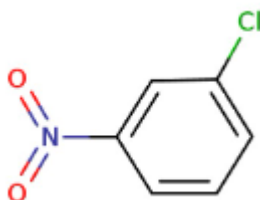


1. General Statement

1-Chloro-3-nitrobenzene is a Dark yellow crystalline solid. Combustible substance, poorly flammable. Very 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 : 1-Chloro-3-nitrobenzene
 CAS number(s) : 121-73-3
 EC number : 204-496-1
 Molecular formula : C₆H₄ClNO₂
 Structure :



3. Uses and Benefits

1-Chloro-3-nitrobenzene is a methylating agent used in washing & cleaning products. Other release to the environment of this substance is likely to occur from: indoor use (e.g. machine wash liquids/detergents, automotive care products, paints and coating or adhesives, fragrances and air fresheners).

4. Physical / chemical properties

Property	Value
Physical state :	Solid
Colour :	Light yellow to yellow-green
Odour :	Aromatic odour
pH :	No data available
Melting point	45 – 50 °C (978 hPa, OECD 102: Melting Point/Melting Range)
Boiling point :	224 °C (978 hPa, OECD 103: Boiling Point)
Flash point :	105 °C (979 hPa, OECD 103: Boiling Point)
Density :	1534 kg/m ³

GPS Safety Summary

1-Chloro-3-nitrobenzene

CL-4: PUBLIC

Solubility in Water:	0.036 g/100ml
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5. Health Effects

Effect Assessment	Result
Acute toxicity (Oral / inhalation / dermal)	Harmful if swallowed
Irritation / corrosion Skin / eye/ respiratory tract	Causes serious eye irritation
Respiratory or skin sensitisation	NA
Toxicity after repeated exposure Oral / inhalation / dermal	NA
Genotoxicity / Mutagenicity	NA
Carcinogenicity	NA
Toxicity for reproduction	NA

6. Environmental Effects

Effect Assessment	Result
Aquatic toxicity	No
Fate and behavior	Result
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.
Bioaccumulative potential	Potential for bioaccumulation ($500 \leq \text{BCF} \leq 5000$).

7. Exposure

Human health

The substance is harmful if swallowed. Causes serious eye irritation. Workers in production of trichlorobenzene showed changes to the skin of the face (dryness, hyperpigmentation, atrophy as well as comedones without inflammation). 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

GPS Safety Summary

1-Chloro-3-nitrobenzene

CL-4: PUBLIC

appropriate training of workers. 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:	Safety glasses (EN 166). In case of dust production: protective goggles (EN 166)
	Skin and body protection:	Protective clothing (EN 14605 or EN 13034)
	Respiratory protection:	Dust production: dust mask with filter type P2. On heating: Full face mask with filter type A
Engineering controls	No additional information available	
Environment protective measures		
Products must not be released into water without pre-treatment.		

9. First-aid measures

First-aid measures after inhalation :Remove victim 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 with (lukewarm) water.If irritation persists, consult a doctor/medical service.

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.

GPS Safety Summary

1-Chloro-3-nitrobenzene

CL-4: PUBLIC

First-aid measures after ingestion : Rinse mouth with water. Immediately 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 burning: release of toxic and corrosive gases/vapours (chlorine, nitrous vapours, hydrogen chloride, phosgene, dioxin).

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.

11. Accidental release measures

Protective equipment :Gloves (EN 374). Safety glasses (EN 166). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137).

Environmental precautions: Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.

For containment : Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply.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.

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

GPS Safety Summary

1-Chloro-3-nitrobenzene

CL-4: PUBLIC

13. Handling and storage

Precautions for safe handling : Avoid raising dust. Keep away from naked flames/heat. In a finely divided state: use spark-/explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Keep the container tightly closed. Powdered form: no compressed air for pumping over.

Hygiene measures : Observe normal hygiene standards.

14. Classification and Labeling

Hazard pictograms (GHS US)

:



Signal word (GHS US)

: Warning

Hazard statements (GHS US)

: H302 - Harmful if swallowed

H319 - Causes serious eye irritation

Precautionary statements (GHS US)

: P264 - Wash hands, forearms and face thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P330 - Rinse mouth.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

15. Conclusion

1-Chloro-3-nitrobenzene is a Dark yellow crystalline solid. Combustible substance, poorly flammable. Very slightly soluble in water. Acute or chronic health hazards result from the substance. The substance is hazardous to the aquatic environment. Substances predicted as likely to meet criteria for category 1A or 1B carcinogenicity, mutagenicity, or reproductive toxicity, or with dispersive or diffuse use(s) where predicted likely to meet any classification criterion for health or environmental hazards, or where there is a nanoform soluble in biological and environmental media. 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)

GPS Safety Summary

1-Chloro-3-nitrobenzene

CL-4: PUBLIC

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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.