

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 06/16/2009

Reviewed on 06/16/2009

1 Identification of substance:

Product details:

Product name: 2-Mercaptoethyltriethoxysilane

Stock number: A16702

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

2-Mercaptoethyltriethoxysilane (CAS# 18236-15-2): 100%

Identification number(s):

EINECS Number: 242-112-4

3 Hazards identification

Hazard description:



Xi Irritant

Information pertaining to particular dangers for man and environment

R 10 Flammable.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	1	Health (acute effects) = 1
FIRE	2	Flammability = 2
REACTIVITY	1	Reactivity = 1

GHS label elements



Warning

2.6/3 - Flammable liquid and vapour.



Warning

3.2/2 - Causes skin irritation.

3.3/2A - Causes serious eye irritation.

3.8/3 - May cause respiratory irritation.

Prevention:

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

Keep container tightly closed.

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

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

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IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

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

Call a POISON CENTER or doctor/physician if you feel unwell.

Specific treatment (see label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

4 First aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

For safety reasons unsuitable extinguishing agents Water

Special hazards caused by the material, its products of combustion or resulting gases:

In case of fire, the following can be released:

Carbon monoxide and carbon dioxide

Silicon oxide

Sulfur oxides (SO_x)

Hydrogen sulfide

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

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Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Keep ignition sources away.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility:

Store away from water/moisture.

Store away from oxidizing agents.

Further information about storage conditions:

Store under dry inert gas.

This product is moisture sensitive.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

Protect from humidity and water.

8 Exposure controls and personal protection

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace: Not required.

Additional information: No data

Personal protective equipment

General protective and hygienic measures

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Check protective gloves prior to each use for their proper condition.

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses

Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form:	Liquid
Odor:	Stench

Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	209-211°C (408-412°F)
Sublimation temperature / start:	Not determined

Flash point:	Not determined
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Ignition temperature:	Not determined
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Decomposition temperature:	Not determined
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Explosion limits:

Lower:	Not determined
Upper:	Not determined

Vapor pressure:	Not determined
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Density:	Not determined
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10 Stability and reactivity

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Water/moisture

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Oxidizing agents
Dangerous reactions No dangerous reactions known
Dangerous products of decomposition:
 Carbon monoxide and carbon dioxide
 Silicon oxide
 Sulfur oxides (SOx)
 Hydrogen sulfide

11 Toxicological information

Acute toxicity:

LD/LC50 values that are relevant for classification:

Oral	LD50	3080 µL/kg (rat)
Dermal	LD50	4490 µL/kg (rabbit)

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity:

Subacute to chronic toxicity:

Thiols/mercaptans are skin, eye and respiratory irritants. Inhalation can cause central nervous system effects. Strong penetrating odor acts to minimize inhalation exposure.

Subacute to chronic toxicity:

Organic silicon compounds are generally of low toxicity. Those exhibiting moisture sensitivity may be strongly irritating or corrosive on contact.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:

Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:



Hazard class:

3

Identification number:

UN1228

Packing group:

III

Proper shipping name (technical name): MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. (2-Mercaptoethyltriethoxysilane)

Label

3+6.1

Land transport ADR/RID (cross-border)



ADR/RID class:

3 (FT1) Flammable liquids

Danger code (Kemler):

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UN-Number:	1228
Packaging group:	III
Description of goods:	1228 MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. (2-Mercaptoethyltriethoxysilane)

Maritime transport IMDG:

IMDG Class:	3
UN Number:	1228
Label	3+6.1
Packaging group:	III
Proper shipping name:	MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. (2-Mercaptoethyltriethoxysilane)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class:	3
UN/ID Number:	1228
Label	3+6.1
Packaging group:	III
Proper shipping name:	MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. (2-Mercaptoethyltriethoxysilane)

UN "Model Regulation": UN1228, MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S., 3 (6.1), III

15 Regulations

Product related hazard informations:**Hazard symbols:**

Xi Irritant

Risk phrases:

10 Flammable.
36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:

7 Keep container tightly closed.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
33 Take precautionary measures against static discharges.
37 Wear suitable gloves.
43 In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
60 This material and its container must be disposed of as hazardous waste.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

Information about limitation of use: For use only by technically qualified individuals.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.

Contact: Zachariah Holt

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Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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