



MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 02/04/2013

Version 1.0

SECTION 1. Identification

Product identifier

| | |
|----------------|--|
| Product number | 820082 |
| Product name | Aminoiminomethanesulfinic acid for synthesis |

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

| | |
|-----------------|------------------------|
| Identified uses | Chemical for synthesis |
|-----------------|------------------------|

Details of the supplier of the safety data sheet

| | |
|---------|--|
| Company | EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America SDS Phone Support: +1-978-715-1335 General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) e-mail: mm_sds@merckgroup.com |
|---------|--|

| | |
|---------------------|--|
| Emergency telephone | 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week |
|---------------------|--|

SECTION 2. Hazards identification

GHS Classification

Self-heating substances and mixtures, Category 2, H252

Eye irritation, Category 2, H319

Skin irritation, Category 2, H315

Acute toxicity, Category 4, Oral, H302

Acute toxicity, Category 2, Inhalation, H330

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word
Danger

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Hazard Statements

H252 Self-heating in large quantities; may catch fire.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

Precautionary Statements

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other hazards

None known.

SECTION 3. Composition/information on ingredients

| | | |
|------------|---|--|
| Formula | HN=C(NH ₂)SO ₂ H | CH ₄ N ₂ O ₂ S (Hill) |
| CAS-No. | 1758-73-2 | |
| Molar mass | 108.12 g/mol | |

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

Aminoiminomethanesulphinic acid (>= 90 % - <= 100 %)

1758-73-2

SECTION 4. First aid measures

Description of first-aid measures

General advice

First aider needs to protect himself.

Inhalation

After inhalation: fresh air. If breathing stops: immediately apply artificial respiration, if necessary oxygen. Immediately call in physician.

Skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing.

Eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

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Ingestion

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects, Cough, Shortness of breath

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Water, Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible material

Development of hazardous combustion gases or vapors possible in the event of fire.

Fire may cause evolution of:

Sulfur oxides, nitrogen oxides

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Avoid inhalation of dusts in all circumstances. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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SECTION 7. Handling and storage

Precautions for safe handling

Work under hood. Do not inhale substance/mixture.

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Protected from light. Dry. Keep locked up or in an area accessible only to qualified or authorized persons. Tightly closed. Keep away from heat and sources of ignition.

Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

Flame retardant antistatic protective clothing

Respiratory protection

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state

crystals

Color

yellow

Odor

odorless

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| | |
|--|---|
| Odor Threshold | No information available. |
| pH | 4 at 10 g/l 68 °F (20 °C) |
| Melting point | 123 °C (decomposition) |
| Boiling point | No information available. |
| Flash point | No information available. |
| Evaporation rate | No information available. |
| Flammability (solid, gas) | No information available. |
| Lower explosion limit | No information available. |
| Upper explosion limit | No information available. |
| Vapor pressure | No information available. |
| Relative vapor density | No information available. |
| Relative density | 1.68 g/cm ³ at 68 °F (20 °C) |
| Water solubility | 27 g/l at 68 °F (20 °C) |
| Partition coefficient: n-octanol/water | log Pow: -3.23 (experimental) Bioaccumulation is not expected (log Pow <1). |
| Autoignition temperature | Self-heating in large quantities; may catch fire. |
| Decomposition temperature | 253 °F (123 °C) |
| Viscosity, dynamic | No information available. |
| Explosive properties | No information available. |
| Bulk density | 850 kg/m ³ |

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

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heat-sensitive
sensitive to moisture

Possibility of hazardous reactions

Violent reactions possible with:

bases, strong alkalis, Oxidizing agents

Conditions to avoid

Strong heating (decomposition).

Incompatible materials

no information available

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Acute oral toxicity

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

absorption

Acute inhalation toxicity

LC50 rat: 0.164 mg/l; 4 h

OECD Test Guideline 403 Aerosol (External MSDS)

Symptoms: Possible damages:, mucosal irritations

absorption

Acute dermal toxicity

LD50 rat: > 2,000 mg/kg

(IUCLID)

Skin irritation

rabbit

Result: Irritations

(External MSDS)

Causes skin irritation.

Eye irritation

rabbit

Result: Eye irritation

(External MSDS)

Causes serious eye irritation.

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Sensitization

Sensitization test: guinea pig

Result: negative

(External MSDS)

Genotoxicity in vivo

Mutagenicity (mammal cell test): micronucleus.

Result: negative

Method: OECD Test Guideline 474

Genotoxicity in vitro

Ames test

Result: positive

(External MSDS)

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

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

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

After absorption:

We have no description of any toxic symptoms.

Further data:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish

LC50 *Poecilia reticulata* (guppy): 416 mg/l; 96 h (External MSDS)

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Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 390 mg/l; 24 h (IUCLID)

Toxicity to algae

IC50 *Desmodesmus subspicatus* (green algae): 32 mg/l; 72 h (External MSDS)

Persistence and degradability

Biochemical Oxygen Demand (BOD)

210 mg/g (5 d)

(External MSDS)

Chemical Oxygen Demand (COD)

420 mg/g

(External MSDS)

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: -3.23

(experimental)

Bioaccumulation is not expected (log Pow <1).

Mobility in soil

No information available.

Other adverse effects

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number

UN 3341

Proper shipping name

THIOUREA DIOXIDE

Class

4.2

Packing group

III

Environmentally hazardous

--

Air transport (IATA)

UN number

UN 3341

Proper shipping name

THIOUREA DIOXIDE

Class

4.2

Packing group

III

Environmentally hazardous

--

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| | |
|------------------------------|------------------|
| Special precautions for user | no |
| Sea transport (IMDG) | |
| UN number | UN 3341 |
| Proper shipping name | THIOUREA DIOXIDE |
| Class | 4.2 |
| Packing group | III |
| Environmentally hazardous | -- |
| Special precautions for user | yes |
| EmS | F-A S-J |

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Unstable Reactive
Highly toxic by inhalation
Skin irritant
Eye irritant

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Reactivity Hazard
Acute Health Hazard

SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

Massachusetts Right To Know

Ingredients
Thiourea

Pennsylvania Right To Know

Ingredients
Aminoiminomethanesulphinic acid
Thiourea

New Jersey Right To Know

Ingredients

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Aminoiminomethanesulphinic acid

Notification status

TSCA:

On TSCA Inventory

DSL:

All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------|---|
| H252 | Self-heating in large quantities; may catch fire. |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Date of issue:02/04/2013

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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