

Safety Data Sheet per OSHA HazCom 2012

Reviewed on 04/16/2010
1 Identification
Product identifier
Product name: <u>Ethyl 2-mercaptoacetate</u>
Stock number: L03125 CAS Number: 623-51-8
EC number: 210-800-3
Relevant identified uses of the substance or mixture and uses advised against. Identified use: SU24 Scientific research and development
Details of the supplier of the safety data sheet
Manufacturer/Supplier: Alfa Aesar Theorem Science Sejantitie Chemicale Inc.
Thermo Fisher Scientific Chemicals, Inc. 30 Bond Street
Ward Hill, MA 01835-8099 Tel: 800-343-0660_
Fax: 800-322-4757 Email: tech@alfa.com www.alfa.com
Information Department: Health, Safety and Environmental Department
Emergency telephone number: During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.
2 Hazard(s) identification Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)
GHS02 Flame
Flam. Liq. 3 H226 Flammable liquid and vapour.
GHS06 Skull and crossbones
Acute Tox. 3 H301 Toxic if swallowed. Hazards not otherwise classified Stench
Label elements GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms
GHS02 GHS06
Signal word Danger
Hazard statements H226 Flammable liquid and vapour.
H301 Toxic if swallowed. Precautionary statements P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P260 Do not breathe dust/fume/gas/mist/vapours/spray. P280 Wear protective clothing.
P280 Wear protective clothing. P233 Keep container tightly closed. P309 IF exposed or if you feel unwell: P310 Immediately call a POISON CENTER/doctor/
P310 Immediately call a POISON CENTER/doctor/ WHMIS classification
B3 - Combustible liquid D1A - Very toxic material causing immediate and serious toxic effects
Classification system HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
HEALTH 2 FIRE 2 FREACTIVITY Physical Hazard = 1
Other hazards Results of PBT and vPvB assessment
PBT: Not applicable. vPvB: Not applicable.
3 Composition/information on ingredients
Chemical characterization: Substances CAS# Description:
623-51-8 Ethyl 2-mercaptoacetate Identification number(s):
EC number: 210-800-3
4 First-aid measures
Description of first aid measures General information
Immediately remove any clothing soiled by the product. In case of irregular breathing or respiratory arrest provide artificial respiration
(Contd. on page 2) USA –

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After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice. After skin contact	(Contd. of page 1)
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 Do not induce vomiting; immediately call for medical help. Information for doctor	
Most important symptoms and effects, both acute and delayed No further relevant information available. Indication of any immediate medical attention and special treatment needed No further relevant information available.	
5 Fire-fighting measures Extinguishing media	
Suitable extinguishing agents In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Sulfur oxides (SOx) Advice for firefighters Protective equipment: Wear self-contained respirator.	
Wear fully protective impervious suit.	
6 Accidental release measures Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Keep away from ignition sources	
Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. Methods and material for containment and cleaning up: Keep away from ignition sources.	
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to section 13.	
Ensure adequate ventilation. Prevention of secondary hazards: Keep away from ignition sources. Reference to other sections 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 Precautions for safe handling Handle under dry protective gas. Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: Protect against electrostatic charges.	
Fumes can combine with air to form an explosive mixture. Keep ignition sources away.	
Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from oxidizing agents.	
Store away from air. Further information about storage conditions: Store under dry inert gas.	
This product is air sensitive. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Specific end use(s) No further relevant information available.	
8 Exposure controls/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. Control parameters Components with limit values that require monitoring at the workplace: Not required. Additional information: No data	
Exposure controls 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 bands before breaks and at the end of work	
Do not inhale gases / fumes / aerosols. Maintain an ergonomically appropriate working environment. 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. 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.	
	USA (Contd. on page 3)

(Contd. on page 3)

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Corr:	Information on basic physical and ch General Information	
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Explosion limits: Not determined Upper: Upper: Not determined Staff (17 mm Hg) Staff (17 mm Hg) Staf	Flammability (solid, gaseous) Ignition temperature: Decomposition temperature:	Not determinéd. Not determined Not determined
Variation processing at 55 °C (131 °F): 23 h Pa (17 mm Ha) Density at 20 °G 7): 1.00 g (nm) (31 ·F) (budgal) Evaporation rate Not determined Evaporation rate Not determined Swater Interview (11 · 16 · 10 · 10 · 10 · 10 · 10 · 10 ·	Explosion limits: Lower:	Not determined
Evaporation rate whom Not determined. Without Not determined. Without Not determined. Without Not determined. Without Not determined. Viscosity. Not determined. Not determined. Not determined. Other information No further relevant information anom. Chemical decomposition / conditions to be avoided. Decomposition will not occur if used and stored according to specifications. Thermial decomposition router recommended storage conditions. Conditions to avoid No further relevant information available. Information on toxicological effects Attransports Information on toxicological information Information or consolation genesities properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. Carritogenicity: No information Information or consolation for classification: No data Stikin Intratigencity: No infact affect. Eye Imitation or consolation facts known. Carritogenicity: No infact affect. Stikin Intratigencity: No infact affect. Stikin Intratigencity: No infact affect. Stikin Intratigencity: No infact affect. Stikin Intratigenor consolan: Classification thas on carinogenic properti	Vapor pressure at 55 °C (131 °F): Density at 20 °C (68 °F): Relative density	23 hPa (17 mm Hg) 1.096 g/cm³ (9.146 lbs/gal) Not determined.
Partition coefficient (n-octanol/water): Not determined. Viscosity: Differ information Not further relevant information available. 10 Stability and reactivity Reactivity Vis information known. Chemical Stability Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Pressibility of hazardous reactions to be avoided: Decomposition will not occur if used and stored according to specifications. Pressibility of hazardous reactions to the avoided: Decomposition will not occur if used and stored according to specifications. Pressibility of hazardous reactions to the avoided: Decomposition will not occur if used and stored according to specifications. Pressibility of hazardous reactions to the avoided: Decomposition will not occur if used and stored according to specifications. Pressibility of hazardous reactions to the avoided: Suffur oxides (SCX) Hydrogen sufficient relevant for classification: No data Strin Inritation or corresion: No infrant effect. Acute toxicity: No vis Swalloved. LDL CSO vulues that are relevant for classification: No data Strin Inritation or corresion: No infrant effect. Acute toxicity: No effects known. Germ cell mutagencity: No effects known. Germ cell mutagencity: No effects known. Appretion hazard: No effects known. Appretion fazard:	Evaporation rate Solubility in / Miscibility with	Not determined.
whitematic: Not determined: Other information Not Unter relevant information available. 10 Stability and reactivity Reactivity No information known. Chemical Stability Stabile under recommended storage conditions: Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Chemical Stability Stabile under recommended storage conditions: Thermal decomposition reducts: Conditions of avoid No Nuther relevant information available. Thermal decomposition products: Carbon monoke and carbon dioxide Stability avides (SCX) Hydrage gents Stability avides (SCX) Recent conception Stability avides (SCX) Hydrage conceptis thetability avides for avinterevide to data stored ac	Partition coefficient (n-octanol/water) Viscosity:	: Not determined.
Reactivity No information known. Chemical stability Stability and under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hazardous frequencies reactions. No danageous reactions known. Contingetible and No. Influer relevant information available. Ovailability of hazardous decomposition products: Staffin genits Air Hazardous decomposition for davoid Air Guiltur oxides (SOM) Hydrogen staffin Air Staffin context (S): Toxic if selects Accute toxicity: Toxic if selects known. Generation or correspingence to the select staffication: No data LDI LGB values that are relevant information frequencies of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. Specific target organ system toxicity - repeated exposure: No effects known. Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. Specific target organ system toxicity - repeated exposure: No effects known. Aspecific toxicity: No classification information available. Preside organ system toxicity - repeated exposure: No effects known. Aspecific toxicity: No classification information avai	kinematic:	Not determined.
Information on toxicological effects Acute toxicity: Toxic is evaluated. LDIL C50 values that are relevant for classification: No data Skin irritation or corrosion: Causes mild irritant effect. Eye irritation or corrosion: No irritant effect. Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Specific target organ system toxicity - rejeated exposure: No effects known. Specific target organ system toxicity - rejeated exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ by the toxicity - single exposure: No effects known. Specific target organ by the toxicity - single exposure: No effects known. Specific target organ by the toxicity - single exposure: No effects known. Specific target organ by the toxicity - single exposure: No effects known. Subacute to chronic toxicity: Thiols/metaglans may be sin, eye and respiratory irritants. Inhalation may cause central nervous system effects. Often the strong penetrating odor acts to minimize inhalation exposure. Additional toxicological information: Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Mobility in soil No further relevant information available. Mobility in soil No further relevant information available. Mobility in soil No turther relevant information available. Mobility in soil No further relevant information availab	Possibility of hazardous reactions No Conditions to avoid No further relevant Incompatible materials: Oxidizing agents Air Hazardous decomposition products: Carbon monoxide and carbon dioxide Sulfur oxides (SOx)	o dangerous reactions known tr information available.
Acute toxicity: Toxic if swallowed. LDVLCSV values that are relevant for classification: No data Skin irritation or corrosion: No irritant effect. Eye irritation or corrosion: Causes mild irritant effect. Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Garcinogenicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 12 Ecological information Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Mobility in soil Arbiter relevant information available. Mobility in soil Allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results OF BT and vPVB assessment PBT: Not applicable. Other adverse effects No further relevant information available. Moste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.	•	
Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available. 13 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.	Acute toxicity: Toxic if swallowed. LD/LC50 values that are relevant for Skin irritation or corrosion: No irritant Eye irritation or corrosion: Causes m Sensitization: No sensitizing effects kn Germ cell mutagenicity: No effects kno Carcinogenicity: No classification data Reproductive toxicity: No effects know Specific target organ system toxicity Specific target organ system toxicity Aspiration hazard: No effects known. Subacute to chronic toxicity: Thiols/mercaptans may be skin, eye and minimize inhalation exposure. Additional toxicological information:	t effect. Ild irritant effect. iown. own. o on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. wn. - repeated exposure: No effects known. - single exposure: No effects known. d respiratory irritants. Inhalation may cause central nervous system effects. Often the strong penetrating odor acts to
Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. Other adverse effects No further relevant information available. I 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.	-	
Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available. 13 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.	Aquatic toxicity: No further relevant in Persistence and degradability No furt Bioaccumulative potential No further Mobility in soil No further relevant info Additional ecological information: General notes: Do not allow material to be released to t Do not allow undiluted product or large	relevant information available. rmation available. the environment without proper governmental permits.
Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.	Results of PBT and vPvB assessmen PBT: Not applicable. vPvB: Not applicable.	
(Contd. on page 4)	13 Disposal considerations Waste treatment methods	

(Contd. on page 4)

Product name: Ethyl 2-mercaptoacetate

(Contd. of page 3)

Uncleaned packagings:

Transport information	
UN-Number DOT, IMDG, IATA	UN1228
UN proper shipping name DOT IMDG, IATA	Mercaptans, liquid, flammable, toxic, n.o.s. (Ethyl 2-mercaptoacetate) MERCAPTANS, LIQUID, FLAMMABLE, TOXIC, N.O.S. (Ethyl 2-mercaptoaceta
Transport hazard class(es)	
DOT	
Class Label Class Label IMDG, IATA	3 Flammable liquids. 3+6.1 3 (FT1) Flammable liquids 3+6.1
Class Label	3 Flammable liquids. 3+6.1
Packing group DOT, IMDG, IATA	<i>III</i>
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Flammable liquids
Transport in bulk according to Annex II of MARPOL	73/78 and the IBC Code Not applicable.
Transport/Additional information:	
DOT	
Marine Pollutant (DOT):	No
UN "Model Regulation":	UN1228, Mercaptans, liquid, flammable, toxic, n.o.s. (Ethyl 2-mercaptoacetate) (6.1), III

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms



Signal word Danger Hazard statements H226 Flammable liquid and vapour. H301 Toxic if swallowed. Precautionary statements P260 Do not breathe dust/fume/gas/mist/vapours/spray. P280 Wear protective clothing. P233 Keep container tightly closed. P309 IF exposed or if you feel unwell: P310 Immediately call a POISON CENTER/doctor/... National regulations All components of this product are listed in the U.S. Envi

 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).

 SARA Section 313 (specific toxic chemical listings) Substance is not listed.

 California Proposition 65

 Prop 65 - Chemicals known to cause cancer Substance is not listed.

 Prop 65 - Developmental toxicity, female Substance is not listed.

 Prop 65 - Developmental toxicity, female Substance is not listed.

 Prop 65 - Developmental toxicity, male Substance is not listed.

 Prop 65 - Developmental toxicity, the Substance is not listed.

 Prop 65 - Developmental toxicity female Substance is not listed.

 Prop 65 - Developmental toxicity, the Substance is not listed.

 Prop 65 - Developmental toxicity female Substance is not listed.

 Prop 65 - Developmental toxicity and Substance is not listed.

 Prop 65 - Developmental toxicity and Substance is not listed.

 Prop 65 - Developmental toxicity and Substance is not listed.

 Other regulations, limitations and prohibitive regulations

 Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

 The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the marke market and use must be observed. Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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 SDS: Global Marketing Department Date of preparation / last revision 11/23/2015 / -Abbreviations and acronyms: RID: Réglement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail) IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization ICAO: International Civil Aviation Organization" (ICAO) ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

(Contd. on page 5)

Product name: Ethyl 2-mercaptoacetate

- IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) LC50: Lethal concentration, 50 percent UD50: Lethal concentration, 50 percent VPUB: very Persistent and very Bioaccumulative ACGIH: American Conference of Governmental Industrial Hygienists (USA) OSHA: Occupational Safety and Health Administration (USA) MTP: National Toxicology Program (USA) IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)

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USA