GPS Safety Summary

N,N-dimethylaniline

Reference number: AIL-GPS-019 Issue date: 15/10/2021 Issue date:02/07/2025

Version: 1.1

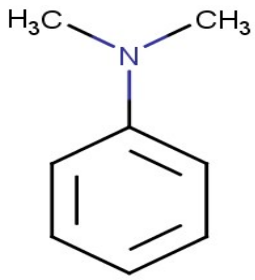
CL-4: PUBLIC

1. General Statement

N, N-Dimethylaniline is an organic chemical compound, a substituted derivative of aniline. It consists of a tertiary amine, featuring dimethylamino group attached to a phenyl group. This oily liquid is colourless when pure, but commercial samples are often yellow. It is a combustible substance, poorly flammable (flash point > 60 up to 93 °C).Vapours may form explosive mixtures with air when the substance is heated above its flash point. It is slightly soluble in water.Low or very low-volatile.Acute or chronic health hazards result from the substance.The substance is hazardous to the aquatic environment.

2. Chemical identity

Name : N,N-dimethylaniline
CAS number(s) : 121-69-7
EC number : 204-493-5
Molecular formula : C8H11N
Structure :



3. Uses and Benefits

N,N-Dimethylaniline is used as an intermediate in the manufacture of vanillin, Michler's ketone, methyl violet, and other dyes and also as a solvent, an alkylating agent, and a stabilizer.

4. Physical / chemical properties

Property	Value
Physical state :	Liquid
Colour :	Yellow
Odour :	No data available
pH :	7.4

Melting point	1.5-2.5°C
Boiling point :	185°C at 960 hPa.
Flash point :	61°C at 960 hPa. (closed cup)
Density :	0.96 g/cm3 at 20°C.
Solubility in Water:	1450 mg/L at 20°C

5. Health Effects

Effect Assessment	**Result**
Acute toxicity (Oral / inhalation / dermal)	Toxic if swallowed,in contact with skin or if inhaled.
Irritation / corrosion **Skin / eye/ respiratory tract**	NA
Respiratory or skin sensitisation	NA
Toxicity after repeated exposure **Oral / inhalation / dermal**	NA
Genotoxicity / Mutagenicity	NA
Carcinogenicity	Suspected of causing cancer.
Toxicity for reproduction	Not classified

6. Environmental Effects

Effect Assessment	**Result**
Aquatic toxicity	Yes
Fate and behavior	**Result**
Persistence and degradability	Not rapidly degradable
Bioaccumulative potential	No additional information available

7. Exposure

Human health

The substance is suspected to cause cancer.Acute (short-term) inhalation exposure to N,N-dimethylaniline has resulted in effects on the central nervous system (CNS) and circulatory system, with headache, cyanosis, and dizziness in humans. Effects on the blood have been reported in exposed workers.

The most likely route of human exposure (workers) is through skin. In industrial settings, ingestion is not an anticipated route of exposure. The probability of exposure to workers is expected to be low because this product is manufactured in an enclosed controlled environment and is transported in well sealed containers. 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.
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

Substance is very toxic to aquatic life with long lasting effects. 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
	Skin and body protection:	Wear suitable protective clothingWear impervious rubber safety shoes
	Respiratory protection:	Wear an appropriate mask. Self-contained breathing apparatus,wear respiratory protection.
Engineering controls	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.Ensure good ventilation of the work station.	
Environment protective measures		
Products must not be released into water without pre-treatment. Neutralize wastewater before release.		

9. First-aid measures

First-aid measures after inhalation : Remove the person to fresh air and keep them comfortable for breathing. Get medical advice/attention if you feel unwell. Call a doctor.

First-aid measures after skin contact : Be careful, the product may remain trapped under clothing, footwear or a wrist-watch. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Get medical advice/attention. Wash skin with plenty of water. Take off immediately all contaminated clothing.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. Rinse eyes with water as a precaution.

First-aid measures after ingestion : If swallowed, seek medical advice immediately and show this container or label.If you feel unwell, seek medical advice. Rinse mouth. Call a physician immediately.

10. Fire-fighting measures

Extinguishing media
Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Do not use a heavy water stream.

Special hazards arising from the substance or mixture
Hazardous decomposition products in case of fire : On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide).

Advice for firefighters
Precautionary measures fire : Eliminate all ignition sources if safe to do so. Keep the container closed when not in use. Keep the container tightly closed and away from heat, sparks and flame.

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

11. Accidental release measures

Protective equipment : Do not attempt to take action without suitable protective equipment. Safety glasses. Self-contained breathing apparatus. Total impervious protective suits,gloves, and boots must be worn to prevent any contact with the product. Wear recommended personal protective equipment.

Environmental precautions: Prevent liquid from entering sewers, watercourses, underground or low areas.Avoid release to the environment.

For containment : Collect spillage. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leaks without risks if possible.

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.
Remove waste in accordance with local and/or national regulations. Do not discharge into drains or the environment. Dispose of at authorized waste collection points. Hazardous waste shall not be mixed together with other waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

13. Handling and storage

Precautions for safe handling : Obtain special instructions before use. Do not handle it until all safety precautions have been read and understood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

14. Classification and Labeling

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS06 GHS08 GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled.
H351 - Suspected of causing cancer.
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : 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.

15. Conclusion

N,N-Dimethylaniline is oily liquid and is colourless when pure, but commercial samples are often yellow. The substance is suspected to cause cancer.It is a combustible substance, poorly flammable (flash point > 60 up to 93 °C).Vapours may form explosive mixtures with air when the substance is heated above its flash point. It is slightly soluble in water.Low or very low-volatile.Acute or chronic health hazards result from the substance.The substance is hazardous to the aquatic environment. 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

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