

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **2,2'-Azanedioldiethanol**
Product Code 234996
CAS Number 111-42-2
Other Names Diethanolamine
2,2'-Dihydroxydiethylamine
2,2'-Iminodiethanol
IUPAC
MFCN Number MFCN00002843
EC/EINECS 203-868-0
REACH Number 01-2119488930-28-xxxx Index-No 603-071-00-1

2. Relevant identified uses of the substance or mixture and uses advised against

Research and Development

3. Details of the supplier of the safety data sheet

Fluorochem Ltd
Unit 14, Graphite Way
Hadfield
Derbyshire
SK13 1QH
UK

Telephone: +44(0)1457 860111
Fax: +44(0)1457 892799
Email: sds@fluorochem.co.uk



4. Emergency telephone number

+44(0)7855 268577 -

2. Hazards Identification

1. Classification of the substance or mixture

H302	Acute Tox. 4	
H315	Skin Irrit. 2	
H318	Eye Dam. 1	
H373	STOT RE 2	

2. Label elements

Signal Word **Danger**



Hazard Statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H373	May cause damage to organs .liver, blood and kidney .

Precautionary Phrases

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P501	Dispose of contents/container to local regulations

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

Product Name	Hazards	Concentration
2,2'-Azanediyldiethanol		
CAS Number: 111-42-2 EC/EINECS: 203-868-0 : 01-2119488930-28-xxxx	H302, H315, H318, H373 Acute Tox. 4, Eye Dam. 1, Skin Irrit. 2, STOT RE 2	<=100%

4. First Aid Measures

1. Description of first aid measures

- Skin Contact* P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P332 + P313: If skin irritation occurs: Get medical advice/attention.
Wash immediately with plenty of soap and water.
- Eye Contact* P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Rinse opened eye for several minutes under running water.
- Ingestion* P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Wash out mouth with water.
- Inhalation* Remove casualty from exposure ensuring one's own safety whilst doing so.

2. Most important symptoms and effects

There may be irritation and redness.

3. Indication of any immediate medical attention

No additional measures required

5. Firefighting measures

1. Extinguishing Media

- Suitable* Carbon dioxide.
Dry chemical powder.
Alcohol resistant foam.
- Unsuitable* no data

2. Special Hazards arising from the substance or mixture

In combustion toxic fumes may form.

3. Advice for Fire Fighters

Wear self-contained breathing apparatus.
Wear protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

1. Personal Precautions

Do not attempt to take action without suitable protective clothing – see section 8 of SDS.
Evacuate the area immediately.

2. Environmental Precautions

Do not discharge into drains or rivers.
Contain the spillage using bunding.

3. Methods & Materials

Mix with sand or vermiculite.
Transfer to a closable, labelled salvage container for disposal by an appropriate method.

4. Preventing the occurrence of secondary hazards.

No Special Measures Required

7. Handling and Storage

1. Personal Precautions

Safe Handling Ensure there is sufficient ventilation of the area.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.

Protection against explosions and fires P362: Take off contaminated clothing and wash before reuse.

2. Conditions for safe storage, including any incompatibilities

Managing Storage Risks Store in cool, well ventilated area.
Keep container tightly closed.

Storage Controls No special requirements

Maintaining Integrity Store away from oxidising agents

Other advice No further information available.

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

No Data Available

2. Exposure Controls

General protective and hygiene measures P280: Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands during breaks and at the end of handling the material
Immediately remove any contaminated clothing

Engineering measures Ensure there is exhaust ventilation of the area.

Eye / Face Protection Safety Glasses with side-shields.

Hand protection Protective gloves.

Respiratory protection P260: Do not breathe dust/fume/gas/mist/vapours/spray.
Use breathing protection with high concentrations

Skin protection Handle with gloves.
Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice.
Wash and dry hands.
Protective clothing.

Other personal protection advice no data

9. Physical and Chemical Properties

1. Physical and Chemical Properties

Appearance	White to slightly pale yellow crystal lump
Odour	Mild Ammoniacal
Odour threshold	0.27 ppm
PH	11.0 (0.1N H ₂ O soln.)
Melting point / Freezing point	27°C (Freezing point)
Initial boiling point and boiling range	269°C
Flash point	No Data Available
Evaporation rate	No Data Available

Flammability(solid, gas)	No Data Available
Upper/lower flammability or explosive limits	Upper: 9.8% / Lower: 1.7%
Vapour pressure	<1Pa/20°C
Vapour density	3.65
Relative density	No Data Available
Solubility(ies):	Alcohols. Water. Acetone. Slightly in: Ether, Chlo
Partition coefficient: n-octanol/water	-1.43
Auto-ignition temperature	662°C
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	No Data Available
Oxidising properties	No Data Available

2. Other Information

The product is a liquid when ambient temperature is above melting point or due to supercooling.

10. Stability and Reactivity

1. Reactivity

Hygroscopic

2. Stability

Stable under normal conditions.

3. Possibility of Hazardous Reactions

no hazardous reactions known

4. Conditions to Avoid

no specific conditions to avoid

5. Incompatible Materials

Oxidising agents.
 Acids.
 Metals.

6. Hazardous Decomposition Products

In combustion emits toxic fumes.
 In combustion emits toxic fumes of carbon dioxide / carbon monoxide.
 In combustion emits toxic fumes of nitrogen oxides.

11. Toxicology information

1. Information

<i>Acute Toxicity</i>	orl-rat LD50:620 uL/kg skn-rbt LD50:7640 uL/kg ipr-rat LD50:120 mg/kg
<i>Skin corrosion/irritation</i>	irritant for skin and mucous membranes skn-rbt 500 mg/24H MLD
<i>Serious eye Damage/irritation</i>	eye-rbt 750 ug/24H SEV
<i>Respiratory or skin sensitisation</i>	No sensitizing effect known
<i>Germ Cell mutagenicity</i>	dns-mus-lvr 10 mg/L/24H dns-rat-lvr 10 mg/L/24H
<i>Carcinogenicity</i>	skn-mus TDLo:21 g/kg/2Y-I IARC = Group 2B (Possibly carcinogenic to humans)
<i>Reproductive toxicity</i>	skn-rbt TDLo:4550 mg/kg(6-18D preg) skn-rat TDLo:15000 mg/kg(6-15D preg) ihl-rat TCLo:200 mg/m ³ /6H(6-15D preg) orl-rat TDLo:18382 mg/kg(14D male)
<i>STOT-single exposure</i>	not known

STOT-repeated exposure not known

Aspiration hazard not known

2. Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

12. Ecological Information

1. Toxicity

Fish: 96h LC50:1370 mg/L (Pimephales promelas)
Crustacea: 48h LC50:2.15 mg/L (Daphnia pulex)
Algae: 96h EC50:12 mg/L (Selenastrum capricornutum)

2. Persistence and degradability

51.4 % (by BOD), 96.7 % (by TOC), 100 % (by GC)

3. Bio-Accumulative Potential

BCF: <1

4. Mobility and Soil

Log Pow: -1.43
Soil adsorption (Koc): 4
Henry's Law constant(PaM³/mol): 4.0 x 10⁻⁶

5. Results of PBT & vPvB assessment

not known

6. Other adverse effects

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Class 1 - Low hazard to waters

13. Disposal Considerations

1. Waste Treatment Methods

Disposal Operations

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

Not classified as hazardous for transport

Road (ADR)

Not classified as hazardous for transport

Sea (IMDG)

Not classified as hazardous for transport

15. Safety, health, environmental and national regulations

1. Safety, health, environmental and national regulations:

product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord Europeen sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)

RID:Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association

ICAO:International Civil Aviation Organization

ICAO-TI: Technical Instructions by the ICAO

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS:Chemical Abstracts Service

2. Associated risk phrases according to European directive 67/548/EEC

3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user.