



SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 12/22/2004
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Version 1.40

Section 1 - Product and Company Information

Product Name 3-Aminopropyltriethoxysilane, 99%
Product Number 440140
Brand Aldrich Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
3-AMINOPROPYLTRIETHOXSILANE	919-30-2	No	213-048-4	612-108-00-0

Formula C9H23NO3Si
Synonyms A 1100, AGM-9, (gamma-Aminopropyl)triethoxysilane, (3-Aminopropyl)triethoxysilane, Propylamine, 3-(triethoxysilyl)-, Silane, gamma-aminopropyltriethoxy-, Silane, (3-aminopropyl)triethoxy-, Silicone A-1100, Triethoxy(3-aminopropyl)silane, 3-(Triethoxysilyl)propylamine

Section 3 - Hazards Identification

Emergency Overview

Corrosive.
Harmful if swallowed. Causes burns.
Target organ(s): Nerves, Liver.

HMS Rating
Health: 3* Flammability: 1 Reactivity: 1

NFPA Rating
Health: 3 Flammability: 1 Reactivity: 1

*additional chronic hazard 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. Do not induce vomiting.

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 skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Conditions of Flammability

Under fire conditions, material may decompose to form flammable and/or explosive mixtures in air.

Flash Point: 208.4 °F 98 °C

Explosion Limits: Lower: 0.8 % Upper: 4.5 %

Autolignition Temp: N/A

Extinguishing Media

Suitable

Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable

Do not use water.

Firefighting

Protective Equipment

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

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area.

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 or soda ash, pick up, keep in a closed container, and hold for waste disposal. 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.

Special Requirements

Moisture sensitive. Store under inert gas.

Section 8 - Exposure Controls / PPE**Engineering Controls**

Safety shower and eye bath. Use only in a chemical fume hood.

Personal Protective Equipment**Respiratory**

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

Other

Faceshield (8-inch minimum).

General Hygiene Measures

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State	Color	Form
	Liquid	Colorless	Clear liquid

Molecular Weight: 221.37 AMU

pH N/A

BP/BP Range 213 - 216 °C

MP/MP Range N/A

Freezing Point N/A

Vapor Pressure < 10 mmHg 100 °C

Vapor Density 7.7 g/l

Saturated Vapor Conc. N/A

SG/Density 0.949 g/cm3

Bulk Density N/A

Odor Threshold N/A

Volatile% N/A

VOC Content N/A

Water Content N/A

Solvent Content N/A

Evaporation Rate N/A

Viscosity N/A

Partition Coefficient N/A

Decomposition Temp. N/A

Flash Point °F 208.4 °F

Flash Point °C 98 °C

Explosion Limits Lower: 0.8 %

Upper: 4.5 %

Flammability N/A

Autoignition Temp N/A

Refractive Index 1.423

Method: closed cup
Method: closed cup

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity**Stability**

Stable

Stable.

Conditions of Instability

May decompose on exposure to moist air or water.

Materials to Avoid

Strong oxidizing agents.

Hazardous Decomposition Products**Hazardous Decomposition Products**

Thermal decomposition may produce carbon monoxide, carbon dioxide, and nitrogen oxides, Silicon oxide.

Hazardous Polymerization**Hazardous Polymerization**

Will not occur.

Section 11 - Toxicological Information**Route of Exposure****Skin Contact**

Causes burns.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes burns.

Inhalation

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

Ingestion

Harmful if swallowed.

Target Organ(s) or System(s)

Nerves. Liver.

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: TX2100000

Toxicity Data

Oral - Rat: 1780 mg/kg (LD50)

Oral - Mouse: 4000 mg/kg (LD50)

Remarks: Behavioral: Excitement.

Lungs, Thorax, or Respiration: Emphysema.

Blood: Changes in leukocyte (WBC) count.

Intraperitoneal - Mouse: 260 MG/KG (LD50)

Skin - Rabbit: 4 ML/KG (LD50)

Oral - Mammal: 4000 mg/kg (LD50)

Irritation Data

Skin - Rabbit: 0.1 mg 24H

Remarks: Open irritation test

Skin - Rabbit: 5 mg 24H
Remarks: Severe irritation effect

Eyes - Rabbit: 100 mg
Remarks: Mild irritation effect

Eyes - Rabbit: 0.75 mg 24H
Remarks: Severe irritation effect

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.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Corrosive liquid, basic, organic, n.o.s.
UN#: 3267
Class: 8
Packing Group: Packing Group II
Hazard Label: Corrosive
PIH: Not PIH

IATA

Proper Shipping Name: Corrosive liquid, basic, organic, n.o.s.
IATA UN Number: 3267
Hazard Class: 8
Packing Group: II

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: C

Indication of Danger

Corrosive.

Risk Statements R: 22 34

Harmful if swallowed. Causes burns.

Safety Statements S: 26 36/37/39 45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Classification and Label Text

Indication of Danger

Corrosive.

Risk Statements

Harmful if swallowed. Causes burns.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Statements

Target organ(s): Nerves. Liver.

United States Regulatory Information

SARA Listed: No

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

