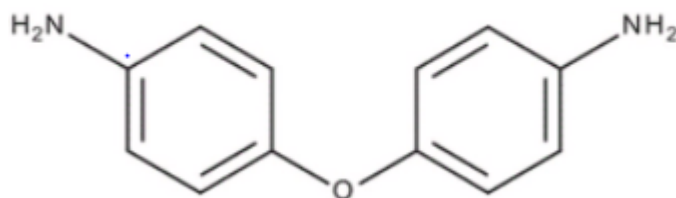


1. General Statement

This substance is toxic if swallowed and inhaled. Also, it is toxic in contact with skin. It may cause genetic defects and may cause cancer. It is toxic to aquatic life with long lasting effects and is suspected of damaging fertility

2. Chemical identity

Name : 4,4'-diamino diphenyl ether
CAS number(s) : 101-80-4
EC number : 202-977-0
Molecular formula : C₁₂H₁₂N₂O
Structure :



3. Uses and Benefits

The primary use lies in the production of polyimide and poly(ester)imide resins. These resins are used for their temperature-resistant properties and are utilized in products including wire enamels, coatings, film, adhesives, insulating varnishes, coated fabrics, flame-retardant fibers, oil sealants and retainers, insulation for cables and printed circuits, and laminates and composite for aerospace vehicles.

4. Physical / chemical properties

Property	Value
Physical state :	Solid
Colour :	No data available
Odour :	No data available
pH :	No data available
Melting point	191.5 °C
Boiling point :	396.8 °C
Flash point :	Not applicable

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Density :	1315 kg/m ³
Solubility in Water:	0.048 g/l at the temperature of: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	Not classified
Respiratory or skin sensitisation	May cause an allergic skin reaction
Toxicity after repeated exposure Oral / inhalation / dermal	May cause damage to organs through prolonged or repeated exposure.
Genotoxicity / Mutagenicity	May cause genetic defects.
Carcinogenicity	May cause cancer.
Toxicity for reproduction	Suspected of damaging fertility or the unborn child.

6. Environmental Effects

Effect Assessment	Result
Aquatic toxicity	Toxic to aquatic life with long lasting effects.
Fate and behavior	Result
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.

7. Exposure

Human health

The substance is Toxic if swallowed, in contact with skin or if inhaled, May cause damage to organs through prolonged or repeated exposure , Also chemical is classified as Genotoxic / Mutagenic, Carcinogenic, Toxic to reproduction

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.

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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

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 clothing
	Respiratory protection:	Wear an appropriate mask
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		
Product must not be released into water without pre-treatment.		

9. First-aid measures

First-aid measures after inhalation : Remove the person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

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First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth out with water. Get immediate medical advice/attention.

10. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting extinguisher, reel). Water. Class A foam.

Unsuitable extinguishing media : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

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).

Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting : Heat/fire exposure: self-contained breathing apparatus (EN 136 + EN 137).

11. Accidental release measures

Protective equipment : Gloves, Face shield, Protective clothing. Dust cloud production: self-contained breathing apparatus. Dust cloud production: dust-tight suit.

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

Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows.

12. Disposal consideration

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

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

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Product/Packaging disposal recommendations : Remove to an incinerator for chlorinated waste materials with energy recovery.

13. Handling and storage

Precautions for safe handling : Avoid raising dust. Keep away from naked flames/heat. 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. Clean contaminated clothing. Do not discharge the waste into the drain. Keep the container tightly closed.

Hygiene measures : Reduce/avoid exposure and/or contact.

14. Classification and Labeling

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled.
H317 - May cause an allergic skin reaction.
H340 - May cause genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure.
H410 - Very 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.
P260 - Do not breathe 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

The substance is Toxic if swallowed, in contact with skin or if inhaled, May cause damage to organs through prolonged or repeated exposure , Also chemical is classified as Genotoxic / Mutagenic, Carcinogenic, Toxic to reproduction. 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.

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16. Contact Information within company

Manufacturer

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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.