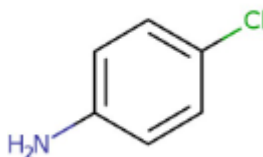


1. General Statement

4-Chloroaniline is an Solid amino compound, Combustible substance, poorly flammable. Slightly soluble in water. Acute or chronic health hazards result from the substance. The substance is hazardous to the aquatic environment.

2. Chemical identity

Name : 4-Chloroaniline
 CAS number(s) : 106-47-8
 EC number : 203-401-0
 Molecular formula : C₆H₆ClN
 Structure :



3. Uses and Benefits

4-Chloroaniline is used as an industrial use resulting in manufacture of another substance (use of intermediates). It is used for the manufacture of and chemicals. It is used as an intermediate step in further manufacturing of another substance (use of intermediates) and manufacturing of the substance.

4. Physical / chemical properties

Property	Value
Physical state :	Solid
Colour :	White to light amber
Odour :	Sweet odour Amine-like odour
pH :	No data available in the literature
Melting point	73 °C (1013 hPa)
Boiling point :	232 °C (1013 hPa, Practical experience/observation)
Flash point :	123 °C (Closed cup, Practical experience/observation, 1013 hPa)
Density :	1430 kg/m ³ (20 °C)

GPS Safety Summary

4-Chloroaniline

CL-4: PUBLIC

Solubility in Water:	0.28 g/100ml
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5. Health Effects

Effect Assessment	Result
Acute toxicity (Oral / inhalation / dermal)	Toxic if swallowed.Toxic in contact with skin.Toxic if inhaled. Inhalation:dust,mist: Toxic if inhaled.
Irritation / corrosion Skin / eye/ respiratory tract	NA
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Toxicity after repeated exposure Oral / inhalation / dermal	NA
Genotoxicity / Mutagenicity	NA.
Carcinogenicity	It may cause cancer.
Toxicity for reproduction	NA

6. Environmental Effects

Effect Assessment	Result
Aquatic toxicity	Yes
Fate and behavior	Result
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

7. Exposure

Human health

The substance may cause cancer.May cause an allergic skin reaction.Toxic if swallowed.Toxic in contact with skin.Toxic if inhaled. Inhalation:dust,mist: Toxic if inhaled. The most likely route of human exposure (workers) is through skin. In industrial settings, ingestion is not an anticipated route of exposure. Workers may be exposed during (un)loading, mixing, sampling, analysis or maintenance operations and particularly in case of batch processes.The exposure must be kept as minimum as possible by the use of appropriate risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

GPS Safety Summary

4-Chloroaniline

CL-4: PUBLIC

Careless handling or accidental spillage of the chemical could result in exposure to potentially hazardous levels of chemicals. Industrial workers should ensure that they follow the advice found in the extended safety data sheet (SDS).

Environment

Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. Spillage shall be quickly collected in the event of an accidental release. More information about release measures and accidental release measures are available in the extended safety data sheet.

8. Risk Management Recommendations

Human health measures

Organizational	A basic standard of occupational hygiene is recommended. Ensure operatives are well informed of the hazards and trained to minimise exposures. Ensure regular inspection and maintenance of equipment and machines. Handle and store according to the indications of the Safety Data Sheet.	
Protection	Eye protection:	Face shield (EN 166). In case of dust production: protective goggles (EN 166)
	Skin and body protection:	Protective clothing (EN 14605 or EN 13034). In case of dust production: head/neck protection. In case of dust production: dustproof clothing (EN 13982)
	Respiratory protection:	Dust production: dust mask with filter type P3. On heating: full face mask with filter type A. High dust production: self-contained breathing apparatus (EN 136 + EN 137)
Engineering controls	No additional information available	
Environment protective measures		
No additional information available		

9. First-aid measures

First-aid measures after inhalation :Remove victims into fresh air. In case of respiratory problems, consult a doctor/medical service.

First-aid measures after skin contact : If possible, wipe up/dry remove chemical. Then rinse/shower immediately for 30 minutes with(lukewarm) water. Cut clothing; never remove burnt clothing from the wound. Do not give any pain medication. Consult a doctor/medical service.

GPS Safety Summary

4-Chloroaniline

CL-4: PUBLIC

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, consult a doctor/medical service.

First-aid measures after ingestion : Rinse mouth with water. If you feel unwell, consult a doctor/medical service. Do not wait for symptoms to occur to consult the Poison Center.

10. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (not alcohol-resistant).

Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : On heating/burning: release of toxic and corrosive gases/vapours (nitrous vapours, hydrogen chloride, phosgene, carbon monoxide - carbon dioxide).

Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

11. Accidental release measures

Protective equipment : Gloves (EN 374). Face shield (EN 166). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137). Dust cloud production: dust-tight suit (EN 13982).

Environmental precautions: Prevent soil and water pollution. Prevent spreading in sewers.

For containment : Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for pumping over spills.

12. Disposal consideration

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

GPS Safety Summary

4-Chloroaniline

CL-4: PUBLIC

Sewage disposal recommendations : Disposal must be done according to official regulations.

13. Handling and storage

Precautions for safe handling: Avoid raising dust. Keep away from naked flames/heat. In finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the container tightly closed. Do not discharge the waste into the drain. Powdered form: no compressed air for pumping over.

Hygiene measures : Observe very strict hygiene - avoid contact.

14. Classification and Labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H317 - May cause an allergic skin reaction
H350 - May cause cancer.

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust, fume, gas, mist, vapours, spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P302+P352 - If on skin: Wash with plenty of water.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P311 - Call a poison center or doctor.
P312 - Call a poison center or doctor if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P330 - Rinse mouth.
P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

15. Conclusion

4-Chloroaniline is an this substance is toxic if swallowed, is toxic in contact with skin, is toxic if inhaled, may cause cancer, is very toxic to aquatic life, is very toxic to aquatic life with long lasting effects and may cause an

GPS Safety Summary

4-Chloroaniline

CL-4: PUBLIC

allergic skin reaction. Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. The exposure must be kept as minimum as possible by the use of appropriate risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

16. Contact Information within company

Manufacturer

Aarti Industries Limited

Udyog Kshetra, 2nd Floor, Mulund Goregaon Link Road, Mulund (West)

400080 Mumbai - India

T +91-22-6797-6666 - F +91-22-2565 3234

info@aarti-industries.com - www.aarti-industries.com

This GPS safety summary is intended to give general information about the health, safety and environmental and not intended to provide in-depth details. To obtain the most accurate and current information, consult the appropriate Safety Data Sheet (SDS) prior to use of the material named herein.