

Bis(2-hydroxyethyl)-d₈-amine

Section 1. Chemical product and company identifications

Product code: D-5308

Chemical formula: C₄H₃D₈NO₂

CAS: 103691-51-6

CAS (unlabelled): 111-42-2

Synonyms: Diethanolamine, 2,2'-Iminodiethanol

Supplier / Manufacturer:

C/D/N Isotopes Inc.

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In case of emergency:

TOXYSKAN HOTLINE: 1-855-780-0599

Section 2. Hazards identifications

GHS (Globally Harmonized System of Classification and Labelling of Chemicals):

GHS Classification:

- Acute toxicity, Oral (Category 4)
- Skin irritation (Category 2)
- Serious eye damage (Category 1)
- Carcinogenicity (Category 2)
- Specific target organ toxicity - repeated exposure (Category 2)

GHS Label elements:

- Pictograms:   
- Signal word: Danger

Hazards statement:

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statement:

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe dust.
- P264 + P265 Wash skin thoroughly after handling. Do not touch eyes.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P305 + P351 + P338 Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse
- P405 Store locked up
- P501 Dispose of contents/ container to an approved waste disposal plant.

Section 3. Composition and information on ingredients

| <u>Name</u> | <u>CAS</u> | <u>Concentration %</u> |
|---|-------------------|-------------------------------|
| Bis(2-hydroxyethyl)-d ₈ -amine | 103691-51-6 | > 98 |

Section 4. First aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact: Wash off with soap and plenty of water. Consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Indication of immediate medical attention and special treatment needed, if necessary: No data available.

Most important symptoms and effects, both acute and delayed: Redness.

Section 5. Firefighting measures

Flammability of the product: Combustible at high temperature.

Products of combustion: Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides.

Firefighting media and instructions: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Section 6. Accidental release measures

Personal precautions: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Environmental precautions: Do not let product enter drains. Discharge into the environment must be avoided.

Methods for cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

Section 7. Handling and storage

Handling: Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Provide appropriate exhaust ventilation.

Storage: Store at room temperature. Adequate ventilation. Protect from air and moisture.

Section 8. Exposure Controls, Personal Protections

Engineering controls: Use mechanical exhaust or laboratory fumehood to avoid exposure.

Eyes: Safety glasses with side-shields conforming to NIOSH (US) or EN 166 (EU).

Respiratory: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US).

Hands: Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Skin/body: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Section 9. Physical and chemical properties (unlabelled)

Molecular weight: 105.14 g/mol

Physical status: Liquid

Color: Colorless to yellow

Odour: No data available

Density: 1.097 g/mL

Melting point: 28 °C (82 °F)

Boiling point: 270 °C (518 °F)

Vapour pressure: No data available

Vapour density: 3.63 (Air = 1)

Partition coefficient (octanol/water): log Pow: -1.43

Water solubility: Soluble

Lower explosion limit: 1.6 Vol%

Upper explosion limit: 10.6 Vol%

Auto-ignition temperature: 365 °C (689 °F)

Flash point: 176 °C (349 °F)

Section 10. Stability and reactivity

Stability and reactivity: Absorbs carbon dioxide (CO₂) from air. Stable under recommended storage conditions.

Incompatibility: Strong oxidizing agents., strong acids, strong bases.

Products of combustion: Hazardous decomposition products formed under fire conditions: Carbon oxides, nitrogen oxides.

Reactivity conditions: No data available.

Section 11. Toxicological information (unlabelled)

Toxicological data: Diethanolamine

Information on ingredients:

| <u>Name</u> | <u>CAS</u> | <u>LD₅₀</u> | <u>LC₅₀</u> |
|--------------------|-------------------|---|-------------------------------|
| Diethanolamine | 111-42-2 | Oral - Rat - 680 mg/kg Dermal - Rabbit - 8,381 mg/kg | No data available |

Potential acute effects

- **Eyes:** Causes serious eye damage.
- **Skin:** Causes skin irritation.
- **Inhalation:** No data available.
- **Ingestion:** Harmful if swallowed.

Potential chronic effects

- **Carcinogenic effects:** This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification. IARC: 2B - Group 2B: Possibly carcinogenic to humans (Diethanolamine). ACGIH: A3 - Animal carcinogen.
- **Mutagenic effects:** No data available.
- **Teratogenic effects:** No data available.
- **Medical conditions aggravated by overexposure:** May cause damage to organs through prolonged or repeated exposure.

Section 12. Ecological information

Ecological data:

| <u>Name</u> | <u>Results</u> | <u>Species</u> | <u>Period</u> |
|--------------------|-----------------------|-------------------------|----------------------|
| Diethanolamine | 1,460 mg/l LC50 | Pimephales promelas | 96 h |
| | 55 mg/l EC50 | Daphnia magna | 48 h |
| | 7.8 mg/l EC50 | Desmodesmus subspicatus | 72 h |

Effects on environment: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Mobility: No data available.

Environmental precautions: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Section 13. Disposal considerations

Waste disposal: Contact a licensed professional waste disposal service to dispose of this material.

Section 14. Transportation information

Classification DOT/IMDG/IATA label:

Shipping name: Not dangerous goods

UN number: None

Class: None

Packaging group: None

Additional information: None

Section 15. Regulatory information

UNITED STATES: NFPA classification



Health: 2
Flammable: 1
Reactivity: 0
Special conditions: None

Legend: 4: Severe, 3: High, 2: Moderate, 1: Slightly, 0: Not hazardous

U.S. Federal regulations:

California proposition 65 requirements : Not listed
SARA section 313 (specific toxic chemical listings) : Listed
CERCLA reportable quantity : Listed
Sections 302-304 reportable quantity : Not listed
Community Right-to-Know (Sections 311 and 312) : Not Listed

Section 16. Additional information

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Elaborated by: Toxyscan Inc., 1-866-780-0599

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This safety data sheet has been prepared in accordance with the OSHA (USA), WHMIS (Canada) / GHS classification rules in effect at the time of writing.