



ACETOXYMETHYLTRIETHOXYSILANE

Safety Data Sheet SIA0050.0

Date of issue: 04/02/2015 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product name : ACETOXYMETHYLTRIETHOXYSILANE
 Product code : SIA0050.0
 Product form : Substance
 Physical state : Liquid
 Formula : C₉H₂₀O₅Si
 Synonyms : (TRIETHOXYSILYLMETHYL)ACETATE
 Chemical family : ORGANOETHOXYSILANE

1.2. Recommended use and restrictions on use

Recommended use : Chemical intermediate

1.3. Supplier

GELEST, INC.

11 East Steel Road
 Morrisville, PA 19067
 USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

| | | |
|--|------|-------------------------------|
| Flammable liquids Category 4 | H227 | Combustible liquid |
| Serious eye damage/eye irritation Category 2A | H319 | Causes serious eye irritation |

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H227 - Combustible liquid
 H319 - Causes serious eye irritation

Precautionary statements (GHS-US) :

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, open flames, sparks
 P264 - Wash hands thoroughly after handling.
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337+P313 - If eye irritation persists: Get medical advice/attention.
 P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish.
 P403+P235 - Keep in a cool place
 P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Hazards not otherwise classified (HNOC)

Other hazards not contributing to the classification

: Overexposure to ethanol by skin absorption, inhalation or ingestion may have a narcotic effect (headache, nausea, drowsiness). Ethanol is metabolized to acetaldehyde and acetic acid which in large quantities result in metabolic acidosis, CNS depression and death due to respiratory arrest. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages.

2.4. Unknown acute toxicity (GHS US)

Not applicable

ACETOXYMETHYLTRIETHOXSILANE

Safety Data Sheet

SECTION 3: Composition/Information on ingredients

3.1. Substances

| | |
|----------------|-------------------------------|
| Substance type | : Mono-constituent |
| Name | : ACETOXYMETHYLTRIETHOXSILANE |
| CAS-No. | : 5630-83-1 |

| Name | Product identifier | % | GHS-US classification |
|------------------------------|---------------------|------|---|
| Acetoxymethyltriethoxysilane | (CAS-No.) 5630-83-1 | > 95 | Flam. Liq. 4, H227 Eye Irrit. 2A, H319 |
| Ethanol | (CAS-No.) 64-17-5 | | Flam. Liq. 2, H225 Eye Irrit. 2A, H319 |

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|--|
| First-aid measures general | : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label. |
| First-aid measures after inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice. |
| First-aid measures after skin contact | : Wash with plenty of soap and water. |
| First-aid measures after eye contact | : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention. |
| First-aid measures after ingestion | : Never give anything by mouth to an unconscious person. Get medical advice/attention. |

4.2. Most important symptoms and effects (acute and delayed)

| | |
|-------------------------------------|--|
| Symptoms/effects after inhalation | : May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea. |
| Symptoms/effects after skin contact | : May cause skin irritation. |
| Symptoms/effects after eye contact | : Causes serious eye irritation. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. |
| Chronic symptoms | : On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system. |

4.3. Immediate medical attention and special treatment, if necessary

NOTE TO PHYSICIAN: This product reacts with water in the acid contents of the stomach to form ethanol.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Foam. Carbon dioxide. Dry chemical.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

ACETOXYMETHYLTRIETHOXSILANE

Safety Data Sheet

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors. Containers must be properly grounded before beginning transfer. Use only non-sparking tools.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed.

Incompatible materials : Alcohols. Amines. Peroxides. Moisture. Oxidizing agent. Water.

Storage area : Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Ethanol (64-17-5) | | |
|-------------------|--------------------------------------|------------------------|
| ACGIH | ACGIH STEL (ppm) | 1000 ppm |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 1900 mg/m ³ |
| OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |
| IDLH | US IDLH (ppm) | 3300 ppm (10% LEL) |
| NIOSH | NIOSH REL (TWA) (mg/m ³) | 1900 mg/m ³ |
| NIOSH | NIOSH REL (TWA) (ppm) | 1000 ppm |

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:

Neoprene or nitrile rubber gloves

Eye protection:

Chemical goggles. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Clear liquid.

Molecular mass : 236.34 g/mol

Color : No data available

Odor : Mild.

Odor threshold : No data available

Refractive index : 1.4092

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : < 0 °C

ACETOXYMETHYLTRIETHOXSILANE

Safety Data Sheet

| | |
|---------------------------------|----------------------|
| Boiling point | : 106 °C @ 15 mm Hg |
| Flash point | : > 60 °C |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Combustible liquid |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : > 1 |
| Relative density | : 1.042 |
| % Volatiles | : < 3 % |
| Solubility | : Reacts with water. |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosion limits | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable in sealed containers.

10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating ethanol.

10.4. Conditions to avoid

Heat. Sparks. Open flame.

10.5. Incompatible materials

Alcohols. Amines. Peroxides. Moisture. Oxidizing agent. Water.

10.6. Hazardous decomposition products

Ethanol. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| Ethanol (64-17-5) | |
|----------------------------|------------------------|
| LD50 oral rat | 7060 mg/kg |
| LC50 inhalation rat (mg/l) | 124.7 mg/l/4h |
| LC50 inhalation rat (ppm) | 20000 ppm 10 hrs. |
| LDLo oral rat | 1400 mg/kg (Human) |
| ATE US (oral) | 7060 mg/kg body weight |
| ATE US (vapors) | 124.7 mg/l/4h |
| ATE US (dust, mist) | 124.7 mg/l/4h |

| | |
|-----------------------------------|----------------------------------|
| Skin corrosion/irritation | : Not classified |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |

| Ethanol (64-17-5) | |
|--|----------------------------|
| IARC group | 1 - Carcinogenic to humans |
| In OSHA Hazard Communication Carcinogen list | Yes |

| | |
|--|------------------|
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity – single exposure | : Not classified |

ACETOXYMETHYLTRIETHOXSILANE

Safety Data Sheet

| | |
|--|--|
| Specific target organ toxicity – repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Symptoms/effects after inhalation | : May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea. |
| Symptoms/effects after skin contact | : May cause skin irritation. |
| Symptoms/effects after eye contact | : Causes serious eye irritation. |
| Symptoms/effects after ingestion | : May be harmful if swallowed. |
| Chronic symptoms | : On contact with water this compound liberates ethanol which is known to have a chronic effect on the central nervous system. |
| Reason for classification | : Expert judgment |

SECTION 12: Ecological information

12.1. Toxicity

| Ethanol (64-17-5) | |
|-------------------|--|
| LC50 fish 1 | > 10000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static]) |
| LC50 fish 2 | > 13400 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

| Ethanol (64-17-5) | |
|-------------------|-------|
| Log Pow | -0.32 |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

| | |
|---------------------------|---|
| Other adverse effects | : This substance may be hazardous to the environment. |
| Effect on the ozone layer | : No additional information available |

SECTION 13: Disposal considerations

13.1. Disposal methods

| | |
|--|--|
| Product/Packaging disposal recommendations | : May be incinerated. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

14.1. UN number

| | |
|------------|--------|
| DOT NA no. | NA1993 |
|------------|--------|

14.2. UN proper shipping name

| | |
|---|--|
| Transport document description | : NA1993 Combustible liquid, n.o.s. (ACETOXYMETHYLTRIETHOXSILANE), 3, III |
| Proper Shipping Name (DOT) | : Combustible liquid, n.o.s. (ACETOXYMETHYLTRIETHOXSILANE) |
| Class (DOT) | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Packing group (DOT) | : III - Minor Danger |
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : 203 |
| DOT Packaging Bulk (49 CFR 173.xxx) | : 241 |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : 150 |
| DOT Symbols | : D - Proper shipping name for domestic use only, or to and from Canada, G - Identifies PSN requiring a technical name |

14.3. Additional information

| | |
|-------------------|---|
| Other information | : No supplementary information available. |
|-------------------|---|

Transport by sea

| | |
|-----------------------------|---|
| DOT Vessel Stowage Location | : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel. |
|-----------------------------|---|

ACETOXYMETHYLTRIETHOXSILANE

Safety Data Sheet

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 60 L
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 220 L
CFR 175.75)

SECTION 15: Regulatory information

15.1. US Federal regulations

ACETOXYMETHYLTRIETHOXSILANE (5630-83-1)

TSCA Exemption/Exclusion

Low Volume Exemption in accordance with 40 CFR 723.50(c)(1). Anyone who intends to use this chemical substance for commercial purposes must comply with specific use restrictions and controls specified herein. This LVE limits site of manufacture of this substance to Gelest, Inc. unless otherwise approved by U.S. EPA

Ethanol (64-17-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Acetoxymethyltriethoxysilane (5630-83-1)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Ethanol (64-17-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class B Division 2 - Flammable Liquid
Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Ethanol (64-17-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Ethanol (64-17-5)

Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

15.3. US State regulations

Ethanol (64-17-5)

U.S. - California -
Proposition 65 -
Carcinogens List

U.S. - California -
Proposition 65 -
Developmental Toxicity

U.S. - California -
Proposition 65 -
Reproductive Toxicity -
Female

U.S. - California -
Proposition 65 -
Reproductive Toxicity -
Male

No significant risk
level (NSRL)

Yes

Yes

No

No

Ethanol (64-17-5)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases::

| | |
|------|------------------------------------|
| H225 | Highly flammable liquid and vapour |
| H227 | Combustible liquid |
| H319 | Causes serious eye irritation |

ACETOXYMETHYLTRIETHOXSILANE

Safety Data Sheet

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur
Flammability : 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)
Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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