SECTION 1: Identification

1.1. Identification

Product name: 2-[METHOXY(POLYETHYLENEOXY)6-9PROPYL]TRIMETHOXYSILANE, tech-90
Product code: SIM6492.7
Product form: Substance
Physical state: Liquid
Formula: CH₃O(C₂H₄O)₆-9(CH₂)₃Si(OCH₃)₃
Synonyms: METHOXY(POLYETHYLENEOXY)PROPYLTRIMETHOXYSILANE
TRIMETHOXYSILYLPROPYLPOLYETHYLENEOXIDE METHYL ETHER
Chemical family: ORGANOMETHOXYSILANE

1.2. Recommended use and restrictions on use

Recommended use: Chemical intermediate

1.3. Supplier

GELEST, INC.
1 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
- Skin corrosion/irritation Category 2
- Serious eye damage/eye irritation Category 2A
- Specific target organ toxicity (single exposure) Category 3

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
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H335 - May cause respiratory irritation

Precautionary statements (GHS US):
- P210 - Keep away from heat, open flames, sparks. - No smoking.
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 - Wash hands thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 - If on skin: Wash with plenty of water.
- P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P312 - Call a poison center or doctor if you feel unwell.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 - Keep in a cool place
- P405 - Store locked up.
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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.

First-aid measures after skin contact: Wash with plenty of soap and water.

First-aid measures after eye contact: Rinse cautiously with water for several 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.

Symptoms/effects after skin contact: May cause skin irritation.

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

Symptoms/effects after ingestion: Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness.

Chronic symptoms: On contact with water this compound liberates methanol 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 methanol. The combination of visual disturbances, metabolic acidosis and formic acid in urine is evidence of methanol poisoning. The therapeutic intravenous administration of ethanol (10 mls/hour) allows methanol to be preferentially oxidized and reduces production of methanol metabolites. Acidosis must be treated with intravenous administration of sodium bicarbonate and methanol elimination may be increased by hemodialysis, as indicated. Treatment should be based on blood methanol levels and acid-base balance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Do not use straight streams.

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: Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.

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.

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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. Use only non-sparking tools.

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
Additional hazards when processed: Keep away from heat, open flames, sparks. - No smoking.
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent accumulation of vapors. 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. Keep in a cool place.
Storage area: Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
No additional information available

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: 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: Liquid.
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Molecular mass : 459 - 591 g/mol
Color : Clear yellow to amber.
Odor : Mild.
Odor threshold : No data available
Refractive index : 1.403
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : No data available
Freezing point : -8 °C
Boiling point : > 250 °C
Flash point : 88 °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 : 1.076
Solubility : Soluble in water. Reacts with water.
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : 29 cSt
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 methanol.

10.4. Conditions to avoid
Heat. Sparks. Open flame.

10.5. Incompatible materials
Moisture. Water.

10.6. Hazardous decomposition products
Methanol. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified
Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : 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.
**2-[METHOXY(POLYETHYLENEOXY)6-9PROPYL]TRIMETHOXYSILANE, tech-90**

### Safety Data Sheet

<table>
<thead>
<tr>
<th>Properties</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>May cause irritation to the respiratory tract.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>May cause skin irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>Oral toxicity is associated with methanol, the solvent and a hydrolysis product which causes nausea, vomiting, headache, visual effects including blindness.</td>
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<td>Chronic symptoms</td>
<td>On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system.</td>
</tr>
<tr>
<td>Reason for classification</td>
<td>Expert judgment</td>
</tr>
</tbody>
</table>

#### SECTION 12: Ecological information

12.1. **Toxicity**  
No additional information available

12.2. **Persistence and degradability**  
No additional information available

12.3. **Bioaccumulative potential**  
No additional information available

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**  
Sewage disposal recommendations: Do not dispose of waste into sewer.  
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. (2-[METHOXY(POLYETHYLENEOXY)9-12PROPYL]TRIMETHOXYSILANE), 3, III  
Proper Shipping Name (DOT): Combustible liquid, n.o.s. (2-[METHOXY(POLYETHYLENEOXY)9-12PROPYL]TRIMETHOXYSILANE)  
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: This product is Combustible as defined by the US Department of Transportation (DOT). It is regulated for transport in the US in container > 119 gallons (450 liters). The product is not regulated for transport by the IATA, ADR/RID, ADNR or the IMDG regulations. Therefore, no UN# is applicable to this product.
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.

Air transport
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 220 L

SECTION 15: Regulatory information

15.1. US Federal regulations
Methoxy(polyethyleneoxy)propyltrimethoxysilane (65994-07-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
CANADA
Methoxy(polyethyleneoxy)propyltrimethoxysilane (65994-07-2)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations
No additional information available

National regulations
Methoxy(polyethyleneoxy)propyltrimethoxysilane (65994-07-2)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

15.3. US State regulations
California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Full text of H-phrases:

<table>
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<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

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.
2-[METHOXY(POLYETHYLENEOXY)6-9PROPYL]TRIMETHOXYSILANE, tech-90

Safety Data Sheet

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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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