

METHYLTRIS(METHOXYETHOXY)SILANE

Safety Data Sheet SIM6585.0

Date of issue: 30/11/2016

Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form	: Substance
Physical state	: Liquid
Substance name	: METHYLTRIS(METHOXYETHOXY)SILANE
Product code	: SIM6585.0
Formula	: C10H24O6Si
Synonyms	: TRIS(METHOXYETHOXY)METHYLSILANE 6-(2-METHOXYETHOXY)-6-METHYL-2,5,7,10-TETRAOXA-6-SILAUNDECANE 2,5,7,10-TETRAOXA-6-SILAUNDECANE, 6-(2-METHOXYETHOXY)-6-METHYL-
Chemical family	: ORGANOSILANE ESTER

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet**GELEST, INC.**11 East Steel Road
Morrisville, PA 19067**USA**

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info@gelestde.com - www.gelestde.com**1.4. Emergency telephone number**

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

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Reproductive toxicity, Category 1B	H360
Full text of H statements : see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS07

GHS08

Signal word (CLP) : Danger

Hazard statements (CLP) : H315 - Causes skin irritation.

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Precautionary statements (CLP) : H319 - Causes serious eye irritation.
H360 - May damage fertility or the unborn child.
: P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Multi-constituent
Name : METHYLTRIS(METHOXYETHOXY)SILANE
CAS-No. : 17980-64-2
EC-No. : 241-906-8

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Methyltris(methoxyethoxy)silane	(CAS-No.) 17980-64-2 (EC-No.) 241-906-8	95 - 100	Skin Irrit. 2, H315 Eye Irrit. 2, H319
2-Methoxyethanol substance listed as REACH Candidate	(CAS-No.) 109-86-4 (EC-No.) 203-713-7 (EC Index-No.) 603-011-00-4	0 - 3	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Repr. 1B, H360FD

Full text of 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. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of water/.... Get medical advice/attention.

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, both acute and delayed

Symptoms/effects : May damage fertility or the unborn child.
Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
Symptoms/effects after skin contact : Causes skin irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Symptoms/effects after ingestion : May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media : Do not use straight streams.

5.2. Special hazards arising from the substance or mixture

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

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5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. 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 vapour and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Wear protective equipment as described in Section 8.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal 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

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- 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.

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 : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid all eye and skin contact and do not breathe vapour and mist. Caution: Exposure to potentially or imminently childbearing women should be restricted. Use only in well ventilated areas.
- Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep container tightly closed. Store locked up.
- Incompatible materials : Oxidizing agent.
- Storage area : Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-Methoxyethanol (109-86-4)		
EU	IOELV TWA (ppm)	1 ppm
Austria	MAK (ppm)	1 ppm
Austria	MAK Short time value (ppm)	4 ppm
Belgium	Limit value (mg/m ³)	0.3 mg/m ³
Belgium	Limit value (ppm)	0.1 ppm
Bulgaria	OEL TWA (ppm)	1 ppm
Cyprus	OEL TWA (ppm)	1 ppm
France	VME (mg/m ³)	3.2 mg/m ³ (restrictive limit)
France	VME (ppm)	1 ppm (restrictive limit)
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	3.2 mg/m ³ (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	1 ppm (The risk of damage to the embryo or fetus cannot be excluded even when AGW and BGW values are observed)
Germany	TRGS 903 Biological limit value	15 mg/g (Medium: urine - Time: end of shift - Parameter: Methoxyacetic acid (measured as mg/g Creatinine)

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2-Methoxyethanol (109-86-4)		
Gibraltar	Eight hours ppm	1 ppm
Greece	OEL TWA (ppm)	1 ppm
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	0.1 ppm
Italy	OEL TWA (ppm)	0.5 ppm
Latvia	OEL TWA (ppm)	1 ppm
USA IDLH	US IDLH (ppm)	200 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.3 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	0.1 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	80 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	25 ppm
Spain	VLA-ED (mg/m ³)	3 mg/m ³ (indicative limit value)
Spain	VLA-ED (ppm)	1 ppm (indicative limit value)
Switzerland	KZGW (mg/m ³)	25.6 mg/m ³
Switzerland	KZGW (ppm)	8 ppm
Switzerland	MAK (mg/m ³)	3.2 mg/m ³
Switzerland	MAK (ppm)	1 ppm
Netherlands	Grenswaarde TGG 8H (mg/m ³)	0.5 mg/m ³
United Kingdom	WEL TWA (mg/m ³)	3 mg/m ³
United Kingdom	WEL TWA (ppm)	1 ppm
United Kingdom	WEL STEL (mg/m ³)	9 mg/m ³ (calculated)
United Kingdom	WEL STEL (ppm)	3 ppm (calculated)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	3 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	1 ppm
Finland	HTP-arvo (8h) (mg/m ³)	1.6 mg/m ³
Finland	HTP-arvo (8h) (ppm)	0.5 ppm
Hungary	AK-érték	3.16 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	1 ppm
Ireland	OEL (15 min ref) (ppm)	3 ppm (calculated)
Lithuania	IPRV (ppm)	1 ppm
Lithuania	TPRV (mg/m ³)	30 mg/m ³
Lithuania	TPRV (ppm)	10 ppm
Malta	OEL TWA (ppm)	1 ppm
Norway	Grenseverdier (AN) (mg/m ³)	3.1 mg/m ³
Norway	Grenseverdier (AN) (ppm)	1 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m ³)	3.1 mg/m ³
Norway	Grenseverdier (Korttidsverdi) (ppm)	1 ppm
Poland	NDS (mg/m ³)	3 mg/m ³
Romania	OEL TWA (mg/m ³)	3.2 mg/m ³
Romania	OEL TWA (ppm)	1 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	16 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	5 ppm
Slovakia	NPHV (Hraničná) (mg/m ³)	128 mg/m ³
Canada (Quebec)	VEMP (mg/m ³)	16 mg/m ³
Canada (Quebec)	VEMP (ppm)	5 ppm
Australia	TWA (mg/m ³)	16 mg/m ³
Australia	TWA (ppm)	5 ppm
Portugal	OEL TWA (ppm)	1 ppm (indicative limit value)
Portugal	OEL chemical category (PT)	skin - potential for cutaneous exposure indicative limit value

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8.2. Exposure controls

Appropriate engineering controls:

Provide local exhaust or general room ventilation.

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:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. 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	: 268.38 g/mol
Colour	: No data available
Odour	: characteristic.
Odour threshold	: No data available
Refractive index	: 1.4178
pH	: No data available
Relative evaporation rate (butylacetate=1)	: < 1
Melting point	: < 0 °C
Freezing point	: No data available
Boiling point	: 145 °C @ 15 mm Hg
Flash point	: > 65 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: ~ 1 mm Hg @ 90°C
Relative vapour density at 20 °C	: > 1
Relative density	: 1.045
% Volatiles	: 100 %
Solubility	: Insoluble in water. Reacts slowly 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
Oxidising properties	: No data available
Explosive 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.

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10.3. Possibility of hazardous reactions

Material decomposes slowly in contact with moist air or with water liberating methoxyethanol. Hazardous polymerization can occur if product is heated over 120°C.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Methoxyethanol. Organic acid vapors. Silicon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2-Methoxyethanol (109-86-4)

LD50 oral rat	2370 mg/kg 2460 mg/kg
LD50 dermal rabbit	1280 mg/kg
LC50 inhalation rat (ppm)	1478 ppm (Exposure time: 7 h)
ATE CLP (oral)	500 mg/kg bodyweight
ATE CLP (dermal)	1280 mg/kg bodyweight
ATE CLP (vapours)	11 mg/l/4h

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Reproductive toxicity : May damage fertility or the unborn child.

The hydrolysis product of this product is methoxyethanol. Methoxyethanol is a reproductive toxin. 2-Methoxyethanol is rapidly absorbed by all routes and undergoes hepatic metabolism to methoxyacetic acid. Exposure to methoxyethanol and methoxyacetic acid have been positively linked to the induction of reproductive toxicity and subtle birth defects (teratogenicity).

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Material generates methoxyethanol on contact with water or moisture in skin, eyes and mucous membranes and has an irritating, dehydrating effect on overexposed tissue.

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : Causes skin irritation.

Symptoms/effects after eye contact : Causes serious eye irritation.

Symptoms/effects after ingestion : May be harmful if swallowed.

Reason for classification : Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

2-Methoxyethanol (109-86-4)

LC50 fish 1	10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 fish 2	9650 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

2-Methoxyethanol (109-86-4)

Log Pow	-0.85
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
2-Methoxyethanol (109-86-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Other adverse effects : This substance may be hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations : Do not dispose of waste into sewer.
Product/Packaging disposal recommendations : Incinerate. 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

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable
UN-No. (ADN) : Not applicable
UN-No. (RID) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

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14.6. Special precautions for user

- Overland transport

Not applicable

- Transport by sea

Not applicable

- Air transport

Not applicable

- Inland waterway transport

Not applicable

- Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

METHYLTRIS(METHOXYETHOXY)SILANE is not on the REACH Candidate List

Contains a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: 2-Methoxyethanol (EC 203-713-7, CAS 109-86-4)

METHYLTRIS(METHOXYETHOXY)SILANE is not on the REACH Annex XIV List

METHYLTRIS(METHOXYETHOXY)SILANE is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

METHYLTRIS(METHOXYETHOXY)SILANE is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

% Volatiles : 100 %

15.1.2. National regulations

Germany

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

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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

Other information

: Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 1B	Reproductive toxicity, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H360	May damage fertility or the unborn child.
H360FD	May damage fertility. May damage the unborn child.

SDS EU (REACH Annex II) - Custom

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

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