacity building programmes organized by the government/ voluntary organizations / industrial units.
- Identify safe shelters along with safe and easy access routes.
- Prepare a family disaster management plan.
- Prepare an emergency kit with essential items for safety and survival.

During-

- Do not panic. Evacuate quickly through the designated escape route.
- Keep a wet piece of cloth on your face while evacuating.

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- If you are unable to evacuate, close all the
- doors and windows tightly.
- Once you are at a safe location, inform Emergency Services (Police, Hospital, etc.).
- Do not spread and/ or believe in rumors.

After-

- Do not consume uncovered food/ water, etc.
- Change into fresh clothes after reaching a safe place/ shelter, and wash hands properly.

Community

- Make the entire neighborhood aware of chemical hazards and the first aid required to treat them.
- Listen to radio, watch TV and surf
- The Internet for official news and announcements.
- Provide accurate information to government officials.
- Sensitize authorities about the exact
- requirement of protective equipment for dealing with the hazard present.

✓ Nuclear- Radiological Emergencies:

Before-

- Learn about nuclear radiation hazards.
- Discuss nuclear radiation safety with children, family, friends and neighbours
- Keep emergency contact numbers handy.

During-

- Go indoors. Close doors/windows. Stay inside.
- Switch on the radio/television and look out for public announcements from your local authority.
- Cover all food, water and other consumables. Eat only such covered items.
- If you are out in the open, cover your face and body with a wet cloth. Return home quickly, remove footwear before entering. Take a bath and wear fresh clothes. Keep the removed

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footwear and clothes packed in a polythene bag to be checked for contamination by authorities.

- Follow official instructions
- During prolonged contamination issues, try to feed milking cattle contamination• free fodder and water.

Don'ts-

- Do not panic.
- Do not spread and/ or believe in rumours.
- Do not stay outside/or go outside unless it is really necessary.
- Do not use water from open wells/ponds; exposed crops, vegetables, food or milk.

✓ Transport Emergency:

The Vulnerability of hazardous chemicals in transit is a moving circle or is known as corridor.

The moving / transporting vehicle is the center of this circle.

In case of emergency in transit, it should be communicated to:

M/s. Aarti Industries Ltd. (Diamond Division), Dahej

Aarti Logistic Control Room

Mob. No. 18004190272, +91 7228809573

Web. – www.aarti-industries.com

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Emergency action code/HAZCHEM code:

United Nation has also make one code for chemical emergency during road transit of hazardous chemicals. This is called the HAZCHEM number. The word arrived from hazardous chemicals. This code is also known as Emergency Action Code (EAC). Chemical accident involve leak, spill, release, fire, explosion, exposure or combination of any of them. The Code is explained below.

2 to 3 digit code

First digit numeric, rest are alphabets (including "space" or "blank")

Meaning of the first digit

1 - Jet, 2 - Fog, 3 - Foam, 4 - Dry agent

HAZCHEM CODE

1. JETS
2. FOG
3. FOAM
4. DRY AGENT

P	V	FULL	DILUTE
R			
S	V	BA	
S		BA for FIRE only	
T		BA	CONTAIN
T		BA for FIRE only	
W	V	FULL	
X			
Y	V	BA	
Y		BA for FIRE only	
Z		BA	
Z		BA for FIRE only	

E CONSIDER EVACUATION

Notes for Guidance

FOG : In the absence of fog equipment a fire spray may be used.

DRY AGENT : Water must not be allowed to come into contact with the substances at risk.

V : Can be violently or even explosively reactive

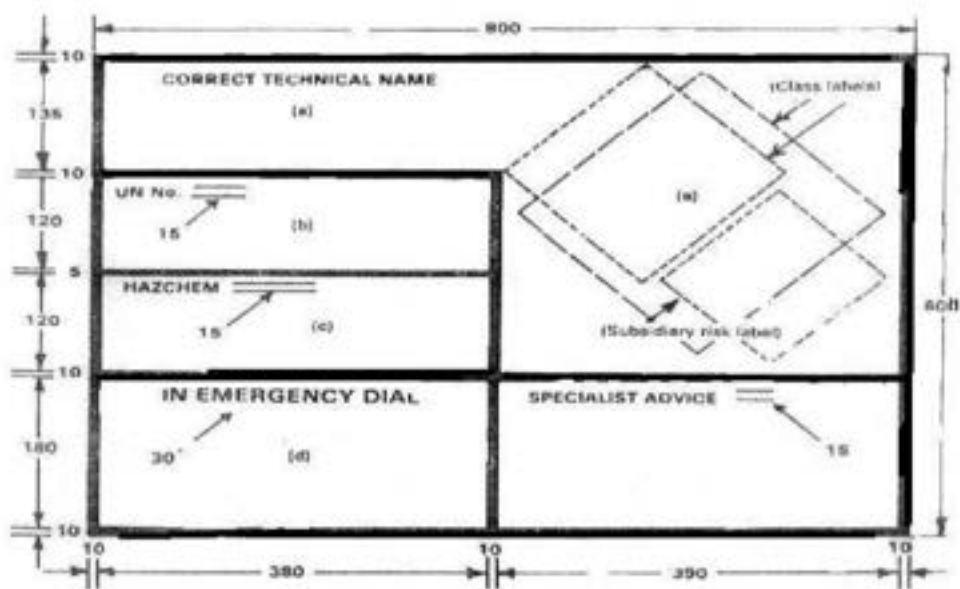
FULL : Full body protective clothing with BA.

BA : Breathing apparatus plus protective gloves.

DILUTE : May be washed to drain with large quantities of water

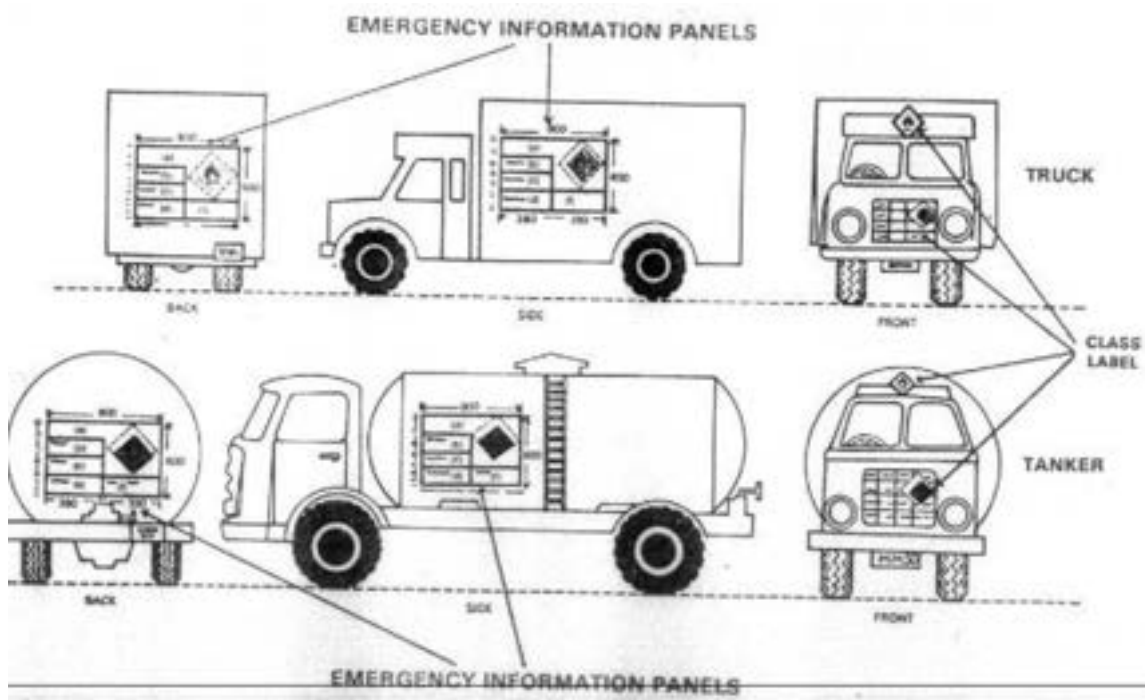
CONTAIN : Prevent by any means available, the spillage from entering drains or water course.

EMERGENCY INFORMATION PANEL



(All dimensions are expressed in millimeters)

DISPLAY OF EMERGENCY INFORMATION PANEL




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The international classification system recommended by UNCETDG and also adopted by GHS Committee is given in **Table-1** below.

Table-1



UN International Classification System

Substance	UN Class	Division	Type of Hazard	Hazardous Properties
Dynamite, Trinitrotoluene (TNT), Ammonium Nitrate/ Fuel Oil	Class 1: Explosives 	Division 1.1	Explosives with a mass explosion hazard	A substance which is capable by chemical reaction in itself of producing gas at such a temperature, pressure and such a speed as could cause damage to surroundings or which is designed to produce an effect by heat, light, sound, gas or smoke or a combination of these as a result of non-detonative self-sustaining exothermic chemical reactions.
Hand Grenades		Division 1.2	Explosives with a projection hazard	
Display/ commercial grade fire works,, Rocket Propellant		Division 1.3	Explosives with predominantly fire hazard	
Consumer Fireworks, Ammunition, Railway Fog Signals(Detonators/Torpedo), Model Rocket Motors		Division 1.4	Explosives with no significant blast hazard	
Type E Water emulsion blasting agents		Division 1.5	Very insensitive explosives	
		Division 1.6	Extremely insensitive explosive articles	
Oxygen, Propane, Nitrogen	Class 2: Gases	Division 2.1	Non Flammable Gases	At 50°C has a vapour pressure greater than 300 kilopascals absolute, or is completely gaseous at 20°C and at a standard pressure of 101.3 kilopascals.
		Division 2.2	Flammable Gases	




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Substance	UN Class	Division	Type of Hazard	Hazardous Properties
		Division 2.3	Poison Gases	
Alcohol, Acetone, Petrol, Xylene	Class 3: Flammable Liquids. 	Division 3.1	Flashpoint below – 18°C (0°F)	<p>A liquid with a flash point (a) above 61°C and which is carried at a temperature above its flash point: or (b) of 61°C or below except-</p> <ul style="list-style-type: none"> a liquid with a flash point equal to or more than 35°C which does not support combustion; a viscous substance; or a flammable gas.
		Division 3.2	Flashpoint – 18°C and above but less than 23°C (73°F)	
		Division 3.3	Flashpoint of 23°C and up to 61°C (141°F)	
Sulphur	Class 4: Flammable Solids, Spontaneously Combustible Materials, and Materials that are Dangerous when wet.	Division 4.1	Flammable Solids	<ul style="list-style-type: none"> A solid which is steadily combustible, or may cause/contribute towards fire through friction; a self-reactive or related substance which is liable to undergo a strongly


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Substance	UN Class	Division	Type of Hazard	Hazardous Properties
	 <p>Subclass 4.1: Flammable solids</p> <p>Subclass 4.2: Spontaneously combustible solids</p> <p>Subclass 4.3: Dangerous when wet</p>			<p>exothermic reaction;</p> <ul style="list-style-type: none"> a desensitised explosive where the explosive properties have been suppressed.
Cotton, Carbon, Phosphorus		Division 4.2	Spontaneously combustible materials	A substance which is liable to spontaneous combustion under conditions met in carriage or liable to self-heating when in contact with air, and liable to catch fire.
Lithium, Sodium, Potassium		Division 4.3	Material that are Dangerous when wet	A substance which in contact with water is liable to become spontaneously combustible or to give off a flammable gas
Hydrogen Peroxide, Ammonium Nitrate, Potassium Permanganate	<p>Class 5: Oxidizers and Organic Peroxides</p>  <p>Subclass 5.1: Oxidizing agent</p> <p>Subclass 5.2: Organic peroxide oxidizing agent</p>	Division 5.1	Oxidisers	A substance other than an organic peroxide, which although not necessarily combustible, may by yielding oxygen or by a similar process cause/contribute to the combustion of other material.
Polyester Resin/Fillers		Division 5.2	Organic Peroxides	A substance which is - (a) an organic peroxide; and (b) an unstable substance which may undergo exothermic accelerating decomposition.
	<p>Class 6: Poisonous and Etiologic (Infectious) Materials</p>	Division 6.1	Poisonous Materials	A substance which either contains viable micro-organisms that are known or believed to cause disease in animals or humans, or genetically-modified micro-organisms and organisms which may be infectious.
Certain Bacteria/ Viruses		Division 6.2	Harmful Substances	
		Division 6.3	Etiologic (Infectious) Materials	

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Substance	UN Class	Division	Type of Hazard	Hazardous Properties
	 <p>Subclass 6.1: Poison</p> <p>Subclass 6.6: Biohazard</p>			
Uranium Hexafluoride	Class 7: Radioactive Materials  <p>Class 7: Radioactive</p>		Radioactive Material	A substance which meets the criteria in section I(I) of the Radioactive Material (Road Transport) Act 1991.
Acids, Ammonia	Class 8: Corrosives  <p>Class 8: Corrosive substances</p>		Corrosive Material	<p>A substance which by chemical action will -</p> <ul style="list-style-type: none"> • cause severe damage when in contact with living tissue; • cause damage to other freight or equipment on the vehicle if leakage occurs.

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

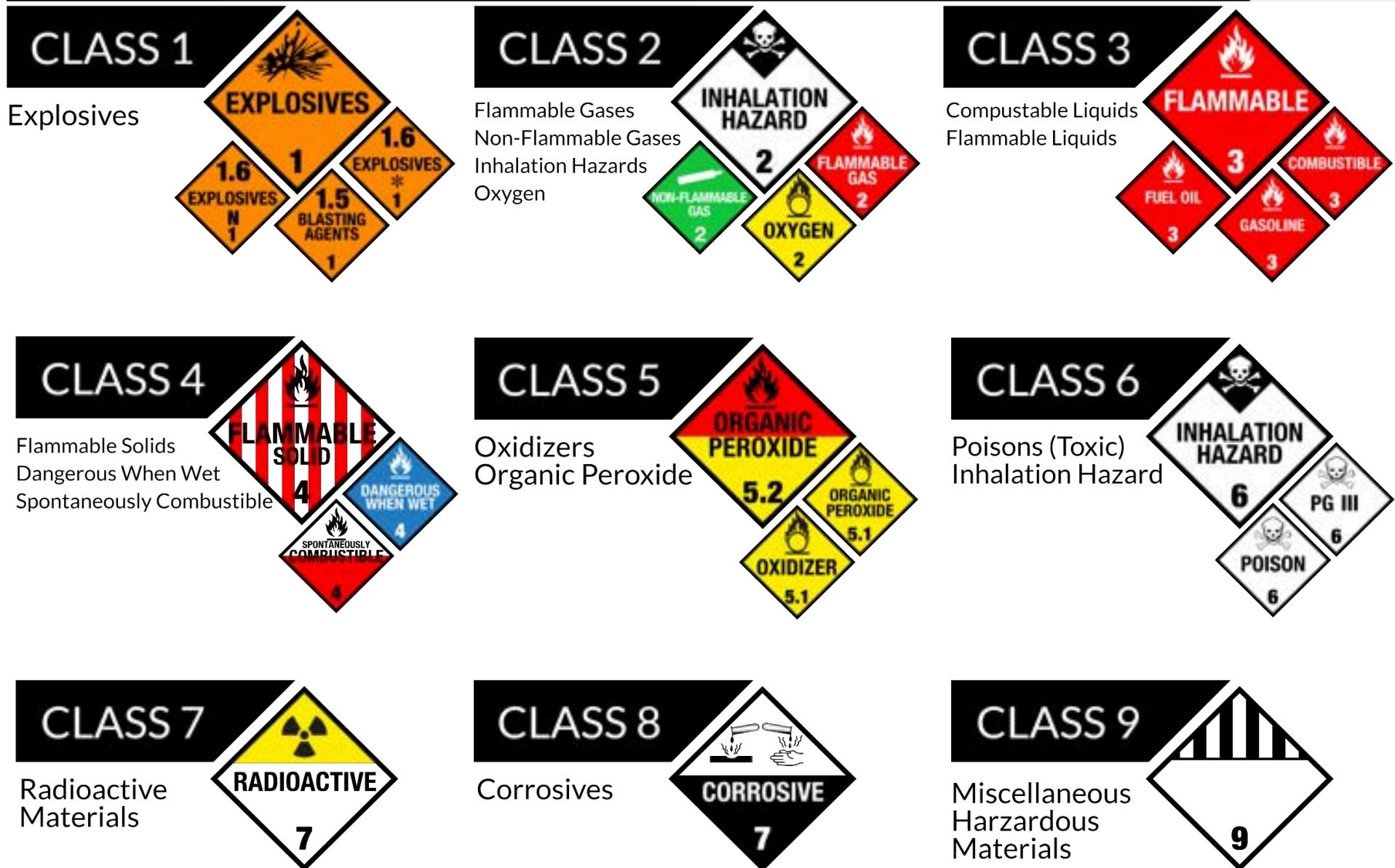
Substance	UN Class	Division	Type of Hazard	Hazardous Properties
Carbon Dioxide, Lithium Batteries	Class 9: Miscellaneous Hazardous Materials 		Miscellaneous Hazardous Materials	<p>A substance which is listed in the ACL, and which may cause a risk to health or safety during carriage, whether or not it has any of the characteristic properties listed above, or a substance which is hazardous to the environment, but excluding any substance which -</p> <ul style="list-style-type: none"> • is an explosive or radioactive material; • possesses any of the hazardous properties of any other classification; or • constitutes dangerous goods for any other reason.

The pictogram, **hazard-warning diamonds** may also bear an approved inscription quoting the hazard and /or the United Nations hazard class number. The basic principle however, is that the shape, colour and pictogram convey a clear message of danger. Pictograms overcome language difficulties and provide a warning to the general public to keep away. Further, in an accidental situation, the emergency services are provided information about the primary hazard likely to be encountered. In India, recommendations of the TDG committee of Experts have been incorporated in the Motor Vehicle Rules, 1989.

DANGEROUS GOODS CLASSIFICATION

 <p>Subclass 1.1: Explosives with a mass explosion hazard</p>	 <p>Subclass 1.2: Explosives with a severe projection hazard</p>	 <p>Subclass 1.3: Explosives with a fire hazard</p>	 <p>Subclass 2.1: Flammable Gas</p>	 <p>Subclass 2.2: Non-Flammable Gas</p>	 <p>Subclass 2.3: Poisonous Gases</p>
 <p>Subclass 1.4: Minor fire or projection hazard</p>	 <p>Subclass 1.5: An insensitive substance with a mass explosion hazard</p>	 <p>Subclass 1.6: Extremely insensitive articles</p>	 <p>Class 3: Flammable Liquids</p>	 <p>Subclass 4.1: Flammable solids</p>	 <p>Subclass 4.2: Spontaneously combustible solids</p>
 <p>Subclass 5.1: Oxidizing agent</p>	 <p>Subclass 5.2: Organic peroxide oxidizing agent</p>	 <p>Subclass 6.1: Poison</p>	 <p>Subclass 6.2: Biohazard</p>	 <p>Class 7: Radioactive</p>	 <p>Class 8: Corrosive substances</p>
					 <p>Class 9: Miscellaneous dangerous substances and articles</p>

Hazardous Material Placards









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Actions in the event of an accident or emergency




In the event of an accident or emergency that may occur or arise during carriage, the members of the vehicle crew shall take the following actions where safe and practicable to do so:

- Apply the braking system, stop the engine and isolate the battery by activating the master switch where available;
- Avoid sources of ignition, in particular, do not smoke or switch on any electrical equipment;
- Inform the appropriate emergency services, giving as much information about the incident or accident and substances involved as possible;
- Put on the warning vest and place the self-standing warning signs as appropriate;
- Keep the transport documents readily available for responders on arrival;
- Do not walk into or touch spilled substances and avoid inhalation of fumes, smoke, dusts and vapours by staying up wind;
- Where appropriate and safe to do so, use the fire extinguishers to put out small/initial fires in tyres, brakes and engine compartments;
- Fires in load compartments shall not be tackled by members of the vehicle crew;
- Where appropriate and safe to do so, use on-board equipment to prevent leakages into the aquatic environment or the sewage system and to contain spillages;
- Move away from the vicinity of the accident or emergency, advise other persons to move away and follow the advice of the emergency services;
- Remove any contaminated clothing and used contaminated protective equipment and dispose of it safely.



On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	Hazard characteristics	Additional guidance
   Explosive substances and articles	May have a range of properties and effects such as mass detonation; projection of fragments; intense fire/heat flux; formation of bright light, loud noise or smoke. Sensitive to shocks and/or impacts and/or heat.	Take cover but stay away from windows.
 Explosive substances and articles	Slight risk of explosion and fire.	Take cover.
  Flammable Gases	Risk of fire. Risk of explosion. May be under pressure. Risk of asphyxiation. May cause burns and/or frostbite. Containers may explode when heated.	Take cover. Keep out of low areas.




On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	Hazard characteristics	Additional guidance
 <p>Non-Flammable, Non -Toxic Gas</p>	<p>Risk of asphyxiation.</p> <p>May be under pressure.</p> <p>May cause frostbite.</p> <p>Containments may explode when heated.</p>	<p>Take cover.</p> <p>Keep out of low areas.</p>
 <p>Toxic Gas</p>	<p>Risk of intoxication. May be under pressure.</p> <p>May cause burns and/or frostbite. Containments may explode when heated.</p>	<p>Use emergency escape mask.</p> <p>Take cover.</p> <p>Keep out of low areas.</p>
 <p>Flammable Liquids</p>	<p>Risk of fire.</p> <p>Risk of explosion.</p> <p>Containments may explode when heated.</p>	<p>Take cover.</p> <p>Keep out of low areas.</p> <p>Prevent leaking substances from running into the aquatic environment or the sewage system.</p>




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Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	Hazard characteristics	Additional guidance
 <p>Flammable solids, self-reactive substances and desensitized explosives 4.1</p>	<p>Risk of fire. Flammable or combustible, may be ignited by heat, sparks or flames.</p> <p>May contain self-reactive substances that are liable to exothermic decomposition in the case of heat supply, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours.</p> <p>Containments may explode when heated.</p>	<p>Prevent leaking substances from running into the aquatic environment or the sewage system.</p>
 <p>Substances liable to spontaneous combustion 4.2</p>	<p>Risk of spontaneous combustion if packages are damaged or contents are spilled.</p> <p>May react vigorously with water</p>	



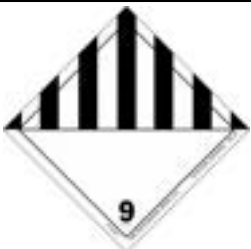
On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	Hazard characteristics	Additional guidance
 <p>Substances which, in contact with water, emit flammable gases</p> <p>4.3</p>	<p>Risk of fire and explosion in contact with water.</p>	
 <p>Oxidizing substances</p>	<p>Risk of ignition and explosion.</p> <p>Risk of vigorous reaction in contact with flammable substances.</p>	<p>Avoid mixing with flammable or combustible substances (e.g. sawdust).</p>
 <p>Organic peroxides</p>	<p>Risk of exothermic decomposition at elevated temperatures, contact with other substances (such as acids, heavy-metal compounds or amines), friction or shock. This may result in the evolution of harmful and flammable gases or vapours.</p>	<p>Avoid mixing with flammable or combustible substances (e.g. sawdust).</p>

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	Hazard characteristics	Additional guidance
 <p>Toxic substances</p>	<p>Risk of intoxication.</p> <p>Risk to the aquatic environment and the sewerage system</p>	<p>Use emergency escape mask.</p>
 <p>Infectious substances</p>	<p>Risk of infection.</p> <p>Risk to the aquatic environment and the sewerage system.</p>	
 <p>Radioactive material</p>	<p>Risk of intake and external radiation.</p>	

On-Site Emergency Plan of M/s. Aarti Industries Ltd. (Diamond Division) - Dahej

Additional guidance to members of the vehicle crew on the hazard characteristics of dangerous goods by class and on actions subject to prevailing circumstances		
Danger labels and placards	Hazard characteristics	Additional guidance
 Fissile material	Risk of burns. May react vigorously with each other, with water and with other substances. Risk to the aquatic environment and the sewerage system	Prevent leaking substances from running into the aquatic environment or the sewage system.
 Corrosive substances	Risk of burns. May react vigorously with each other, with water and with other substances. Risk to the aquatic environment and the sewerage system	Prevent leaking substances from running into the aquatic environment or the sewage system.
 Miscellaneous dangerous substances and articles	Risk of burns. Risk of fire. Risk of explosion. Risk to the aquatic environment and the sewerage system.	Prevent leaking substances from running into the aquatic environment or the sewage system.

10: Snake Bite



- ❖ **Always treat a snake bite as if it's venomous.**
- ❖ **To identify a snake bite, consider the following general symptoms:**
 - Two puncture wounds
 - Swelling and redness around the wounds
 - Pain at the bite site
 - Difficulty breathing
 - Vomiting and nausea
 - Blurred vision
 - Sweating and salivating
 - Numbness in the face and limbs
- ❖ **First aid for snake bites**
 - Call Emergency Contact Number immediately.
 - Note the time of the bite. (Most Important)
 - Keep calm and still as movement can cause the venom to travel more quickly through the body.
 - Remove constricting clothing or jewelry because the area surrounding the bite will likely swell.
 - Apply a pressure bandage to the bitten limb. If the bite is to the trunk, head or neck, apply firm pressure to the bitten area. Do not restrict chest movement as breathing will be affected by this.
 - Splint or use a sling on the bitten limb to restrict movement.
 - If possible, lie down and keep the bitten extremity at body level. Raising it can cause venom to travel through the body quicker. Holding it down, can increase swelling.
 - When possible arrange for transport to the OHC, DOH first ,nearest hospital emergency room, where anti-venom for snakes common to the area will often be available.
 - Don't allow the victim to walk. Carry or transport them by vehicle to Hospital.
 - Do not kill or handle the snake. Take a picture if you can but don't waste time hunting it down.

11: Dog Bite



❖ What Are the Signs That a Dog is going to Bite?

One of the best ways to prevent a dog attack is to know the difference between a dog that is relaxed and calm, and a dog that is showing signs of aggression. A dog's body language is the key to understanding when it may be preparing to bite. Here are some common signs that a dog is relaxed and not planning to bite:

- o A relaxed dog will hold its head up.
- o The dog's tail will either be resting, pointing down, or gently wagging back and forth.
- o The ears should be neither back nor forward.
- o The dog's hair will lay smooth along its back.
- o Its mouth and lips are relaxed, almost appearing as if the dog is smiling.
- o You can see the dog's tongue.

Here are some signs that a dog may be getting ready to bite:

- o The dog's nose may be pulled back and wrinkled.
- o The dog's lips may be drawn back to reveal its teeth.
- o The hair along the back of its neck may be sticking up along its spine.
- o You can see that the dog's ears may lay back, pinned against its head, or be pushed up forward.
- o Its body may appear tense and cocked.
- o The dog is making noises such as growls or snarls.

Ways to Avoid Dog Bites and Dog Attacks

- o Don't horse play with Dog during duty hours
- o After getting any signs from above, immediately change your pathway and avoid the dog.
- o Don't do any act which can encourage aggressive behaviour of dog.

First Aid Measures:

- o Immediately call to OHC for ambulance
- o Necessary medical treatment will be given at OHC / DOH and then nearest hospital if required.

12: Bee Stings



When a honeybee stings you, its stinger is released into your skin. This ultimately kills the honeybee.

Honeybees are the only type of bee that die after they sting. Wasps and other species don't lose their stingers. They may sting you more than once.

If a bee stings you, it leaves behind a venomous toxin that can cause pain and other symptoms. Some people are allergic to this toxin.

Mild allergic reactions may cause extreme redness and increased swelling at the sting site.

Severe allergic reactions may cause:

- Hives
- Pale skin
- Severe itching
- Swelling of the tongue and throat
- Difficulty breathing
- Rapid pulse
- Nausea and vomiting
- Diarrhea
- Dizziness
- Loss of consciousness

Home remedies for bee stings

Unless you're allergic to bees or experiencing signs of a severe allergic reaction, you can treat most bee stings at home.

If a honeybee stings you, remove the stinger immediately with the edge of your fingernail or the edge of a credit card. This helps curb the amount of toxins released into your skin.

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Wash the sting site with soap and water. Icing the sting site is the most effective way to reduce venom absorption. It also can help reduce swelling.

Most home treatments for bee sting symptoms aren't supported by scientific research. Yet they've been passed down for generations.

These home remedies may help relieve bee sting symptoms:

Honey

Honey may help with wound healing, pain, and itching.

To treat bee stings with honey, apply a small amount to the affected area. Cover with a loose bandage and leave on for up to an hour.

Baking soda

A paste made of baking soda and water can help neutralize bee venom to reduce pain, itching, and swelling.

Apply a thick layer of baking soda paste to the affected area. Cover the paste with a bandage. Leave on for at least 15 minutes and re-apply as needed.

Apple cider vinegar

Some people believe vinegar helps neutralize bee venom.

Soak the sting site in a basin of diluted apple cider vinegar for at least 15 minutes. You can also soak a bandage or cloth in the vinegar and then apply it to the sting site.

Toothpaste

It's unclear why toothpaste can help bee stings. Some people claim that alkaline toothpaste neutralizes acidic honeybee venom. If true, however, toothpaste won't work on alkaline wasp venom.

Either way, toothpaste is an inexpensive and easy home remedy to try. Simply dab a bit on the affected area.

Meat tenderizer

An enzyme in meat tenderizer called papain is also believed to help break down the protein that causes pain and itching.

To treat a bee sting this way, make a solution of one-part meat tenderizer and four-parts water. Apply to the sting site for up to 30 minutes.

Wet aspirin tablet

A popular home remedy for reducing the pain and swelling of a bee sting is to apply a wet aspirin or aspirin paste to the sting site.

Results of one 2003 study Trusted Source showed that applying aspirin topically to bee stings or wasp stings actually increased redness and didn't decrease the duration of swelling or pain compared to using ice alone.

Herbs and oils

These herbs have wound-healing properties and may help relieve symptoms of a bee sting:

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- Aloe Vera is known for soothing the skin and relieving pain. If you have an aloe vera plant, break off a leaf and squeeze the gel directly onto the affected area.
- Calendula cream is an antiseptic used to heal minor wounds and ease skin irritation. Apply the cream directly to the sting site and cover with a bandage.
- Lavender essential oil has anti-inflammatory abilities and can help relieve swelling. Dilute the essential oil with a carrier oil, such a coconut or olive oil. Dab a few drops of the mixture onto the sting site.
- Tea tree oil is a natural antiseptic and may ease bee sting pain. Mix with a carrier oil and apply a drop to the sting site.
- Witch hazel is a tried-and-true herbal remedy for insect bites and bee stings. It can help reduce inflammation, pain, and itching. Apply witch hazel directly to the bee sting as needed.

Traditional treatments for bee stings

Bee stings are traditionally treated with ice or cold compresses to help reduce pain and swelling.

Anti-inflammatories such as Motrin or Advil may also help. You can treat itching and redness with hydrocortisone cream or calamine lotion.

If itching and swelling are severe, taking an oral antihistamine such as Benadryl may bring relief.

To reduce your risk of infection, don't scratch the sting site. Scratching can intensify itching, swelling, and redness.

If you've had anaphylactic shock after a bee sting in the past, you'll need to carry an EpiPen with you at all times.

If you're stung again, using the EpiPen may prevent a severe allergic reaction.

When to see a doctor

Most bee stings don't require a call to your doctor.

If you experience any symptoms of a serious allergic reaction, such as difficulty breathing, hives, or dizziness, call your local emergency services. Don't attempt to drive yourself to the emergency room.

If you used your EpiPen in response to the sting, you should see your doctor.

Seek emergency help if you've been stung multiple times. Call your doctor if your bee sting symptoms don't improve after a few days.

The bottom line

Bee stings can be painful, whether you're allergic to bees or not. If a bee stings you, try to remain calm. Chances are you'll be just fine.

Bee allergies can occur at any time in your life, even if you've been stung before and not had an allergic reaction. It's important to take note of your symptoms.

If you know you'll be spending time outdoors, take these steps to reduce your risk of a bee sting:

- Don't walk around barefoot outside.

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- Leave beehives alone.
- Don't wear sweet-smelling perfume, hair products, or body products.
- Don't wear bright colors or clothes with flowery prints.
- Cover your food.
- Don't drive with your windows down.
- Don't drink from open soda cans.
- Stay away from uncovered garbage cans.

13: Wasp Bites



Overview

Wasp stings are common, especially during the warmer months when people are outside for longer periods of time. They can be uncomfortable, but most people recover quickly and without complications.

Wasps, like bees and hornets, are equipped with a stinger for self-defense. A wasp's stinger contains venom (a poisonous substance) that's transmitted to humans during a sting.

However, even without a lodged stinger, wasp venom can cause significant pain and irritation. It's also possible to have a serious reaction if you're allergic to the venom. In either case, prompt treatment is important for alleviating symptoms and complications.

Symptoms of a wasp sting

The majority of people without sting allergies will show only minor symptoms during and after a wasp sting. The initial sensations can include sharp pain or burning at the sting site. Redness, swelling, and itching can occur as well.

Normal local reactions

You're likely to develop a raised welt around the sting site. A tiny white mark may be visible in the middle of the welt where the stinger punctured your skin. Usually, the pain and swelling recedes within several hours of being stung.

Large local reactions

"Large local reactions" is a term used to describe more pronounced symptoms associated with a wasp or bee sting. People who have large local reactions may be allergic to wasp stings, but they don't experience life-threatening symptoms, such as anaphylactic shock.

Large local reactions to wasp stings include extreme redness and swelling that increases for two or three days after the sting. Nausea and vomiting can also occur. Find out what's happening in your body during an allergic reaction.

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Most of the time, large local reactions subside on their own over the course of a week or so.

Let your doctor know if you have a large local reaction after a wasp sting. They may direct you to take an over-the-counter (OTC) antihistamine medication (such as Benadryl) to reduce your discomfort.

Having a large local reaction after a wasp sting one time doesn't necessarily mean you'll react to future stings in the same way.

You could have one strong reaction and never show the same symptoms again. However, a large local reaction could be the way your body routinely responds to wasp stings.

Try to avoid being stung to prevent these uncomfortable symptoms.

Anaphylaxis following a wasp sting

The most severe allergic reactions to wasp stings are referred to as anaphylaxis.

Anaphylaxis occurs when your body goes into shock in response to wasp venom. Most people who go into shock after a wasp sting do so very quickly. It's important to seek immediate emergency care to treat anaphylaxis.

Symptoms of a severe allergic reaction to wasp stings include:

- Severe swelling of the face, lips, or throat
- hives or itching in areas of the body not affected by the sting
- Breathing difficulties, such as wheezing or gasping
- dizziness
- Sudden drop in blood pressure
- Light
- Loss of consciousness
- Nausea or vomiting
- Diarrhea
- Stomach cramps
- Weak or racing pulse

You may not experience all of these symptoms after a wasp sting, but you're likely to experience at least some of them after a subsequent sting.

If you have a history of anaphylaxis, carry a kit in the event of a wasp sting.

"Bee sting kits" contain epinephrine injections (EpiPen) that you can give yourself after a wasp sting.

Epinephrine has several effects that help stabilize the blood pressure, increase the heart rate and strength, and help respiration return to normal.

Anaphylactic shock is a medical emergency that requires immediate treatment. Learn more about this dangerous condition, including what to do if someone you know is experiencing it.

Treating wasp stings

Mild to moderate reactions

You can treat mild and moderate reactions to wasp stings at home. While treating your sting at home, you should:

- Wash the sting area with soap and water to remove as much of the venom as possible.
- Apply a cold pack to the wound site to reduce swelling and pain.
- Keep the wound clean and dry to prevent infection.
- Cover with a bandage if desired.

Use hydrocortisone cream or calamine lotion if itching or skin irritation becomes bothersome. Baking soda and colloidal oatmeal are soothing to the skin and can be used during a bath or through medicated skin creams.

OTC pain relievers, such as ibuprofen, can manage pain associated with wasp stings.

Antihistamine drugs, including diphenhydramine and chlorpheniramine, can reduce itching as well. Take all medications as directed to avoid potential side effects, such as stomach irritation or drowsiness.

You should also consider getting a tetanus shot within several days of the sting if you haven't had a booster shot in the last 10 years.

Vinegar

Vinegar is another possible home remedy that may be used for wasp stings. The theory is that the acidity of vinegar can help neutralize the alkalinity of wasp stings. The opposite is true of bee stings, which are more acidic.

To use vinegar on wasp stings, soak a cotton ball with apple cider or white vinegar and place it on top of the affected area of skin. Use slight pressure to help with the pain and inflammation. You can leave the cotton ball on top of your skin for several minutes.

Severe reactions

Severe allergic reactions to wasp stings require immediate medical attention. Overall, up to 0.8 percent of children and 3 percent of adults have insect sting allergies.

If you have an EpiPen, administer it as soon as symptoms begin. If you have a history of wasp allergies, administer the EpiPen as soon as you're stung and then call 911.

Treatment for severe allergic reactions to wasp stings can include:

- additional epinephrine to calm your immune system
- cardiopulmonary resuscitation (CPR) if breathing has temporarily stopped
- oxygen, steroids, or other medications to improve breathing

Wasp sting vs. bee sting

Wasp and bee stings can cause similar symptoms, but the treatment measures are slightly different. While a bee can only sting once because its stinger becomes stuck in the skin of its victim, a wasp can sting more than once during an attack. Wasp stingers remain intact.

Unless you're allergic, most bee stings can be treated at home.

You can remove the bee sting by swiping at the affected area of skin with your fingernail within 30 seconds of getting stung. You can reduce pain and swelling with cold compresses and an OTC medication such as ibuprofen.

If you have a known bee allergy, administer an EpiPen immediately and call 911. You should also see your doctor if an infection occurs. Symptoms include redness, increased swelling, and pus.

Wasp sting when pregnant

Wasp stings can occur at any life stage, including pregnancy. Unless you have a known venom allergy or have had local large reactions in the past, wasp stings aren't a concern.

You can follow the same treatment measures as someone who isn't pregnant, but avoid antihistamines containing decongestant ingredients.

While wasp stings alone won't harm an unborn baby, a severe allergic reaction can. It's important to use an EpiPen if needed and to call 911 if you're experiencing anaphylaxis.

Wasp sting in toddlers

While bug bites and stings are often seen as a rite of passage during childhood, this doesn't make them any less dangerous and uncomfortable. Toddlers are particularly vulnerable because they may not be able to fully verbalize that they've been stung by a wasp.

When your toddler is playing outside, be on the lookout for signs of a wasp sting and investigate the source of any tears and complaints immediately.

At a young age, you can teach your children about ways they can prevent wasp stings.

For example, you can show your child what wasps and their nests look like and how to avoid them. Other safety precautions include not walking barefoot outside and avoiding drinking out of sugary drinks that might be left outdoors, as these can attract insects.

Complications of wasp stings

In rare cases, wasp stings can contribute to complications involving the nervous system.

A report published in the Annals of Tropical Medicine and Public Health examined unusual cases in which a pediatric patient experienced muscle weakness, pupil dilation, and motor aphasia following a wasp sting.

Motor aphasia is the impairment of speech and writing abilities.

The patient's reactions were brought on by a blood clot that was caused by a severe reaction to a wasp sting.

These particular complications are extreme and highly unlikely to occur.

Avoidance is key to preventing wasp stings. You can also talk to your doctor about venom immunotherapy, which is administered as allergy shots.

14:Fire in Substation/ DG Set

The possible impact of a substation fire can be catastrophic. Fires in substations can severely impact the supply of the power to the rest of the plant.

The Following are some types of substation equipment that have caused fires:

High-Voltage DC valves

Outdoor or Indoor oil-insulated equipment

Oil-Insulated Cable

Polychlorinated biphenyls (PCB)-insulated equipment

Energized electrical cables with combustible insulation and jacketing can be a major Hazard because they are a combination of fuel supply and ignition source. A cable failure can result in sufficient heat to ignite the cable insulation that could continue to burn, produce high heat and large quantities of toxic smoke. Oil insulation cables are an even greater hazard since the oil increases the fuel load and spill potential.

The hazard that may be created by mineral oil-insulated equipment, such as transformers, reactors and circuits is that the oil is a significant fuel supply that can be ignited by an electrical failure within the equipment.

➤ ELECTRICAL FIRE:

- Fire in cable tunnel due to short circuit.
- Fire in cable tuned due to external source.

Action to be taken-

- Isolation of electrical supply must be done before allowing any action in the affected area.
- Till the time, isolation is done, the affected area must be barricaded and hazard is to be communicated to the persons working in the area.
- Incident controllers must inform the fire fighting team about the electrical hazards and must not allow conductive material.
- Use only DCP or CO2 type fire extinguishers.
- Electrical resistant high voltage PPEs must be used.
- In case of any causality, first aider-CPR and medical professionals are to be informed.
- Electrical shift In-charge to ensure effective isolation & discharging of the affected area including isolation of Bunker Feeding.
- Electrical shift In-charge must confirm that there is no possibility of any electrical charge on the same

circuit.

DO'S

- Use only 3 pin plugs and sockets.
- Treat any unknown wire as "Live wire".
- Replace the fuse wire with the correct gauge or use a proper circuit breaker to protect from overbuilding.
- Use ELCB for temperature electrical connections – 230v.
- Put off the line and ensure that the line is OFF, and it remains OFF during the job before undertaking any electrical work / repair.
- Cover the joints properly with insulating taps while connecting wires.
- Ensure proper insulation of cable leads.
- Use only electrical appliances manufactured by authorized and competent persons and having ISI marks.
- Ensure body earthing of the electrical appliance.
- Ensure the effectiveness of earthing and insulation of the wiring installations.
- Electrical jobs and wiring installation to be carried off only by competent and authorized persons.
- Report the defect to the shift In-charge or contact the Electrician.
- Keep the tester handy but check in before use.
- Use only a Test Lamp or Multimeter.
- Use suitable electrically resistant PPEs.
- To save a victim from an electric shock, switch off the power supply by using a dry wooden stick, rubber gloves or dry rope.
- To extinguish an electric fire switch off the power supply, use a Dry chemical or Carbon dioxide type extinguisher.
- De-energize the circuit before repairs.
- Use hand lamps of 24 V only.
- Ensure the fixture of 230v temporary lights fitted on fixed structure and should not be allowed to be shifted while in operation.
- No joints in the cables should be allowed. Temporary cables should not be allowed on the ground / Floor.
- Electrical apparatus and cable should not be allowed to come in contact with water.
- Wear Breathing Apparatus whenever going inside cable tunnel in emergency tunnel.
- Isolate the electrical supply before any firefighting operation.
- If you are unfamiliar with the equipment, do not get involved in an emergency situation.

DON'TS

- Do not use metallic ladders in electrical / repairs unless with insulated supports only.
- Avoid using 2 pin plugs and sockets.
- Do not disturb / interfere with the electrical safety devices.
- Do not adopt makeshift arrangements in electrical connections.
- Do not use local / handmade electrical appliances.
- Do not carry out any unauthorized electrical wiring, Temporary extensions etc.
- Do not carry out temporary extensions and wiring to neighbors, social functions etc. Without obtaining clearance for the same from the factory electrical department.
- Do not use broken or loose plugs.
- Do not store flammable liquids near electrical systems.
- Do not overload a socket.
- Do not use an electrical socket outlet without a switch.
- Do not use water on electrical flashovers / fire.
- Do not handle any electrical equipment / work on electrical systems with wet hands / wet legs.
- Do not go inside the cable tunnel if you are not conversant with the route.
- If fire is more than a fire, do not go inside the cable tunnel.

---End of the Report---

Date: 14.07.2023

To,
The Deputy Director,
Industrial Safety and Health,
2nd Floor, Near Gayatri Nagar,
Kanbivaga, Bahumali Building,
Bharuch 392001.

Subject: Submission of documents as discussed during the meeting.


Respected Sir,

This is with reference to the discussion held on 01/07/2023 at Bharuch. Please find following documents as advised.

Sr. No.	Particulars	Status
1	Pressure Vessel testing of all vessels as per RULE 61 of GFR 1963.	Total No. of Pressure Vessels : 46 Nos. Testing Completed: 46 Nos. Annexure A: Summary of Pressure Vessels
2	Third Party Safety Audit Report as per IS 14489:2018, Its Recommendations & Compliance.	A Third Party Safety audit was conducted on Sep. 22 and compliance report is attached as an Annexure B. Refer Annexure B. Compliance Report
3	Updated Onsite Emergency Plan	The Updated Onsite Emergency Plan is attached as on June-2023 Annexure C: On site Emergency Plan
4	Workplace area monitoring report, Form No-37	The workplace monitoring is being carried out on a weekly basis at key identified locations Annexure D: Workplace area monitoring record,
5	Medical Examination report as per targeted organs	Medical Examination is being conducted periodically. The list of tests are attached for your reference, Sample report is attached Annexure E1: Medical test Annexure E2: Sample PME Report. Annexure E3: CIH certificate of FMO.
6	Fire adequacy Study & Report	1. The Provisional Fire NOC was obtained from Bharuch Nagarpalika in Dec. 2019 attached as annexure F1. 2. Compliance Report as per GFR 1963 Rule 66A. 3. PO Copy of Fire Adequacy study is attached and work will be completed before 30.09.2023. PO NO: 4580511363 and 4580511622 Annexure F1: Fire NOC Annexure F2: Compliance report of Rule 66 A Annexure F3: PO copy for Fire Adequacy Study.
7	DISH circular compliance	The compliance to DISH circular is attached herewith. Annexure G1: Compliance report as per DISH circular Annexure G2: CO2 flooding system installation certificate

Thanking You,
For, Aarti Industries Limited,


Sandip Parekh
(Authorized Signatory)

 14/7/2023
मुनियर ह्याड
औद्योगिक सहायता एवं स्वच्छता
भारुच

www.aarti-industries.com | CIN: L24110GJ1984PLC007301

Regd. Office : Plot No. 801, 801/23, IIIrd Phase, GIDC Vapi-396195, Dist- Valsad. INDIA. T : 0260-2400366.

Factory : Plot No. Z/103/C, Dahej Sez II, Tal. Vagara, Dist. Bharuch, Gujarat -392130. INDIA.

Admin. Office : 71, Udyog Kshetra, 2nd Floor, Mulund Goregaon Link Road, Mulund (W), Mumbai - 400080, INDIA.

T : 022-67976666, F : 022-2565 3234 | E : info@aarti-industries.com

Annexure VIII

Compliance of Risk Assessment Recommendations from EIA		
Sr. No.	Condition	Compliance
A.	STORAGE DETAILS OF RAW MATERIALS	
i.	Recommendations for storage of Methanol	
1	Proper storage area shall be provided.	Complied, A separate area with well boundaries has been made for the storage of Methanol according to PESO guidelines.
2	Eye wash station shall be provided	Complied. Unit has Provided Safety Sower within the storage yard boundary with easy access to that location.
3	Chilling Water Circulation shall be provided.	Complied Chilling Water Circulation has been provided.
4	PPEs shall be used	Complied All workmen use appropriate PPE during working time.
5	Self-contained breathing apparatus shall be used	Complied. Adequate no. of SCBA available on site. SCBA training has been provided to all concerned workers and employees.
6	PPEs like Splash goggles, Full suit, Vapor respirator or self contained breathing apparatus, Gloves etc., shall be used while handling this chemical	Complied All workers and Employees use appropriate tested PPEs at the time of chemical handling.
B.	STORAGE AND HANDLING OF SOLID CHEMICALS	
i.	Handling Chemical Bags	
1	PPEs like suitable protective clothing, gloves, face shield, dust and splash proof safety goggles, chemically resistant safety shoes, etc. shall be used	Complied All workers and Employees are compulsorily using appropriate tested PPE during chemical handling time.
2	Standard Approved respirator shall be used.	Complied. Standard approved dust respirators are used.

3	Eyewash station and safety showers shall be made available	Complied. Plant wise ,Floor wise installed safety shower and eye wash station i.e Dyphoterine kits boxes.
4	Dust monitoring shall be carried out periodically	Complied. Dust monitoring is being carried out monthly by a third party.
ii. Cleaning of Chemical Spillage.		
1	Certified Dust respirator shall be used	Complied. ISI certified dust mask is provided to all workers and employees who are working at a dusty workplace. Form 37 (Workplace Monitoring) attached in Annexure.
2	PPEs shall be used.	Complied. All workmen use appropriate PPEs during working time.
3	Chemicals will be stored in isolated storage rooms having provision for natural & forced ventilation.	Complied. Chemicals are stored in isolated storage rooms having provision for natural & forced ventilation.
4	Spillage shall be cleaned or neutralized with suitable media	Complied. Spillages will be cleaned/neutralized with suitable media when required.
5	Fire fighting facilities shall be made available near storage locations, if required	Complied. Near the storage yard, Portable fire extinguishers stand, Fire bucket stands, Fire Hydrant Systems, Fire Manual call points, Fire alarm etc has been provided.
Additional Recommendations		
1	Operators/Workers to be trained for Safe Work Practices	Complied. Safety training is provided periodically for Safe Work Practices and job SOP is given to all employees.
2	Chemical handling bags & dusty area to be labeled properly for each chemicals.	Complied. Chemical bags and dusted areas are labeled properly for each chemical.

C.	STORAGE AND HANDLING OF SULPHURIC ACID	
i.	Sulphuric Acid Loading & Unloading.	
1	Loading & Unloading activity shall be carried out in well ventilated area.	<p>Complied.</p> <p>Loading & Unloading it is done in open area.</p>
2	Neutralization media shall be made available in areas where acid is stored/handled/used.	<p>Complied.</p> <p>Caustic available for neutralization where sulphuric acid is stored/handled/used.</p>
3	PPEs will be used.	<p>Complied.</p> <p>PPEs are used.</p>
ii.	Working in Storage Area	
1	Storage area shall be well ventilated	<p>Complied.</p> <p>Chemicals are stored in isolated storage rooms having provision for natural & forced ventilation.</p>
2	Neutralization shall be done immediately with soda ash/lime or spill shall be absorbed in sand or by suitable adsorbent	<p>Complied.</p> <p>Caustic is available for neutralization in case of spill</p>
3	PPEs like face mask, gloves etc. shall be worn by concerned person	<p>Complied.</p> <p>PPEs are compulsory to be worn by all employees during work and before issuing work permits.</p>
4	Floors shall be made of acid proof tiles	<p>Complied.</p> <p>Unit has provided acid proof tiles for the storage area.</p>
iii.	Tank overflow/leakage from joints etc	
1	Same as Above.	<p>Complied.</p> <p>Dyke walls have been provided to restrict overflow of chemicals from storage tanks in the tank farm area. Photograph of dyke wall attached is given in point No. 77 in EC Compliance report.</p>
	Additional Recommendations	
1	Work Instruction for checking tank level to be prepared and followed.	<p>Complied.</p> <p>Work Instructions for checking tank level have been prepared and followed.</p>
D.	STORAGE AND HANDLING OF DRUMS	

i	Drums Unloading from Truck by forklift.	
1	Truck shall be inspected properly before unloading the barrels.	<p>Complied.</p> <p>Trucks are inspected properly before unloading the barrels.</p>
2	Spill containment kit shall be made available to contain the leaking barrel.	<p>Complied.</p> <p>Spill containment kit is available to contain the leaking barrels.</p>
3	Hot work or source of ignition shall be avoided near the unloading area.	<p>Complied</p> <p>Process plant and unloading area are restricted for doing hot work and kept away from all types of ignition sources.</p>
4	Fire extinguishers to be kept available.	<p>Complied.</p> <p>All floors of the plant are designed and provided with fire fighting equipment like fire extinguishers, hydrant post, hose reels, Hose boxes, fire MCP points, Fire alarm system etc.</p>
5	Appropriate PPEs like Safety Goggles, Butyl or Nitrile rubber gloves, gumboot, plastic apron etc shall be used.	<p>Complied.</p> <p>Unit has provided appropriate PPEs like Safety Goggles, Butyl or Nitrile rubber gloves, gumboot, plastic apron etc</p>
	Additional Recommendations	
1	SOPs to be prepared and followed.	<p>Complied.</p> <p>All SOPs are prepared and followed.</p>
2	Foam type fire extinguisher to be provided in nearby location.	<p>Complied.</p> <p>Mechanical Foam type fire extinguishers with trolley mounted has been provided near storage tank farms and the process plant.</p>
3	Fire monitor with provision of connection of foam to be provided.	<p>Complied.</p> <p>Fire monitor connected to a foam trolley has been provided near the storage tank farm and PESO tank area.</p>
ii.	Transfer of chemicals from drums to plant/reactor	

1	PPEs shall be used.	Complied. PPEs are used.
iii.	Drum/Barrels Storage Area	
1	PPEs are used.	Complied. PPEs are used.
iv.	Cleaning of empty drums	
1	PPEs like face mask	Complied. PPEs like face mask are used.
E.	COMMENTS / RECOMMENDATIONS BASED ON CONSEQUENCE ANALYSIS	
	Recommendations	
1	Evacuation routes shall be planned such that alternate route is available from any corner in more than one direction	Complied. Plant consists of two main roads accordingly from two gates and are inter crossing with three roads across the plant. Inside of plant premises, two assembly points have been made One near Main gate security and Another is near COP area.
2	Extra precautions to be taken in unloading of flammable/toxic chemicals. The details of precautions during storage handling and transportation of chemicals have been given in separate paragraph.	Complied. During the unloading of the methanol PESO tank is blanketed with nitrogen and through a 3 way breathed valve its vent through a flame arrestor.
3	Firefighting arrangements shall be provided as per the guidelines of OISD	Complied. Fire fighting systems installed and designed in the plant as per the NFPA and OISD guideline.
4	Details on hazard identification i.e. HAZOP, HAZAN, Fault tree analysis, Event tree analysis, Checklist Audit, safety audit and their compliance, etc. to be adopted for the safe operation of plant at appropriate stage.	Complied. Details on hazard identification i.e. HAZOP, HAZAN, Fault tree analysis, Event tree analysis, Checklist Audit, safety audit and their compliance, etc. have been adopted for the safe operation of plant at appropriate stage.
F.	PROPOSED SAFETY/CONTROL MEASURES TO REDUCE THE RISK OF FIRE, EXPLOSION AND TOXIC RELEASE	
i.	Transportation of Chemicals, by Road Tanker or Truck.	

1	Training will be provided to driver and cleaner regarding the safe driving, hazards of Flammable chemicals, emergency handling, and use of SCBA sets.	Complied. All entry vehicles with driver and helper have to make temporary gate passes and within the procedure ,their health check up is done by OHC & training induction is given regarding the safe driving, hazardous chemical handling and how to handle an emergency situation.
2	TREM card & SCBA set will be kept with TL.	Complied. As per GPCB & our check list of transporting vehicles, It's mandatory to keep a TREM CARD. The driver is provided with SCBA when required.
3	Fire extinguishers will be kept with TL.	Complied. Portable fire extinguishers are compulsory to be kept in the truck or tanker carrying the hazardous chemicals
4	Flame arrestor will be provided to TL exhaust.	Complied. Flame arrestors have been kept at the main gate and are installed on the exhausts of all vehicles entering the company premises.
5	Instructions will be given not to stop the truck in populated area.	Complied. As per the TREM CARD instructions, It is strictly prohibited to stop the vehicle in a populated area.
6	Hazard Identification symbol and emergency telephone number will be displayed as per HAZCHEM CODE.	Complied. In the EIP panel, it is mandatory to put the Hazard identification symbol ,Hazchem code. In the TREM card, emergency telephone numbers to be contacted during the emergency situation are mentioned.
7	Appropriate PPEs will be kept with TL	Complied. Appropriate, tested and effective PPEs are mandatory to be kept available and are used.
In case of leak or spill:		
1	Area & Container will be isolated.	Complied. In case of a leak or spill, the Operation team immediately takes action on it. Area of spillage is isolated from the work zone and containers are also kept separately.

2	Source of leakage will be checked.	<p>Complied.</p> <p>In case of a leak spill, the operation & safety team first takes action to identify the source of leakage and immediately stop the leak or spill as per the SOP.</p>
3	Damaged containers or spilled material shall not be attended without wearing appropriate protective clothing.	<p>Complied.</p> <p>Appropriate PPEs and protective clothing is provided to handle damaged containers or spilled material.</p>
4	Leakage will be stopped, if possible to do so without risk.	<p>Complied</p> <p>Leakages are stopped without risks if possible.</p>
5	Combustibles (wood, paper, oil, etc.) shall be kept away from spilled material.	<p>Complied</p> <p>Combustibles are kept away from any spilled material.</p>
ii. Unloading of Solvent Drums /Barrels from Truck.		
1	Priority will be given for truck to immediately enter the storage premises at site and will not be kept waiting near the gate or the main road.	<p>Complied</p> <p>Unit gives priority to trucks immediately entering the storage premises at site and is not kept waiting near the gate or the main road.</p>
2	Security person will check License, TREM CARD, Fire extinguisher condition; SCBA set condition, Antidote Kit, required PPEs as per SOP laid down.	<p>Complied</p> <p>Security personnel check License, TREM CARD, Fire extinguisher condition; SCBA set condition, Antidote Kit, required PPEs as per SOP laid down.</p>
3	QC check & other required checks shall be done & after the approval of same, unloading procedure will be allowed.	<p>Complied.</p> <p>QC check & other required checks is done & after the approval of same, unloading procedure is allowed.</p>
Following precautions will be taken during unloading:		
1	Wheel stopper will be provided to TL at unloading platform.	<p>Complied</p> <p>Wheel stopper is provided to TL at unloading platform.</p>
2	Unloading procedure will be followed according to check list.	<p>Complied</p> <p>Unloading procedure is followed according to checklist.</p>

3	Only day time unloading will be permitted.	Complied Only day time unloading is permitted.
iii.	Chemical Storage Area safety.	
1	All storage areas shall be isolated from all sources of open flame and well posted with "Hazardous Chemical Storage", "No Smoking", "Hot work Restricted" signs.	Complied. All storage areas are isolated from all sources of open flame. Signs such as "Hazardous Chemical Storage", "No Smoking", "Hot work Restricted" are posted at all storage areas.
2	Spark-resistant tools will be used.	Complied. Spark-resistant tools such as spark arrestors and FLP equipment are used.
3	Pipes and equipment shall be inspected at regular intervals.	Complied. Pipes and equipment are inspected at regular intervals.
4	Water spray shall be used to reduce vapors (by taking care that water is not directed straight away on leak, spill area or inside container).	Complied Water spray is used to reduce vapors.
5	Combustibles (wood, paper, oil, etc.) shall be kept away from spilled material.	Complied. Unit has ensured that combustibles (wood, paper, oil, etc.) are kept away from spilled material.
6	MS or HDPE storage drums will be provided as per good engineering practices.	Complied Unit has ensured that MS or HDPE storage drums are provided.
7	Storage area will be provided with adequate fire fighting/extinguishing system, Fire hydrant monitor with foam attachment facility, etc.	Complied Storage area has been provided with adequate fire fighting/extinguishing system, fire hydrant monitor with foam attachment facility, etc.
8	Sand Buckets will be made available.	Complied. Sand Buckets are available.

9	Workers and Operators handling such materials shall be trained for the hazards (fire/explosion, health, chemical reactivity, etc.) & safety measures associated with them.	Complied. Workers and Operators handling such materials are trained for the hazards (fire/explosion, health, chemical reactivity, etc.) & safety measures associated with them.
10	Area shall be inspected on regular basis.	Complied. Area is inspected on regular basis.
11	NFPA label (hazard identification) along with capacity of chemical will be displayed on respective drums.	Complied NFPA label (hazard identification) along with capacity of chemical is displayed on respective drums
12	Dumping /Drain vessel/alternate vessel will be provided to collect the spillage material. Spillage Kit shall be made available.	Complied Dumping /Drain vessel/alternate vessel has been provided to collect the spillage material.
13	FLP type pump & electric fittings will be provided, where applicable.	Complied. FLP type pump & electric fittings are provided.
14	Earthing will be provided to related drums and process vessels, as per the requirement.	Complied Earthing has been provided to related drums and process vessels.
15	Double Jumper clip shall be provided to all solvent handling pipeline flanges, if applicable.	Complied. Double Jumper clips are provided to all solvent handling pipeline flanges, if applicable.
iv.	Chemical transfer from storage area to Process Plant.	
1	Double mechanical seal type FLP type pump shall be provided.	Complied. Double mechanical seal type FLP type pump has been provided.
2	Double on / off switch shall be provided, if needed. Flame arrestor shall be provided, wherever required.	Complied Double on / off switch has been provided, when needed. Flame arrestor is provided, wherever required.
3	NRV Shall be provided on pump discharge line	Complied Unit has provided NRV on pump discharge line.

4	Double Jumper clip shall be provided to all solvent handling pipelines.	Complied. Double Jumper clip shall be provided to all solvent handling pipelines.
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**MOU between of 7X Multispeciality Hospital, Bharuch &
Aarti Industries Limited Dahej Zone 3.**

This agreement is between 7X Multispeciality Hospital & Aarti Industries Limited Dahej (Zone 3) On 15/12/2021.

Terms and conditions of agreement is as below:

- Hospital hereby undertakes to extend its medical / surgical facilities on credit basis and direct payment basis for complete outpatient/inpatient/emergency medical /surgical treatment including diagnosis, tests, investigations, blood transfusion services, ambulance services, prescription, dispensation of medicines etc., to the persons designated by Aarti Industries Limited Dahej(zone 3).
- Prior to sending patients to the hospital, company personnel will communicate through mail or telephonically with the concerned person of the hospital (details are attached).
- Patient shall show an ID card at the hospital provided by the Company at the time of admission or consultation. Company medical officer or HR Department. will send a credit letter to the hospital within 24 hours in case of hospitalization. Credit letter will consist of several important details (e.g. Name of the employee, department, employee code,accommodation class, copayment).
- The Company will make the payment within fifteen days after the receipt of the bill.The scan copy will be emailed to the company immediately and the Hard copy of the bill will be couriered at your plant.

Hospital will provide the free health talks by the doctors for the Company Employee at Site(Dahej) subject to the cost of transportation of the Doctors shall be born by the Company.

- Free consultation for Physician, Gynecologist, Orthopedic Surgeon and General Surgeon on providing the Company Card at reception counter, For Families of employees Hospital will provide first Consultation Free and 30% discount on follow up OPD consultations.
- Hospital will provide a 35% discount on ECO and TMT on presentation of the Company ID card.
- The Hospital will provide the additional services if required with mutually agreed terms and Conditions which includes services like Health Talk, periodic medical check up, pre-employment checkup, Onsite Camps and providing and managing OHC including factory medical officer, qualified male nurses, drivers, compounders, ambulance etc.
- Hospital will provide a Physician,Gynecologist visit and consultation every 2 monthly at the site and Dietitian visit and consultation every monthly at site.
- Hospital will provide a Cancer Awareness session by an Oncologist for employees at the site/ Virtual.



AARTI INDUSTRIES LIMITED

- For insured patients, the approved SOC of the Insurance Company/TPA will be applicable.
- For Company employees whose payment will be done by The Company and for self paying patients Hospital will give a 10% discount on the total bill (Excluding Outsource investigation, Pharmacy, Lab.)
- No administrative or service charges will be charged to Company employees and their dependents.
- Ambulance service within Bharuch is complimentary.
- For OPD services, 10% discount on Pharmacy, 20% on laboratory & radiology services.



Following are the authorized person to call in case of seeking medical services:

Aarti Industries Limited, Dahej (Zone 3):

Sr.No.	Name	Designation	Contact No	Email ID.
1	Mr. Vinod Mishra	Zonal Head	7069010692	vinod.mishra@aarti-industries.com
2	Mr. Sandip Parekh	Division Head	9727720802	sandip.parekh@aarti-industries.com
3	Mr. Raman Parulkar	Zone HR Head	7069008071	raman.parulkar@aarti-industries.com
4	Mr. Vilas Gurav	Zone Safety Head	9099005387	vilas.gurav@aarti-industries.com
5	Dr. Avanika Parmar	Factory Medical officer	7069004371	avanika.parmar@aarti-industries.com
6	Dr. Naitik Modi	Factory Medical officer	6358920854	naitik.modi@aarti-industries.com

7X Multispeciality Hospital:

Sr.No.	Name	Designation	Contact No	Email ID.
1	Sanket Shah	Operation Manager	9824143278	7xcorporate@gmail.com
2	Hardish Patel	Operation Manager	7990857930	7xcorporate@gmail.com

	
Name & Sign of authorized Signatory Aarti Industries Limited Dahej VINOD KUMAR MISHRA	Name & Sign of authorized Signatory 7X Multispeciality Hospital, Bharuch SANKET SHAH.

www.aarti-industries.com | CIN: L24110GJ1984PLC007301

Regd. Office : Plot No. 801, 801/23, IIrd Phase, GIDC Vapi-396195, Dist- Valsad, INDIA. T : 0260-2400366.

Factory : Plot No. Z/103/H, Dahej Sez II, Tal. Vagara, Dist. Bharuch, Gujarat -392130, INDIA.

Admin. Office : 71, Udyog Kshetra, 2nd Floor, Mulund Goregaon Link Road, Mulund (W), Mumbai - 400080, INDIA.
T : 022-67976666, F : 022-2565 3234 | E : info@aarti-industries.com

3.0 NOISE LEVEL MONITORING REPORT



Period: October – 2024.

FOR

**M/s. Aarti Industries Limited (Unit – 2).
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



White House
Near G.I.D.C. Office, Char Rasta,
Vapi - 396 195, Gujarat, India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-II)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

TEST REPORT

AMBIENT NOISE LEVEL MONITORING REPORT

Test Report No.:	UERL/24/10/AIL-2/N-001	Date of Report:	05/11/2024
Name & Address of Industries	M/s Aarti Industries Ltd (Unit-2 Diamond). Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Location of Sampling / Monitoring:	Ambient Noise		
Sampling Method	IS: 9989 : 1981.		

➤ Details of Instrument Used for Monitoring.

Instrument Id No.	Instrument Name	Model Number	Calibration Date	Next Calibration Date
UERL/AIR/SLM/Q630838	Sound Level Meter	SL 4023 SD	02/02/2024	01/02/2025

Date of Monitoring: 22/10/2024

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	Location	Noise Level dB(A)			
		Day Time	Night Time	Permissible Limit CPCB	
				Day Time	Night Time
1.	Near ETP Area	69.2	52.2	75 dB (A)	70 dB (A)
2.	New D.G. Set	71.2	50.5	75 dB (A)	70 dB (A)
3.	Near Main Gate	60.5	51.5	75 dB (A)	70 dB (A)
4.	Near DCA Plant	69.1	53.2	75 dB (A)	70 dB (A)
5.	Near Material Gate	64.1	52.6	75 dB (A)	70 dB (A)

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

3.0 NOISE LEVEL MONITORING REPORT



Period: November – 2024.

FOR

**M/s. Aarti Industries Limited (Unit – 2).
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



White House
Near G.I.D.C. Office, Char Rasta,
Vapi - 396 195, Gujarat, India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-II)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

TEST REPORT

AMBIENT NOISE LEVEL MONITORING REPORT

Test Report No.:	UERL/24/11/AIL-2/N-001	Date of Report:	05/12/2024
Name & Address of Industries	M/s Aarti Industries Ltd (Unit-2 Diamond). Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Location of Sampling / Monitoring:	Ambient Noise		
Sampling Method	IS: 9989 : 1981.		

➤ Details of Instrument Used for Monitoring.

Instrument Id No.	Instrument Name	Model Number	Calibration Date	Next Calibration Date
UERL/AIR/SLM/Q630838	Sound Level Meter	SL 4023 SD	02/02/2024	01/02/2025

Date of Monitoring: 29/11/2024

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	Location	Noise Level dB(A)			
		Day Time	Night Time	Permissible Limit CPCB	
				Day Time	Night Time
1.	Near ETP Area	68.5	51.6	75 dB (A)	70 dB (A)
2.	New D.G. Set	70.6	66.2	75 dB (A)	70 dB (A)
3.	Near Main Gate	59.7	53.4	75 dB (A)	70 dB (A)
4.	Near DCA Plant	67.3	61.2	75 dB (A)	70 dB (A)
5.	Near Material Gate	63.7	58.4	75 dB (A)	70 dB (A)

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

3.0 NOISE LEVEL MONITORING REPORT



Period: December – 2024.

FOR

**M/s. Aarti Industries Limited (Unit – 2).
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



White House
Near G.I.D.C. Office, Char Rasta,
Vapi - 396 195, Gujarat, India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-II)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

TEST REPORT

AMBIENT NOISE LEVEL MONITORING REPORT

Test Report No.:	UERL/24/12/AIL-2/N-001	Date of Report:	02/01/2025
Name & Address of Industries	M/s Aarti Industries Ltd (Unit-2 Diamond). Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Location of Sampling / Monitoring:	Ambient Noise		
Sampling Method	IS: 9989 : 1981.		

➤ Details of Instrument Used for Monitoring.

Instrument Id No.	Instrument Name	Model Number	Calibration Date	Next Calibration Date
UERL/AIR/SLM/Q630838	Sound Level Meter	SL 4023 SD	02/02/2024	01/02/2025

Date of Monitoring: 18/12/2024

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	Location	Noise Level dB(A)			
		Day Time	Night Time	Permissible Limit CPCB	
				Day Time	Night Time
1.	Near ETP Area	66.2	62.3	75 dB (A)	70 dB (A)
2.	New D.G. Set	72.5	66.4	75 dB (A)	70 dB (A)
3.	Near Main Gate	60.1	55.8	75 dB (A)	70 dB (A)
4.	Near DCA Plant	68.4	61.5	75 dB (A)	70 dB (A)
5.	Near Material Gate	61.4	56.5	75 dB (A)	70 dB (A)

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

3.0 NOISE LEVEL MONITORING REPORT



Period: January - 2025.

FOR

**M/s. Aarti Industries Limited (Unit – 2).
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



Plot No.51, Vibrant Business Park,
NH No. 48, GIDC, Vapi – 396 195.
Dist-Valsad (Gujarat), India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

MoEF&CC Environmental Laboratory under
EPA,1986 as 04.11.2024 to 18.10.2027

QCI-NABET Accredited BIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-II)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

TEST REPORT
AMBIENT NOISE LEVEL MONITORING REPORT

Test Report No.:	UERL/25/01/AIL-2/N-001	Date of Report:	02/02/2025
Name & Address of Industries	M/s Aarti Industries Ltd (Unit-2 Diamond). Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Location of Sampling / Monitoring:	Ambient Noise		
Sampling Method	IS: 9989 : 1981.		

➤ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Model Number	Calibration Date	Next Calibration Date
UERL/AIR/SLM/Q630838	Sound Level Meter	SL 4023 SD	02/02/2024	01/02/2025

Date of Monitoring: 21/01/2025

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	Location	Noise Level dB(A)			
		Day Time	Night Time	Permissible Limit CPCB	
				Day Time	Night Time
1.	Near ETP Area	63.2	58.2	75 dB (A)	70 dB (A)
2.	New D.G. Set	71.5	67.2	75 dB (A)	70 dB (A)
3.	Near Main Gate	62.3	58.4	75 dB (A)	70 dB (A)
4.	Near DCA Plant	65.4	62.2	75 dB (A)	70 dB (A)
5.	Near Material Gate	62.4	57.3	75 dB (A)	70 dB (A)

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

***** End of Report *****

Checked By:



Nikunj D. Patel
(Chemist)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

3.0 NOISE LEVEL MONITORING REPORT



Period: February - 2025.

FOR

**M/s. Aarti Industries Limited (Unit – 2).
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



Plot No.51, Vibrant Business Park,
NH No.48, GIDC, Vapi-396195
Dist-Valsad (Gujarat), India
Phone + 91 260 2433966/2425610
Email : response@uerl.in Website : www.uerl.in

QCI-NABET Accredited EIA
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GPCB Recognized Environmental
Auditor (Schedule-11)

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Certified Company

ISO 45001 : 2018
Certified Company

TEST REPORT

AMBIENT NOISE LEVEL MONITORING REPORT

Test Report No.:	UERL/25/02/AIL-2/N-001	Date of Report:	03/03/2025
Name & Address of Industries	M/s Aarti Industries Ltd (Unit-2 Diamond). Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Location of Sampling / Monitoring:	Ambient Noise		
Sampling Method	IS: 9989 : 1981.		

➤ Details of Instrument Used for Monitoring.

Instrument Id No.	Instrument Name	Model Number	Calibration Date	Next Calibration Date
UERL/AIR/SLM/Q630838	Sound Level Meter	SL 4023 SD	01/02/2025	31/01/2026

Date of Monitoring: 13/02/2025

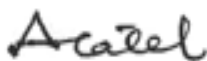
DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	Location	Noise Level dB(A)			
		Day Time	Night Time	Permissible Limit CPCB	
				Day Time	Night Time
1.	Near ETP Area	62.5	57.8	75 dB (A)	70 dB (A)
2.	New D.G. Set	70.2	66.4	75 dB (A)	70 dB (A)
3.	Near Main Gate	63.1	57.5	75 dB (A)	70 dB (A)
4.	Near DCA Plant	64.2	60.2	75 dB (A)	70 dB (A)
5.	Near Material Gate	63.4	58.4	75 dB (A)	70 dB (A)

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)

3.0 NOISE LEVEL MONITORING REPORT



Period: March - 2025.

FOR

**M/s. Aarti Industries Limited (Unit – 2).
(Diamond SEZ Unit)**

At

**Plot No. Z/103/C, Dahej SEZ Part-II,
Dahej-392 130, Tal. Vagara,
Dist. Bharuch, Gujarat, India.**

Monitoring Organization



Plot No.51, Vibrant Business Park,
NH No.48, GIDC, Vapi-396195
Dist-Valsad (Gujarat), India
Phone + 91 260 2433966/2425610
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ISO 45001 : 2018
Certified Company

TEST REPORT

AMBIENT NOISE LEVEL MONITORING REPORT

Test Report No.:	UERL/25/03/AIL-2/N-001	Date of Report:	03/04/2025
Name & Address of Industries	M/s Aarti Industries Ltd (Unit-2 Diamond). Plot No. Z/103/C, Dahej SEZ Part-II, Tal. Vagra, Dist. Bharuch, Dahej-392130, Gujarat.		
Location of Sampling / Monitoring:	Ambient Noise		
Sampling Method	IS: 9989 : 1981.		

Details of Instrument Used for Monitoring.

Instrument Id No.	Instrument Name	Model Number	Calibration Date	Next Calibration Date
UERL/AIR/SLM/Q630838	Sound Level Meter	SL 4023 SD	02/02/2025	02/02/2026

Date of Monitoring: 12/03/2025

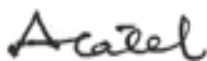
DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	Location	Noise Level dB(A)			
		Day Time	Night Time	Permissible Limit CPCB	
				Day Time	Night Time
1.	Near ETP Area	65.8	58.6	75 dB (A)	70 dB (A)
2.	New D.G. Set	72.3	68.3	75 dB (A)	70 dB (A)
3.	Near Main Gate	65.3	58.5	75 dB (A)	70 dB (A)
4.	Near DCA Plant	66.7	62.4	75 dB (A)	70 dB (A)
5.	Near Material Gate	65.6	58.9	75 dB (A)	70 dB (A)

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

***** End of Report *****

Checked By:



Ankur R. Patel
(Supervisor)

Authorized By:



Jaivik S. Tandel
(Manager - Operations)



Pacific School of Engineering

(Approved by AICTE New Delhi & Affiliated to GTU, Ahmedabad)

Ref. No.: PSE/ENGG/CERT/22/10

Date: 04/04/2022

DETAIL OF CLEANER PRODUCTION PRACTICES

The Environmental Audit Scheme was introduced by the Gujarat High Court vide its orders dated 20/12/96 & 13/3/97 and modified vide order dated 16/9/99, 22/04/2010 & 23/1/2015. We are recognized by GPCB, Gandhinagar as Schedule- I Environmental Auditor for compliance of the directions of the Hon'ble High Court.

In order to study cleaner production practices, industry has approached us and thus, visits were carried out and evaluated practices of CPP for:

**M/S. AARTI INDUSTRIES LIMITED,
PLOT NO. Z/103/C, DAHEJ-SEZ-II,
TALUKA: VAGRA, DIST. BHARUCH, GUJARAT.**

A. BACKGROUND OF STUDY:

This study includes cleaner production practices adopted by industry. This study mainly included for following processes:

1. Phenol recovery from DCP (Di-chlorophenol) effluent with the use of extraction, distillation, ozonation and soil biotechnology.
2. DCA (2,5 Di-chloroaniline) recovery from distillation residue with the use of agitated thin film evaporator (ATFE).
3. Reuse of 70% concentrated H_2SO_4 by increasing the concentration of H_2SO_4 to 90% through series of evaporation.
4. Recovery of methanol from DCA obtained during 2, 5-DCA production.

B. Manufacturing process of DCA and DCP:

1. 2,5 DI- CHLORO ANILINE

Initially, 2, 5 Di-chloro nitrobenzene is reacted in an autoclave reactor with

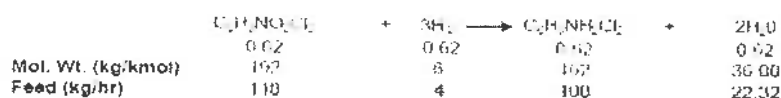


Plot No. 87,91,92,96, Opp. Sarthe Township
Kadodara Palsana Road, (NH-8), V. Sanki, Ta. Palsana, Surat-394
Phone : 9979422749 | Email:emt.pse@gmail.com
Website : www.pacific-soe.ac.in

hydrogen gas in presence of metal powder catalyst to produce 2, 5 dichloro aniline. The reaction mixture contains solvent. The reaction is followed by catalyst filtration, solvent recovery, and layer separation and drying. Crude product is then subjected to flash distillation to get the pure product. Product is either sold as liquid or flakes depending on the market requirement.

Stoichiometric reaction:

Di-chloro aniline:

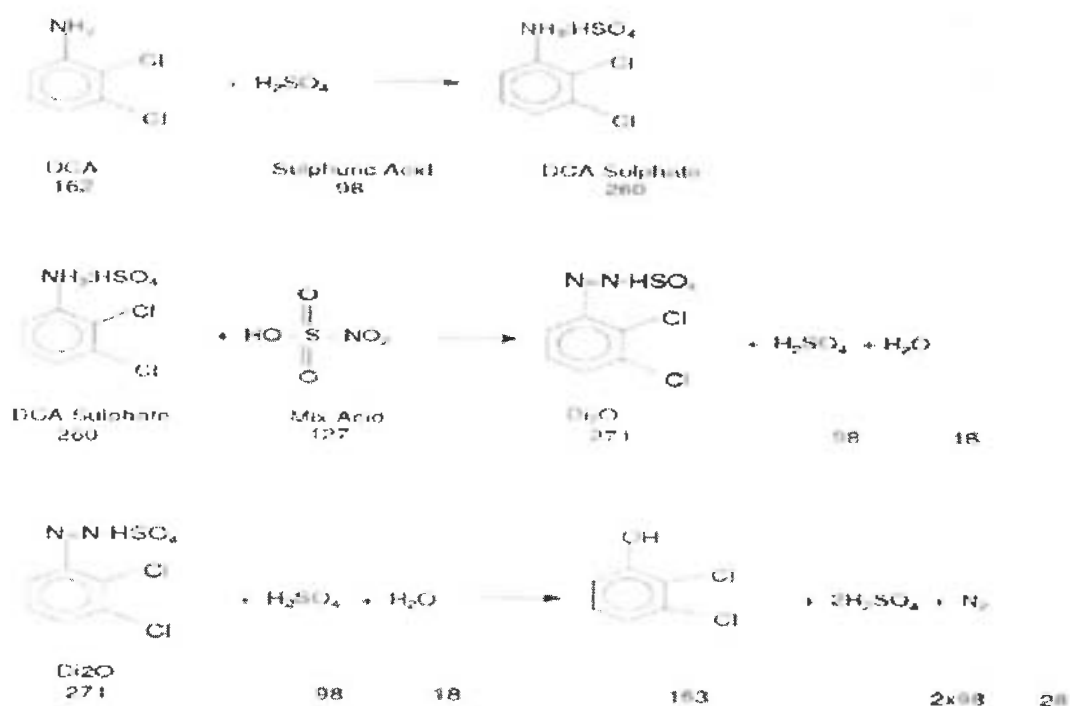


2. 2,5 DI-CHLORO PHENOL:

Di Chloro aniline reacts with sulphuric Acid to form Di Chloro aniline sulphate. Di Chloro aniline sulphate reacts with mix acid to form diazo mass. Diazo mass reacts with dilute sulphuric acid to form crude Di Chloro Phenol. This reaction will generate N_2 gas and dilute sulphuric acid. This dilute sulphuric acid will be purified and concentrated for recycle purpose. Crude Di Chloro phenol separate out and distilled to get Di Chloro Phenol.

Stoichiometric reaction:

Di-chloro phenol:

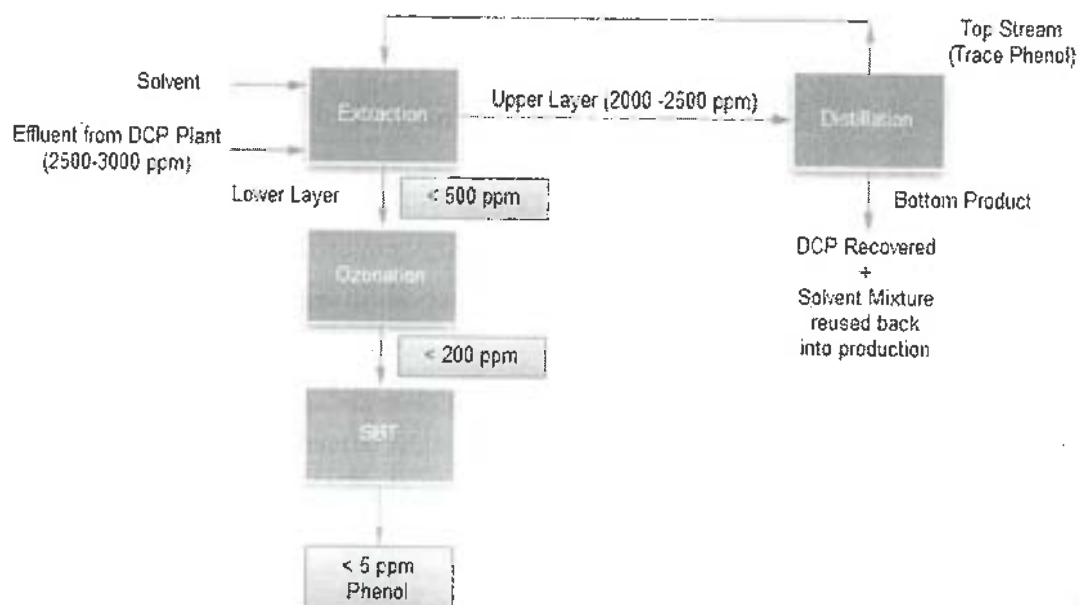


C. KEY HIGHLIGHTS OF CLEANER PRODUCTION PRACTICES:

1. Phenol recovery from DCP(Di-chlorophenol) effluent with the use of extraction, distillation, ozonation and soil biotechnology

Phenol Recovery through extraction followed by distillation:

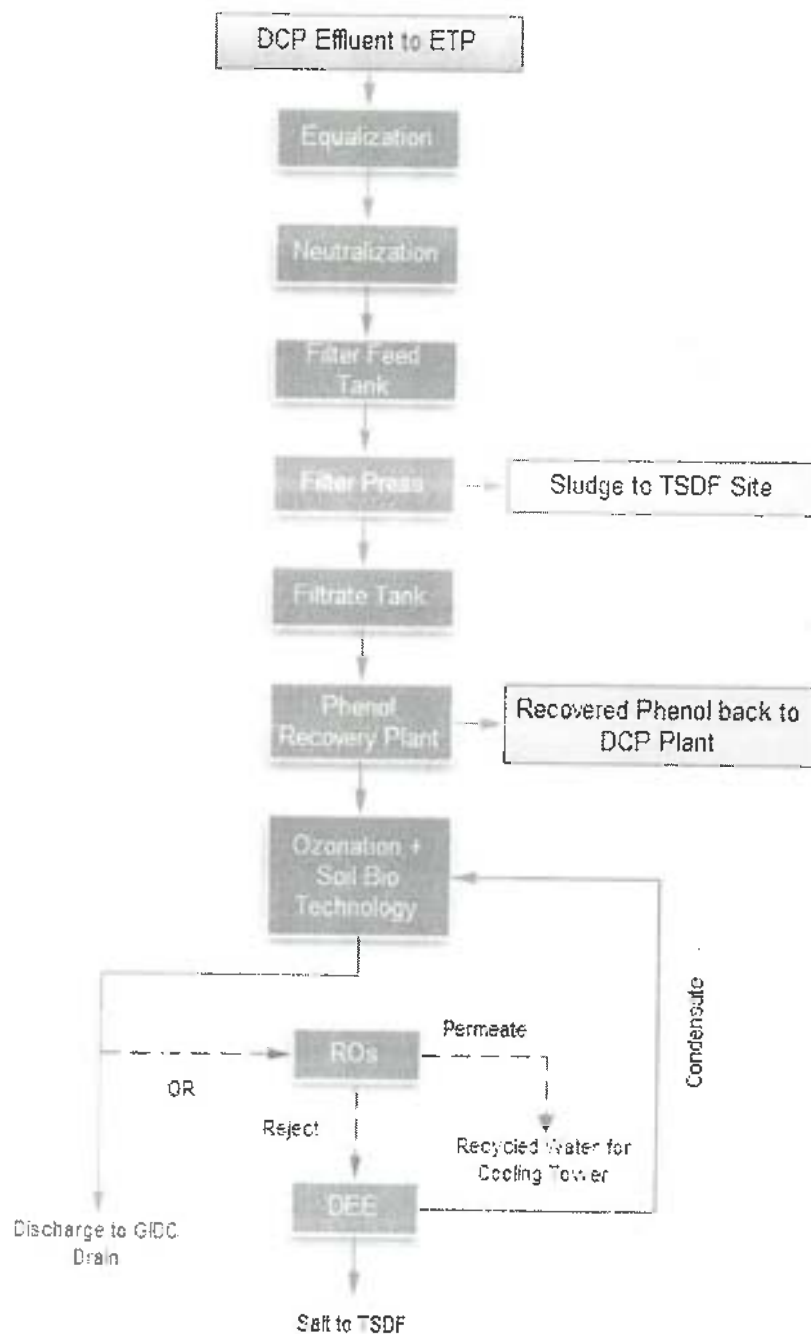
The phenol rich effluent is (2500-3000ppm) generated from the DCP (Di-chlorophenol) plant. The effluent is treated in the extraction column followed by the distillation column. The effluent is initially subjected to a distillation column to recover the phenol and bring down the phenolic content to <500ppm in the bottom of the column. The bottom of the Distillation Column i.e. recovered DCP+solvent mixture is reused back into the production. Top Stream is reused in Extraction Column.



Treatment of phenol by ozonation followed by soil-biotechnology:

Ozonation is followed by the Extraction to further reduce down the phenolic content to <200 ppm. The outlet of the ozonation chamber is subjected to SBT plant that works on biological processes where effluent passes through different stages so as to degrade the assay and breakdown of organic components. Here the effluent is subjected to a series of layers containing bio cultures attached to binding media followed by filtration systems so as to achieve the phenol content in the treated water <5 ppm.

The flowchart of effluent treatment is shown as below:



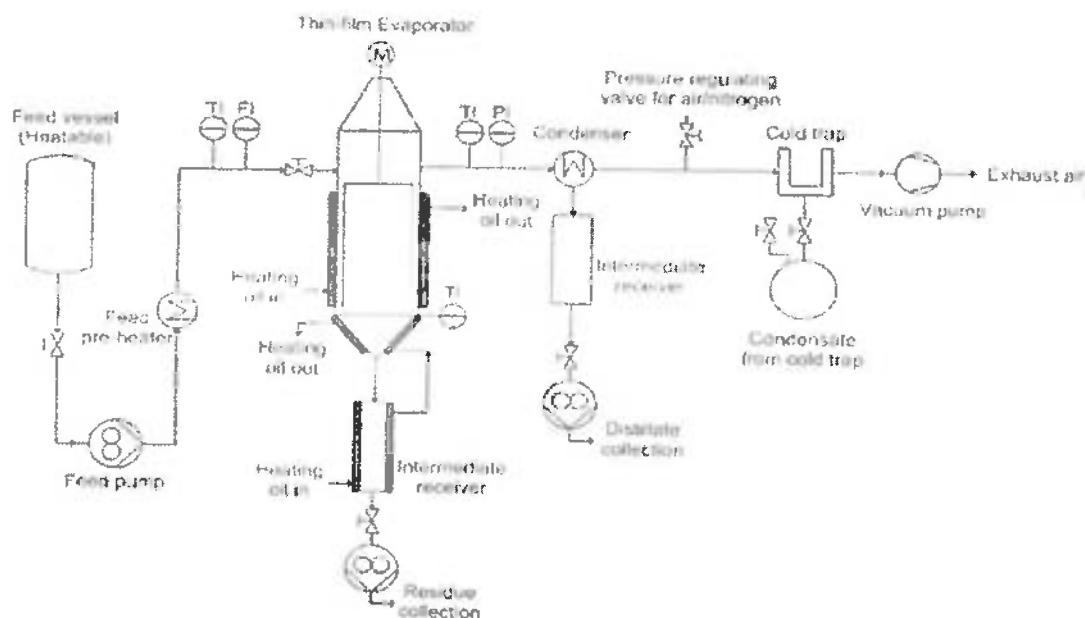
The aim of the Phenol recovery plant is to reduce the phenolic content from the DCP effluent (initial 2500-3000 ppm) by using solvent. Thus, in the vacuum distillation column followed by the atmospheric extraction column in the bottom part, they receive a 40:60 ratio as solvent: phenolic effluent. The recovered phenolic water is reused back into the process.



2. DCA (Di-chloroaniline) recovery from distillation residue with the use agitated thin film evaporator (ATFE)

The residue generated from distillation of crude product to obtain pure product DCA is further subjected to Agitated Thin Film Evaporator (ATFE) where product is agitated in vertical Thin Film Dryer (ATFD-V). It rotates in a precision-machined jacketed shell with desired evaporation temperature at different stages.

The feed is converted into a thin film layer which is intensely agitated due to action of the high-speed rotor. The feed material goes through phases of slurry, paste and wet powder, before coming out as a dry powder.



Previously distillation of crude product was done to obtain pure product DCA (Di-chloroaniline) and residue generated was disposed through hazardous waste management. After adopting this technology, they are able to recover the desired product with required purity which can be directly used in a DCP plant as a raw material. By this methodology they are able to minimize up to 70% hazardous waste residue and reduce the carbon footprint while going ahead with conservation of environment.

They use only In-house produced DCA in the manufacturing of DCP production.

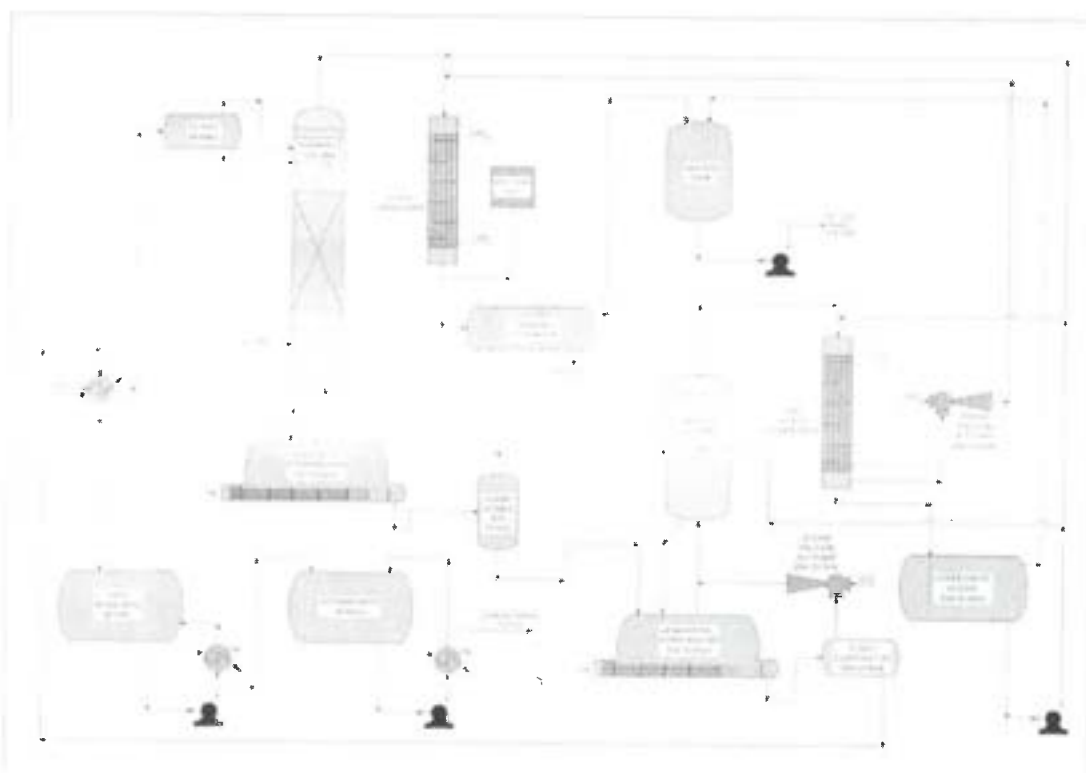


3. Reuse of 70% concentrated H_2SO_4 by increasing the concentration of H_2SO_4 by 90% through series of evaporation

In this process the concentration of H_2SO_4 is performed by the acid concentration units in 3 stages. The 90 % H_2SO_4 is used as raw material for the production of the DCP. Thus, the acid concentration plant is implemented for the concentration of H_2SO_4 from 70% to 90 %.

The Acid is fed into a flash vessel to stripping column where the mass is evaporated in 1st stage Evaporator. In this process the acid is concentrated by 80% from 70%.

The 10% evaporation loss consists of organic contains which is recycled back in DCP (Di-chlorophenol) plant as well as aqueous contains which is reused back in the steam generation unit.



The 80% concentrated acid is transferred to the 2nd stage flash vessel where again it is evaporated in 2nd stage evaporator system. The Acid is concentrated up to 90% in this stage. The evaporated mass passed by the quenching column via 3rd stage condenser system. The condensed water is used back in the steam generation unit. In the 3rd stage the 90% H_2SO_4 is concentrated to 91-92% in the 3rd stage Vessel. The concentrated mass is transferred to the bleaching vessel by H_2O_2 in the intermediate vessel. The heating temperature in the flashing evaporator reaches 180°C. Where

the heat is used back in the initial flash vessel 1st phase process using the high temperature H_2SO_4 back in flash vessel 1st stage, the concentrated acid is sent for bleaching by H_2O_2 in bleaching vessel for the acid purity up to 90%.

In the NSA plant at stage-I, 70% concentrated H_2SO_4 is fed in the column where top Column temperature is approx 110°C where H_2O & DCP (1400-1500 ppm) vapor is generated and at the bottom of the column 80%-85% Concentrated H_2SO_4 is collected which is transferred to the Stage-II.

In Stage II 80-85% Concentrated H_2SO_4 is fed in the column where top column temperature is approx 60°C where the H_2O Vapor is generated and at the bottom of the column is 88% - 90% Concentrated H_2SO_4 is collected which was transferred to the Stage-III.

In Stage III 88%-90% Concentrated H_2SO_4 is fed in the column where Moisture Stripper is available to absorb the moisture and the bottom column is 90% - 92% Concentrated H_2SO_4 is collected which is transferred to the tank farm 1

In this process, no emission was their whole process is in the close loop and the 90% - 92% Concentrated H_2SO_4 is further stored in the tank farm 1 whereas the H_2O collected in Stage I & II is also utilized in the plant for the Steam Generation and generated steam is returned to the DCP plant.

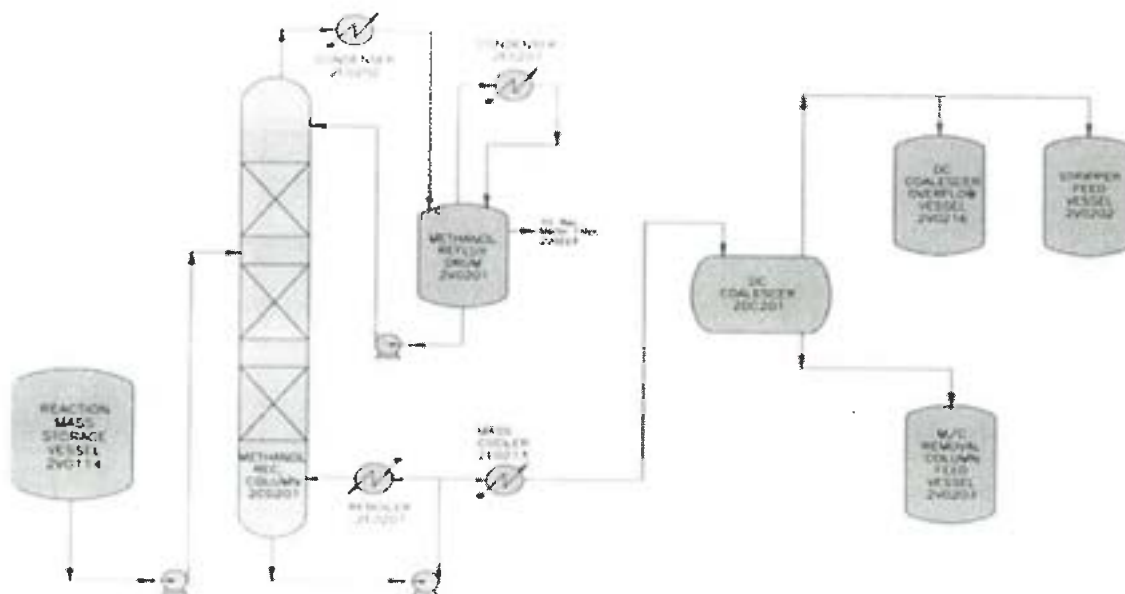
The Overall process is a continuous process in which it divided in two parts such as DCP crude product manufacturing (the fresh acid was consumed in this unit till the recovery process is started in SAC plant) and second is sulphuric acid concentration as a recovery of acid (SAC plant).

Only in the initial phase start-up of the process is required 2.98 Kg/Kg fresh H_2SO_4 is required to manufacture DCP crude (fresh consumption is up to 24 hours for the starting of the initial process). Afterward, the recovering process of Acid is started which is a continuous process, and in the end, the acid product is 90% H_2SO_4 which is a finished product.

4. Recovery of methanol from DCA obtained during 2,5-DCA production

Unit has provided a close loop solvent recovery system with an adequate condenser system to recover solvent vapors. The PFD of solvent recovery system is given as below:





Recovery of methanol from crude product (i.e., mixture of 2, 5 - DCA, methanol and water) is achieved by continuous distillation. In the distillation column, separation of components happens due to relative volatility. Here, a packed column is used for the recovery of methanol because it results in less pressure drop and the material separated is heat sensitive. The column is operated at atmospheric pressure. Methanol is obtained from distillate and collected in recovery vessel for further use in process.

The reaction mass storage vessel (2V0114) consists of solvent as media which is separated for the methanol recovery by distillation process in methanol recovery column (2C0201). To maintain the temperature as well as vapor equilibrium in the column further the methanol reflux process is done in the methanol reflux column via condenser system. The remaining methanol is transferred back to the recovered methanol recovery vessel.

The bottom product is processed for further separation units. Bottom of the distillation column is fed to DC Coalescer (Separation on different conductivity). It's a gravity settler work on basis of specific gravity and conductivity and separates two immiscible liquids into two separate layers. Water layer or top layer is separated and the bottom product is fed to the moisture removal column.

In the moisture removal column, material is dried as per product specifications. A continuous vacuum is maintained inside the column by means of a Liquid ring Vacuum System. Material is circulated through a heat exchanger. As pressure decreases in the drier boiling point of water is reduced and removed through condensers. The final product is obtained from the bottom of the column and stored in a specific storage tank.

D. Product recovery, reduction in effluent and hazardous waste generation:

Phenol + DCP mixture Recovery (expected at full capacity)		
1.	Phenol recovery, kg/Day	6600 Kg/Day
2.	Effluent reduction, kg/Day	6600 Kg/Day
DCA Recovery (expected at full capacity)		
1.	DCA recovery, kg/Day	1968 kg
2.	Residue reduction, kg/Day	1968 kg
Concentration increment in Sulfuric acid (from 70% to 90%) -		
1.	Saving of H ₂ SO ₄ (against fresh consumption)	327 KL/Day
2.	% Saving of fresh H ₂ SO ₄ consumption	100%
2.	Acid reduction (for disposal), kL/Day	327 KL/Day
Methanol Recovery		
1.	Methanol recovery, kL/Day	5.99 KL/Day
2.	Effluent reduction, kL/Day	5.99 KL/Day




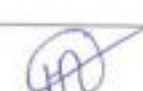


E. Conclusion of the study:

1. Out of total 180 kL/day effluent generation in a DCP production, the major COD contributing component, i.e., phenol recovered in the tune of 6.6 kL/day. Thus, 6.6 kL/day effluent load reduces and subsequently COD load is reducing.
2. DCA production resulting to generation of 5.04 MT residue as a hazardous waste. With the introduction of ATFE, 2.5 MT DCA recovered. Thus, 2.5 MT hazardous waste generation reduced. Now, industry has to dispose of 2.54 MT hazardous waste instead of 5.04 MT waste.
3. Industry is recovering 446.3 kL/day concentrated Sulphuric acid (70%) from DCP production. With the use of series of evaporation system, concentration of sulfuric acid increases to 90% and reutilized for the process. Thus, industry has reduced fresh consumption of 90% sulfuric acid (357 kL/day). Out of total 357 kL 90% sulfuric acid, 323 kL utilized for process and 34 kL sell to market.
4. In the manufacturing of DCA, generation of waste stream (12.398 kL/day) consist of mainly methanol. The methanol recovered in the tune of 5.998 kL/day and rest of (6.4 kL/day) treated in existing ETP. Industry is in process to recover traces of methanol from 6.4 kL/day waste stream.

NOTE: Conclusions are based on the detail provided by industry representative. The basis for certain calculations were done at 100 % operational capacity of products.

Date: 04/04/2022

 Dr. Y. C. Rotliwala (Principal)	Dr. Yogesh Rotliwala Ph.D. (Chemical Engg.), Chemical Engineer	
	Dr. Hiral Tailor Ph.D. (Chemistry), Chemist	
	Dr. Himanshu Patel Ph.D. (Chemistry), Chemist	H. J. Patel
	Ms. Nidhi Halbe M.E. (Env.Engg.), Environmental Engineer	



Annuxure XII

ANNEXURE

Compliance of EMP Conditions

Sr. No.	Conditions	Compliance
Construction Phase		
i	Site Preparation	
1	Uplift of dust during the excavation, leveling operations etc. Control Measure: Sprinkling of water over land, and provision of enclosure.	Complied Regular sprinkling of water over land, and provision of enclosure done for dust reduction in workplace
ii	Sanitization	
1	Sanitization facilities. Control Measure: Sewage will be sent to soak pit.	Complied Sewage water is now treated in the STP plant.
iii	Noise	
1	Movement of vehicles like truck, Dozer, Cranes. Control Measure: Restrict movement of vehicle between 10 p.m. to 6 a.m. All vehicles will be maintained in well condition	Complied Restrict movement of vehicle between 10 p.m. to 6 a.m. All vehicles are maintained in well condition
2	Construction activity. Control Measure: Engineering control, Provide noise protection devices like earmuffs, ear plug to worker, Rotation of work to minimize exposure.	Complied Engineering control, noise protection devices like earmuffs, ear plug to worker, Rotation of work are provided to minimize exposure.
iv	Wastes from construction equipment	
1	Dozer, Cranes Control Measures: Avoid spillage, proper storage, disposal by selling to reprocessor.	Complied Unit has avoided spillage, proper storage, disposal by selling to reprocessor.
2	Painting Control Measures: Proper storage, disposal by selling to authorized buyers/incineration.	Complied Unit has properly stored and disposed to authorized buyers/incineration.
3	Construction. Control Measures: Use for leveling purpose within premises	Complied Use has used leveling purpose for filling of low lying area.
Operation Phase		
A.	Air Environment	
1	Flue Gas Emissions: Unit shall provide acoustic enclosure and adequate stack height for D.G Set	Complied Unit has provided acoustic enclosure and adequate stack height for D.G Set
2	Process Gas Emissions: Unit shall provide APCM and adequate stack height for control of process gaseous emissions	Complied. Unit has provided a scrubber system and adequate stack height to all process gas emissions.
3	Fugitive Emissions:	Complied
B.	Water Environment	
1	Water Consumption The total water consumption of the proposed new unit will be 1429 KL/day. Out of the total water of 1429 KLD, fresh water will be 1253 KLD (Domestic requirement will be 47 KLD and industrial requirement will be 1262 KLD).	Agreed Unit will ensure, the permitted water consumption value will not be exceeded.
2	Wastewater Generation: Total waste water generation shall not exceed permissible limit	Agreed Unit will ensure, the permitted wastewater generation value will not be exceeded.
C.	Noise Environment	
1	Transportation activities Control Measures: a. Green belt, Restriction on transportation between 08 p.m. to 9 a.m., Maintain vehicle in good condition.	Agreed Unit had initiate the development of the green belt area. already unit is restricting on transportation between 08 p.m. to 9 a.m.,and maintaining vehicle in good condition.
2	D.G. Set Control Measures: a. Acoustic enclose, Engineering control, b. Provision of PPE, Green belt,	Complied Provided acoustic enclose, Engineering control in D. G. Set for preventing noise pollution
3	Plant/Process area	Complied
D.	Land Environment	
1	Development of greenbelt comprising of appropriately selected species of shrubs and trees. It is recommended that plantation be made on sites, road sides, around waste treatment units.	Complied Green belt developed with appropriate species of shrubs and trees like Gulmohar, Neem and Pelta Farm. Plantation is done on site, road sides, around waste treatment units.
E.	Raw Material and Product Storage Area	
1	Raw materials will be stored in M.S tanks, S.S tank and HDPE Carboys, HDPE bags,etc in separeate storage room	Complied Raw materials are stored in M.S tanks, S.S tank and HDPE Carboys, HDPE bags,etc in separeate storage room for first phase production will do the same in next phases

	2	Separate collection system is provided for collection of spillage material. Impervious layer, RCC roads and flooring is provided to area, where the chemical storage and handling activities is involved	Complied Separate collection system is provided for collection of spillage material. Impervious layer, RCC roads and flooring is provided to area, where the chemical storage and handling activities is involved for first phase production will do the same in next phases
	3	Hazardous flammable substances are separately stored within premises. Solvent transfer will be done by pumps. Reactor & solvent handling pump have mechanical seal	Complied Hazardous flammable substances are separately stored within premises. Solvent transfer is done by pumps. Reactor & solvent handling pump which have mechanical seal for first phase production will do the same in next phases
	4	The acid tanks will be provided with dyke wall to control spread of leakages.	Complied The acid tanks are provided with dyke wall to control spread of leakages for first phase production will do the same in next phases
	F.	Vehicular Pollution Control	
	1	All vehicles will be maintained in well condition by regular preventive maintenance to reduce the exhaust level.	Complied All vehicles are maintained in well condition by regular preventive maintenance to reduce the exhaust level. Spark arrestor is used for all vehicles entering the site.
	2	Drivers of all vehicles used in the transportation will be trained in transportation of Hazardous chemicals to prevent any accident. Fitness and training test certificate approved by R.T.O to be maintained on the vehicle at all times to ensure transport worthiness.	Complied Unit has developed a checklist which is checked by the security personnel at the entry of material gate. The checklist consists of all the mentioned points which is attached as
	G.	Safety Measures to Prevent the Occupational Health Hazards	
	1	All reasonably practical measures will be adopted by the unit to minimize the risk of accidents within a chemical manufacturing unit	Complied All reasonable practical measures like: a. Work specified PPEs b. Safety Showers c. Fire extinguishers d. Hydrant tank with circulated networks e. DG Sets etc. are provided to minimize the risk of accidents.
	2	All building plans and installations will be as per relevant laws and will be approved by competent authority	Agreed & Complied Unit has considered to construct Green Buildings which will be approved by the competent authority
	3	Suitable personnel protective equipments and fire extinguishers at strategic locations and suitable personal protective equipments will be provided	Complied Unit has provided PPEs and Fire Extinguishers at Strategic Locations.
	4	Training will be imparted to all workers for all the hazardous process operations within the plant and will be supervised by experienced supervisors	Complied Trainings have been for all workers who deal with hazardous process operations within the plant
	5	Flame proof electrical fittings, flame arrestors etc will be installed	Complied Unit has provided Flame proof electric fittings, flame arrestors etc.
	6	All the raw materials will be stored in designated storage area equipped with necessary safety features	Complied All the raw materials have been stored in the RM Warehouse and which is equipped with specific safety features.
	7	Periodic inspection & testing of pressure vessels, equipments, and machineries will be done.	Complied Regular preventive maintenance and periodic inspection of machines is done by the Unit for first phase of production and will do the same for next phases.
	8	Good housekeeping will be ensured within the factory premises	Complied Good house keeping is ensured within the factory.
	9	All designated staff & workers will be trained for the fire-fighting, work permit system, first aid and safe handballing of hazardous chemicals.	Complied All designated staff & workers are properly trained and regular trainings are provided for fire-fighting, work permit system, first aid and safe handballing of hazardous chemicals.
	10	Incident/accident reporting system will be developed and all the employees will be made aware for the same.	Agreed & Comply Unit will report incident or accident to all the employees for their awareness.
	11	Suitable notices/boards will be displayed at designated locations indicating appropriate hazard warnings.	Agreed and will Comply Proper boards/notices will be displayed at designated locations indicating hazard warnings.
	12	Antidotes as well as MSDS for all the chemicals will be made available within the factory premises.	Complied Antidotes are MSDS are available for all chemicals within company premises.
	13	Pre-employment medical checkup at the time of employment will be carried out. In order to safe guard the health of the employees, all the employees undergo periodic health checkup at every six month.	Complied Pre-employment medical checkup at the time of employment is carried out. All the employees undergo periodic health checkup at every six month.
	H.	Storm Water Management	

	1	The drains for storm water will be kept clean and dry in summer and winter. The storm water drains will be connected to holding tank. The rain water of the premises will be collected in this holding tank through storm water drains. The collected water will be analyzed for any contamination of pollutants for 1st and 2nd rain during monsoon. If analysis indicates any contamination, the collected water will be diverted to ETP plant. In case of no contamination, the collected water will be used in cooling tower and other applications.	Agreed and will comply.
	I.	Energy Conservation Programme	Agreed and will comply. 1. Unit has planned to consider the solar panels on the roofs of admin and security buildings. 2. Unit will ensure the Preventive Maintenance of equipments which may cause excess energy expenditure.
	j.	Water Conservation Programme	Agreed and will comply Unit has provided ETP and will provide RO & MEE to recycle water which will result in reduction of freshwater consumption. Unit has started the STP operation and sewage water are treated in STP Plant we will reuse the treated water from STP to the gardening purpose. Unit will ensure to provide Stormwater reservoir to reuse water for various industrial purposes.
	K.	Management of Traffic	
		Parking space for vehicles will be provided for loading and unloading products. Adequate roads to cater to two way traffic and to meet the fire regulations are planned in the complex.	Complied Unit has provided wide two-way RCC roads for management of traffic. Proper parking space will be provided for loading and unloading products.
	L.	Social Welfare measures for Future Planning	
	1	Providing materials and monetary aid to schools, primary health centers, hospitals, sports, clubs and places of worship.	Complied CER & CSR activity has been done by the unit.



BEIL INFRASTRUCTURE LIMITED

(Formerly Known As Bharuch Enviro Infrastructure Limited).

Ref. BEIL/ANK/2024

23RD MARCH, 2024

To,

AARTI INDUSTRIES LTD. (DIAMOND DIVISION - 58381)

PLOT NO. Z/103/C,

DAHEJ SEZ II,

TA-VAGRA, DIST-BHARUCH.

Sub: Membership Certificate for Common Solid Waste Disposal Facility.

Dear Sir,

We hereby certify that you have become member for **5 years up to 22/03/2029** for the common Solid/Hazardous waste disposal facility of BEIL Infrastructure Limited. (Formerly Known as Bharuch Enviro Infrastructure Limited.), at GIDC, Dahej. You have booked solid waste quantity of **8176 MT/Years**. Your Membership No. is **OTH/841**.

Waste will be accepted after submitting valid authorization of GPCB.

- 1) Total TSDF Capacity of BEIL Dahej: 1900000 MT**
- 2) Total Consented Capacity: 1900000 MT**
- 3) Total Occupied Capacity: 1376628.989 MT**
- 4) Spare Capacity: 0523371.011 MT**

Thanking you,

Yours faithfully,

For BEIL Infrastructure Limited.

(Formerly Known as Bharuch Enviro Infrastructure Limited.)

Mr. Manoj Patel

(Vice President - Operations)

Membership Certificate Details



Certificate



To whomsoever it may concern
This is to certify that

Certificate No : 4100009271

AARTI INDUSTRIES LTD UNIT 2

PLOT NO Z/103/C
DAHEJ SEZ II, LAKHIGAM, TAL-VAGRA BHARUCH
DAHEJ
Gujarat

is a valid member of

Recycling Solutions Private Limited Unit-II

for Alternate Fuel Resource Facility.

This membership is valid for a period of
10 Years

For, Recycling Solutions Private Limited Unit-II

Date of issue : 02.06.2020
Date of expiration : 01.06.2030
Place of issue : SURAT


Director/Authorised signatory

Waste Information

SrNo	Type Of Waste	Sign Qty(TPA)	SrNo	Type Of Waste	Sign Qty(TPA)
1	DISTILLATION RESIDUE.	4,200.00 0			0.000
Total Sign Qty (TPA)					4,200.000

SUBJECT TO JURISDICTION



BEIL INFRASTRUCTURE LIMITED
(Formerly Known As Bharuch Enviro Infrastructure Limited)

04th SEPTEMBER, 2020

To,
AARTI INDUSTRIES LTD. (DAHEJ UNIT II)
PLOT NO.Z/103/C,
DAHEJ SEZ II,
TA-VAGRA, DIST-BHARUCH.

Sub: Membership Certificate for Common Incineration Facility

Dear Sir,

You are a member of our Common Incinerator Facility and your membership No. is **CI/BD/97**. We hereby certify that your booked quantity has increased from **10 MT/Year** to **60 MT/Year**.

Thanking you,

Yours faithfully,
For, BEIL Infrastructure Limited
(Formerly Known as Bharuch Enviro Infrastructure Ltd)


AUTHORISED SIGNATORY

CIN No.: U45300GJ1997PLC032696

Regd. Office : Plot No. 9701-16 GIDC Estate, Post Box No. 82, Ankleshwar 393 002, Dist. : Bharuch (Gujarat)
Phones (02646) 253135, 225228 • Fax : (02646) 222849 • E-mail : dalwadibd@beil.co.in

To,

AARTI INDUSTRIES LTD UNIT-2

PLOT NO Z/103/C,

DAHEJ SEZ II, LAKHIGAM.

TAL-VAGRA BHARUCH-392130,

GUJARAT, INDIA

Date: 16.02.2024

Sub. : Waste acceptance at Waste Co- Processing Facility (Alternate Fuel Resource Facility).

Dear Sir,

We would like to inform you that we can accept your hazardous waste i.e. Liquid, Solid or Semi-solid at our Waste Co- Processing Facility (AFRF) RSPL unit at Panoli basis on actual waste samples analysis, the list of the waste is as per below.

Sr. no.	Type/ Name of Hazardous waste	Schedule cat.	Quantity (MT/ Annum)
1	Distillation Residue	26.1	10120

However, our acceptance is subjected to a quick check analysis prior to the actual receipt of waste and completion of membership process.

We assure you that we work in most economical way, as per the legal requirement and in an environmentally suitable manner.

RSPL , Panoli Total Waste Mix Pre-Processing capacity : 390 MT/Day

Please feel free to call undersigned or write us at marketing@rs-pl.com for any Query or clarification.

Thanking You.

Yours Faithfully,

For **Recycling Solutions Pvt. Ltd**



Authorized Signatory

Unit Location

Plot No. 223, GIDC Estate Panoli, Panoli - 394 116
Dist. Bharuch, Gujarat, India. Phone : +91 2646 272029

CIN - U37100MH2012PTC237696

E-mail : mail@rs-pl.com

Regd. Office

370, S V P Road, Shop 8, & Plot 384, Cigaretwala Bldg,
Opp. CBI, Prathna samaj, Nr. Harkishandas Hospital,
Mumbai - 400 034, Maharashtra, India.

Website : www.rs-pl.com



दि न्यू इन्डिया एश्योरन्स कंपनी लिमिटेड

(भारत सरकार का उपक्रम)

THE NEW INDIA ASSURANCE COMPANY LTD.

(Govt. of India Undertaking)

मं. का. 120400, न्यू इन्डिया सेंटर, 4थी मंजिल, 17-ए, कोपरेज रोड, मुंबई - 400 001.

D.O. 120400, New India Centre, 4th Floor, 17-A, Cooperage Road, Mumbai - 400 001.

Phone : 22815075, 22892800

E-mail : nia.120400@newindia.co.in



Annuxure XIV

Public Liability Act policy

Issued at MUMBAI

DATE: 09/01/2025

Policy No : 12040036243300000004

Name of the Insured : AARTI INDUSTRIES LTD

Period of Insurance : From: 09/01/2025 00:00:01 AM To: 08/01/2026 11:59:59 PM

Risk Locations :

Sr No	Division	Bus Area Code	Plant Name	Address
1	Chemical	AN01	Amine	Plot No 285,286/1 A-1-322/23, 322/12, 322/24 II Phase,GIDC,Vapi- 396195
2	Chemical	AP01	Apple	PLOT NO. 610 , 609 & C1B/70, REVENUE SURVEY NO 234/P ,100,SHED AREA, GIDC , VAPI, VALSAD 396195
3	Chemical	DH1N	Dahej Diamond	PLOT NO Z/103/C SEZ-II, DAHEJ, TAL- VAGRA, DIST - BHARUCH 392130
4	Chemical	DHJ1	Dahej Neo	PLOT NO Z/103/H SEZ-II, DAHEJ, TAL- VAGRA, DIST - BHARUCH 392130
5	Chemical	DHJ2	Dahej Saffron	PLOT NO - Z/111/B, Z/111/C & D, GIDC Notified Industrial Estate, DAHEJ, SEZ-II,TAL VAGRA, DIST. BHARUCH 392130
6	Chemical	FA01	Fertilizer	PLOT NO. 801/15, TO 19, 21 AND 22 PHASE-III, G.I.D.C. ,INDUSTRIAL ESTATE,VAPI 396195
7	Chemical	JA04	Jhagdia 3M/Ash Land	PLOT NO 778 , 758/1-2-3 & 756/4-5, 779 AJANTA PAPER & GENERAL PROC,GIDC JHAGADIA - DIST BHARUCH 393110 PLOT NO 41-1 & 41-2. JHAGADIA GIDC ESTATE ANKLESHWAR, DIST BHARUCH 393110
8	Chemical	Jhagadia	Jhagadia	Plot No 41/1, 41/2, 41/3/1, 41/3/2 & 41/3/3 ,GIDC Jhagadia - 393110, Dist - Bharuch, Gujarat (India)
9	Chemical	JHA1(Pearl)	Jhagadia	Plot No. 756 - 8/9, 758/1,2,3 Survey no. 345, 348, 356, 357, 358, 359, 360 & 364
10	Chemical	JHA2 (Ruby)	Jhagadia	Plot No. 756-2A/B, 3A/B, 4A/B, 5A/B,6,7,8,9 &
11	Chemical	JHA3 (Jade)	Jhagadia	Survey No. 122 GIDC Jhagadia, Dadheda, Bharuch 393110
12	Chemical	JHA4 (Gold)	Jhagadia	Plot no. 778, P.B No. 24, GIDC, Jhagadia-393110, Dist- Bharuch, Gujarat
13	Chemical	R&D Jhagadia	R&D Jhagadia	Plot No 41/3/1-2-3, Jhagadia, Dist- Bharuch, Gujarat
14	Chemical	JHA6(Onyx)	Jhagadia	PLOT NO. 756/2 A&B 756/3 A&B 756/4 A&B , GIDC NOTIFIED INDUSTRIAL ESTATE, JHAGADIA 393110
15	Chemical	KU01	Anushakti	SURVEY NO. 1430/1, NATIONAL HIGHWAY NO. 8, KUTCH BHACHAU, GUJARAT 370140
16	Chemical	NS01	Nascent	PLOT NO. 24, PHASE-I, G.I.D.C., DIST VALSAD VAPI 396195



17	Chemical	NU01	Nutrient	PLOT NO. 802,803,804/12-3, 801/15 TO 19, 21 AND 22 PHASE-III, G.I.D.C. ,INDUSTRIAL ESTATE,VAPI 396195
18	Chemical	RD01	R&D Vapi	PLOT NO. 802,803,804/12-3, 801/15 TO 19, 21 AND 22 PHASE-III, G.I.D.C. ,INDUSTRIAL ESTATE,VAPI 396195
19	Chemical	RD03	R&D Mhape	A/94-1 & A/94/1/1, Khairane, MIDC, TTC,India, Navi Mumbai - 400710
20	Chemical	VA01	Acid	Plot No 802, 803, 804/3, Phase III,GIDC,Vapi- 396195 Plot No. 801/15 to 19,21 & 22, Phase-III, GIDC Estate, Vapi -396195, Tal: Pardi, Dist: Valsad
21	Chemical	VA02	Organic	PLOT NO. 801-23, TO 802,803,804/1-2-3, 15 TO 19, 21 AND 22 PHASE-III, G.I.D.C. ,INDUSTRIAL ESTATE,VAPI 396195
22	Chemical	VA03	Alchemie Organic	PLOT NO. 902 923 PHASE-III, G.I.D.C, VAPI, DIST VALSAD, VAPI 396195
23	Chemical	TA02	Tarapur Unit-2	Plot No. L-5,L-4, L-8,L-9/1, MIDC, Tarapur, Boisar, Maharashtra 401506

Sr No.	Bus Area Code	Address	Location	Rented or Owned
1	SL - STORAGE LOCATION	209 C/o Welcome Roadways, Lasudiya Mori, Halka No 17, Dewas Naka, Indore- 452010	Indore	Rented
2	ET01	71 Udyog Kshetra 2nd Floor Mulund Goregaon Link Road, Mulund West, Mumbai 400080	Mumbai	Owned
3	SL - STORAGE LOCATION	Ankit Petro Products Private Limited, L12, MIDC, Tarapur 401506	Tarapur	Rented
4	SL - STORAGE LOCATION	BHIWANDI GODOWN -1 SHED NO. 4, PATWARDHAN COMPOUND, NEAR DAL MILL COMPOUND, PURNA VILLAGE, AGRA ROAD, PURNA THANE	Bhiwandi	Rented
5	SL - STORAGE LOCATION	C/O Nasibdar Group Of companies, Plot No . H-4/2/B, MIDC, Tarapur, Boisar , Maharashtra - 401506	Tarapur	Rented
6	SL - STORAGE LOCATION	D/6 , Mayashree Compound, Survey No. 189/12356, 190/4, 190/5, 194/11, In Dal Mill Compound, Village Purna , Bhiwandi , Dist: Thane. 421302	Bhiwandi	Rented
7	SL - STORAGE LOCATION	GAT NO 706 SANDIP WAREHOUSE, AVHANE SHIVAR, KANALDA ROAD, AVHANE, JALGAON, DIST - JALGAON - 425002	Jalgaon	Rented
8	SL - STORAGE LOCATION	GAT NO 89 & 91 SANGHAVI WAREHOUSE, BAMBRUD PACHORA, DIST- JALGAON -424201	Jalgaon	Rented

9	SL - STORAGE LOCATION	GODOWN NO 1 , 2 , 3 & 4, GAT NO 68/1, VILLAGE BELAD, NH-6 BYE PASS ROAD , TAL- MALKAPUR, DIST - BULDHANA - 443102	Buldhana	Rented
10	SL - STORAGE LOCATION	GODOWN NO 1 PART B SURVEY NO 137, BEHALF OF SANTOSH HYBRID SEEDS CO PVT LTD, BHOKARDAN ROAD, JALNA, DIST - JALNA - 431114	Jalna	Rented
11	SL - STORAGE LOCATION	GODOWN NO 1 TO 4 SURVEY NO 108/A/2 CHAHURANA BUDRUK, NAGAR KALYAN ROAD, NALEGAON , THANGE MALA ,AHMEDNAGAR - 414001	Ahmednagar	Rented
12	SL - STORAGE LOCATION	GODOWN NO 1, GAT NO 203, BEHLAF OF JEEVAN TRADING COMPANY, TUPPA VILLAGE, HYDERABAD HIGHWAY, DIST NANDED - 431603	Nanded	Rented
13	SL - STORAGE LOCATION	GODOWN NO 2 & 3 SURVEY NO 224/2 NEAR RADHASWAMI SATSANG , SHAHADA ROAD, VILLAGE DONDAICHA, TAL SHINDKHEDA, DIST - DHULE - 425408	Dhule	Rented
14	SL - STORAGE LOCATION	GODOWN ON SURVEY NO 163, GRAMPANCHYAT TEMBHURNE, KHAMGAN-AKOLA ROAD, DIST BULDHANA - 444303	Buldhana	Rented
15	VD09	GPC No. 932/1, 932/2 Hubbarwadi, Hubbarwadi Village, Raybag, Belagavi 591317, Karnataka	Belagavi	Rented
16	SL - STORAGE LOCATION	Industrial plot no 271 and 272 chanod tal.vapi dist valsad	Vapi	Owned
17	SL - STORAGE LOCATION	Industrial plot no 271 and 272 II Phase Gidc vapi 396195	Vapi	Rented
18	CS01	Khata no 430 survey no 452 village chival pardi valsad	Vapi	Owned
19	SL - STORAGE LOCATION	NAGESHWAR COMPOUND, GALA B 103 PART A THANE BHIWANDI AGRA ROAD VILLAGE PURNADANDEKARWAD, DISTRICT - THANE	Bhiwandi	Owned
20	HAZ1	Near LNG Terminal, Hazira Bypass Road, Hazira, Surat-394270, Gujarat	Hazira	Rented
21	SL - STORAGE LOCATION	Nepti Factory Godown No 3, Vaibhav Cattle Feed Factory Nepti, Survey No 65/2B/1 , Nepti village, Kadegaon, Kadegaon Tal - Ahmednagar Dist - 414005	Ahmednagar	Rented
22	VD07	PLOT NO - 609, 610,100 SHED AREA, G.I.D.C. ESTATE, VAPI, GUJARAT- 396195	Vapi	Rented

23	SL - STORAGE LOCATION	Plot no : d2/ch/77, Vedant Chlorochem ,Dahej, Tal : Vagra, Dist:Bharuch.	Dahej	Rented
24	TA04	PLOT NO 188 TO 190 2ND PHASE GIDC VAPI 396195	Vapi	Rented
25	SL - STORAGE LOCATION	Plot No 2006, 3 rd Phase, GIDC Vapi 396195	Vapi	Owned
26	SL - STORAGE LOCATION	PLOT NO 271 & 272, SURVEY NO 269, PAIKE, 269/P 270/P, 2ND PHASE GIDC ,CHANOD, VAPI DIST VALSAD - 396195	Vapi	Rented
27	JA05	Plot No 2900/115,2900/116 GIDC Ankleshwar ,Dist.Bharuch -393002 Gujarat	Ankleshwar	Rented
28	JA05	PLOT NO 2900/117 , INDOKEM COMPOUND, GIDC ESTATE,DIST BHARUCH ANKLESHWAR - 393002	Ankleshwar	Rented
29	SL - STORAGE LOCATION	PLOT NO 927 PHASE III GIDC, REVENUE SURVEY NO 43/P CHIRI VAPI DIST - VALSAD - 396195	Vapi	Rented
30	SL - STORAGE LOCATION	PLOT NO. 13, JNPT LIQUID STORAGE AREA,NHAVA SHEVA, URAN NAVI MUMBAI, RAIGAD- 400707.	Uran	Rented
31	OS01	Plot No. 2900/115, 2900/116, 2900/117, Indokem, Compound, GIDC Estate, Ankleshwar, Bharuch, 393002, Gujarat	Ankleshwar	Rented
32	VD08	PLOT NO. 756/2 A&B 756/3 A&B 756/4 A&B GIDC NOTIFIED INDUSTRIAL ESTATE, JHAGADIA 393110	Jhagadia	Rented
33	VD06	PLOT NO.316 D AT 40 SHED AREA GIDC VAPI 396195	Vapi	Rented
34	SL - STORAGE LOCATION	PLOT/SHED NO 1106, GIDC VAPI, VILLAGE CHIRI, TALUKA-VAPI, DIST - VALSAD	Vapi	Rented
35	SL - STORAGE LOCATION	S-42, MIDC, Tarapur, Boisar, Dist Palghar Aftab Silk Mills Pvt Limited	Tarapur	Rented
36	SL - STORAGE LOCATION	Shed No .7/5A, Arun Compound, Survey No. 172, Hissa No.2, 3,4 Dal Mill Compound, Village Purna , Bhiwandi , Dist: Thane. 421302	Bhiwandi	Rented
37	SL - STORAGE LOCATION	Shed No. 12A and 12B, Survey No. 178 Hissa No. 1 & 2, Sarvotam Compound, Dal Mill Compound, Village Purna , Bhiwandi , Dist: Thane. 421302	Bhiwandi	Rented
38	SL - STORAGE LOCATION	Shed No.8/6A , Arun Compound, Survey No. 172, Hissa No.2, 3,4 Dal Mill Compound, Village Purna, Bhiwandi, District Thane – 421302	Bhiwandi	Rented

39	SL - STORAGE LOCATION	Shed no-13, Sarvotam Compound, Survey No. 172, Hissa NO. 1 Dal Mill Compound, Village Purna , Bhiwandi , Dist: Thane. 421302	Bhiwandi	Rented
40	SL - STORAGE LOCATION	Shed no-16, Sarvotam Compound, Survey No. 172, Hissa NO. 1 Dal Mill Compound, Village Purna , Bhiwandi , Dist: Thane. 421302	Bhiwandi	Rented
41	VD10	SURVEY NO 108/A, NAGAR KALYAN ROAD, NEAR THANGE MALA, Ahmednagar 414001, Maharashtra	Ahmednagar	Rented
42	MW04	SURVEY NO. 137, BHOKARDHAN ROAD, NEAR JALNA BHOKARDHAN ROAD, JALNA, 431114, MAHARASHTRA	Jalna	Rented
43	SL - STORAGE LOCATION	TERMINAL AT PORT PIPAVAV, POST BAG 45, POST UCHHAIYA VIA RAJULA, UCHHAIYA, Amreli, Gujarat, 365560	Pipavav	Owned
44	SL - STORAGE LOCATION	WAREHOUSE AT GAT NO 87, VILLAGE GEVRAI TANDA, DIST - AURANGABAD - 431111	Aurangabad	Rented
45	MW05	GAT NO. 706, SANDIP WAREHOUSE, AVHANE SHIVAR KANALDA ROAD, AVHANE SHIVAR, JALGAON - 425002, MAHARASHTRA	Jalgaon	Rented
46	VD01	Plot No - 28 Phase-II, GIDC, Vapi 396195	Vapi	Owned
47	VD11	GAT NO. 68/1, NH-6, BY PASS ROAD, MALKAPUR, MAHARASHTRA 443102	Malkapur	Rented
48	SL - STORAGE LOCATION	Plot No. 25, GIDC, Phase 1 and 2, Vapi, Dist Valsad, Gujarat 396195	Vapi	Rented
49	SL - STORAGE LOCATION	PLOT NO.321/8, 40 SHED AREA, CHANOD, GIDC VAPI, DIST VALSAD 396 195	Vapi	Rented
50	SL - STORAGE LOCATION	Plot No. 328-329/B, A-1 Building Area, GIDC Estate , Ankleshwar, Bharuch, Gujarat 393002	Ankleshwar	Rented
51	SL - STORAGE LOCATION	Plot No.L-4 & L-5 M.I.D.C,Tarapur,Maharashtra-401506	Tarapur	Owned
52	SL - STORAGE LOCATION	PLOT NO S-42, MIDC TARAPUR, BOISAR, DIST -PALGHAR, MAHARASHTRA 401501	Boisar	Rented
53	SL - STORAGE LOCATION	GODOWN NO 13 & 14 NEAR MARUTI SHOWROOM, HINGOLI ROAD, MARUTI SUZUKI ARENA, ASPA BRANDSONS AUTO PVT LTD, HINGOLI ROAD, WASHIM, MAHARASHTRA 444505	Washim	Rented
54	SL - STORAGE LOCATION	Plot No 1663, GIDC Sarigam, Vai Umbergam, Sarigam, Valsad, Gujarat,	Sarigam	Rented

		396155		
55	SL - STORAGE LOCATION	Survey No 846, Plot No 106, Namdha, Vapi, Valsad, Gujarat 396195	Vapi	Rented
56	SL - STORAGE LOCATION	Plot No 148/A Phase 2, GIDC Vapi Dist Valsad, Gujarat, 396195	Vapi	Rented
57	SL - STORAGE LOCATION	PLOT NO K 14, MIDC TARAPUR, SALWAD, BOISAR, PALGHAR, MAHARASHTRA 401506	Boisar	Rented

Sr No.	Bus Area Code	NEW ADDRESS	Location	Rented or Owned
1	KU02	PLOT NO. 5&6 ,KESAR TERMINAL & INFRASTRUCTURE LTD, OLD KANDLA 370220	Kutch	Rented
2	SL - STORAGE LOCATION	Shreeji terminal, plot no. 7 near jawaharlal nehru railway crossing, kandla 370210	Kutch	Rented
3	KU05	SURVEY NO 26 (OLD SURVEY NO 157), PADANA WAREHOUSE, PADANA, GANDHIDHAM, KUTCH GUJARAT	Kutch	Rented
4	SL - STORAGE LOCATION	SURVEY NO 26, (OLD SURVEY NO - 157), PAIKI -2 PADANA GANDHIDHAM 370240	Gandhidham	Rented
5	SL - STORAGE LOCATION	Survey No. 1430/2, N.H. No 41, Ta. Bhachau, Dist Kutch, Gujarat.	Kutch	Rented
6	KU04	NEAR OIL JETTY, IFFCO PLANT IFFCO ROAD, KUTCH, GUJARAT 370210	Kutch	Rented
7	-	Tank No 103, Plot No 7, Kandla, Kutch, Near Jawaharlal Nehru Railway Crossing, Kandla, Kutch, Gujarat 370210	Kutch	Rented
8	-	Tank No TK 122, Plot No 7, Pandit Jawahar Lal Nehru Marg, Gandhidham, Kandla, Kutch, Gujarat 370210	Kutch	Rented
9	-	NEAR OIL JETTY, CRL TERMINALS PVT LTD, POINT NO 1, NEAR WASTE GATE NI 1, KANDLA, KUTCH, GUJARAT 370210	Kutch	Rented
10	KU06	SURVEY NO 236/1 and 237, Warehouse No K-01, Village Mithi Rohar, Gandhidham, Kutch, Gujarat 370201	Kutch	Rented

S No	Stock At Doc List
1	Jawaharlal Nehru Port Trust Sheva, Navi Mumbai-400702
2	15-23, National highway 4B, Panvel-JNPT highway, Village Padeghar, Panvel, Maharashtra 410206
3	Balmer Lawrie & Co. Ltd., Container Freight Station (CFS), Sector: 7, Plot No: 1, P.B. No: 8, Dronagiri Node Navi Mumbai - 400707
4	MUMBAI AIRPORT ANDHERI:- AIR CARGO COMPLEX SAHARA ANDHERI
5	HAZIRA PORT Hazira LNG and Port Hazira, Dist: Surat Gujarat - India
6	PORT OF PIPAVAV, POST BAG 45, POST UCCHAIYAVIA RAJULA, AMRELI, Gujarat, India, 365560.

Location 1: MUNDRA PORT Post Box No. 1 Mundra (Kutch), Gujarat 370421

Location 2: Deendayal Port, Kandla, Gujarat, Kutch, Pincode: 370210

For & On Behalf of
The New India Assurance Co. Ltd



Duly Constituted Attorney(S)