

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Ethylenediamine anhydrous

Manufacturer/supplier identification

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2. Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 3)

Acute toxicity, Oral (Category 4)

Acute toxicity, Dermal (Category 4)

Skin corrosion/irritation (Category 1B)

Serious eye damage/eye irritation (Category 1)

Respiratory sensitization (Category 1)

Skin sensitization (Category 1)

Acute aquatic toxicity (Category 2)

Chronic aquatic toxicity (Category 3)

Label elements

Pictogram



Signal word Danger

Hazard statement(s)

H226 Flammable liquid and vapor.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H401 Toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P261	Avoid breathing mist or vapors.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P285	In case of inadequate ventilation wear respiratory protection.
P301 + P312	IF SWALLOWED: call a POISON CENTER/doctor. IF you feel unwell.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P330	Rinse mouth.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements
none

3. Composition/information on ingredients

Synonyms

Ethylenediamine anhydrous

CAS-No.: 107-15-3

M: 60.10 g/mol

Molecular formula: $\text{H}_2\text{N}\cdot\text{CH}_2\cdot\text{CH}_2\cdot\text{NH}_2$

4. First aid measures

If inhaled

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

In case of skin contact

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

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. Fire-fighting measures

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. Accidental release measures

Personal precautions

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

7. Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. Exposure controls and personal protection

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

9. Physical and chemical properties

Form: liquid

Colour: colorless

Odour: not available

pH value: ~12

Melting point: 8.5°C

Boiling point: ~117°C

Ignition temperature: not available

Flash point: 43°C

Autoignition temperature: not available

Explosion limits

lower: 2.7 %(V)

upper: 16.6 %(V)

Density : 0.90 g/cm³

Bulk density: 2.07 g/cm³

Solubility in

water (20 °C) : soluble in water

diluted acids (20 °C) : not available

Thermal decomposition: not available

10. Stability and reactivity

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Air , Exposure to moisture.

Materials to avoid

Acids, acyl chlorine, acid anhydrides, strong oxidants

Hazardous decomposition products

Other decomposition products - no data available

11. Toxicological information

Acute toxicity

LD50 Oral - Rat - 1,298 mg/kg

LC50 Inhalation - Rat -300 mg/l

Skin corrosion/irritation

Skin - Rabbit

Remarks: Causes poorly healing wounds.

Serious eye damage/eye irritation

Eyes – Rabbit

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

May cause respiratory allergies or skin reactions.

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

12. Ecological information**Toxicity**

Toxicity to fish LC50 - Oncorhynchus mykiss - 230 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna - 16.7 mg/l - 48 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. Disposal considerations**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. Transport information**ADR/RID**

UN-Number: 1604 Class:8(3) Packing group: II
Proper shipping name: Ethylenediamine anhydrous

IMDG

UN-Number: 1604 Class:8(3) Packing group: II
Proper shipping name: Ethylenediamine anhydrous
Marine pollutant: no

IATA

UN-Number: 1604 Class:8(3) Packing group: II
Proper shipping name: Ethylenediamine anhydrous

15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. Other information

General update.

Regional representation:

This information is given on the authorised Safety Data Sheet for your country.