



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.40

Section 1 - Product and Company Information

Product Name Allylamine, 98%
Product Number 145831
Brand Aldrich Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052

Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

| Substance Name | CAS # | SARA 313 | EC no | Annex I Index Number |
|----------------|----------|----------|-----------|----------------------|
| ALLYLAMINE | 107-11-9 | Yes | 203-463-9 | 612-046-00-4 |

Formula C3H7N
Synonyms 3-Aminopropene, 3-Aminopropylene, Monoallylamine, 2Propenammine, 2Propen-1-amine (9CI)

Section 3 - Hazards Identification

Emergency Overview

Flammable (USA) Highly Flammable (EU), Highly Toxic (USA) Very Toxic (EU). Toxic by inhalation and if swallowed. Very toxic in contact with skin. Causes burns. Lachrymator. Readily absorbed through skin. Target organ(s): Cardiovascular system.

HMIS Rating
Health: 3* Flammability: 3 Reactivity: 0

NFPA Rating
Health: 3 Flammability: 3 Reactivity: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Flammable Hazards: Yes

Explosion Hazards

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. May form explosive mixtures with air.

Flash Point: -20.2 °F -29 °C

Explosion Limits: Lower: 2.2 % Upper: 22 %

Autoignition Temp: N/A **Flammability:** Yes

Extinguishing Media Suitable

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be effective. Cool all affected containers with flooding quantities of water.

Firefighting

Protective Equipment

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

Specific Hazard(s)

Flammable liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry-lime, sand, or soda ash. Place in covered containers using nonsparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

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Storage
Suitable

Keep tightly closed. Keep away from heat, sparks, and open flame.

Special Requirements
Store under inert gas.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or GEN (EU). 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.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Remove and wash contaminated clothing promptly. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance

Physical State

Liquid

Molecular Weight 57.1 AMU

pH N/A

BP/BP Range 52 - 53 °C

MP/MP Range -88 °C

Freezing Point N/A

Vapor Pressure 211.453 mmHg 20 °C

Vapor Density 2 g/l

Saturated Vapor Conc. N/A

SG/Density 0.763 g/cm³

Bulk Density N/A

Odor Threshold N/A

Volatile% N/A

VOC Content N/A

Water Content < 0.2 %

Solvent Content N/A

Evaporation Rate N/A

Viscosity N/A

Partition Coefficient N/A

Decomposition Temp. N/A

Flash Point °F -20.2 °F

Flash Point °C -29 °C

Method: closed cup

Method: closed cup

Explosion Limits Lower: 2.2 %

Upper: 22 %

Flammability N/A

Autoignition Temp N/A

Refractive Index 1.42

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable

Stable

Materials to Avoid

Acids, Oxidizing agents, Chlorine, Hypochlorites, Halogens, Chemically active metals

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Nitrogen oxides

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

Causes burns.

Skin Absorption

May be fatal if absorbed through skin. Readily absorbed through skin.

Eye Contact

Causes burns. Lachrymator.

Inhalation

Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

Toxic if swallowed.

Target Organ(s) or System(s)

Cardiovascular system.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

RTECS Number: BA5425000

Toxicity Data

Oral - Rat: 102 mg/kg (LD50)

Inhalation - Rat: 177 ppm (LC50)

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Olfaction: Other changes. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Lacrimation. Lungs, Thorax, or Respiration: Dyspnea.

Oral - Mouse: 57 mg/kg (LD50)

Intraperitoneal - Mouse: 49 MG/KG (LD50)

Remarks: Behavioral: Somnolence (general depressed activity). Lungs, Thorax, or Respiration: Chronic pulmonary edema.

Skin - Rabbit: 35 mg/kg (LD50)

Remarks: Skin and Appendages: Skin: After topical exposure Primary irritation. Lungs, Thorax, or Respiration: Chronic pulmonary edema.

Oral - Mammal: 78.3 mg/kg (LD50)

Inhalation - Mammal: 320 mg/m³ (LC50)

Irritation Data

Skin - Rabbit: 500 mg 24H
Remarks: Severe irritation effect

Eyes - Rabbit: 50 mg 20S
Remarks: Rinsed

Chronic Exposure - Mutagen

| <u>Species</u> | <u>Dose</u> | <u>Route</u> | <u>Mutation test</u> |
|----------------|-------------|--------------|----------------------|
| Rat | 2500 NG/KG | Oral | Cytogenetic analysis |

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Allylamine
UN#: 2334
Class: 6.1
Packing Group: Packing Group I
Hazard Label: Poison inhalation hazard
Hazard Label: Flammable liquid
PIH: Zone B

IATA

Proper Shipping Name: Allylamine
IATA UN Number: 2334
Hazard Class: 6.1
Packing Group: I
Not Allowed - Aircraft: Not permitted for air transport.

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: F T N

Indication of Danger

Highly Flammable. Toxic. Dangerous for the environment.

Risk Statements R: 11 23/24/25 51/53

Highly flammable. Toxic by inhalation, in contact with skin and if swallowed. Toxic to aquatic organisms, may cause longterm adverse effects in the aquatic environment.

Safety Statements S: 9 16 24/25 45 61

Keep container in a well-ventilated place. Keep away from sources of ignition- no smoking. Avoid contact with skin and eyes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US Classification and Label Text

Indication of Danger

Flammable (USA) Highly Flammable (EU). Highly Toxic (USA) Very Toxic (EU).

Risk Statements

Toxic by inhalation and if swallowed. Very toxic in contact with skin. Causes burns.

Safety Statements

Keep container in a well-ventilated place. Keep away from sources of ignition- no smoking. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US Statements

Lachrymator. Readily absorbed through skin. Target organ(s): Cardiovascular system.

United States Regulatory Information

SARA Listed: Yes

Demimimis: 1 %

Notes: This product is subject to SARA section 313 reporting requirements.

TSCA Inventory Item: Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice packing slip for additional terms and conditions of sale. Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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