

# PHENYLTRIS(METHYLETHYLKETOXIMINO)SILANE, tech-95

Safety Data Sheet SIP6826.5

Date of issue: 20/02/2015

Revision date: 19/08/2015

Version: 1.1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form	: Substance
Physical state	: Liquid
Substance name	: PHENYLTRIS(METHYLETHYLKETOXIMINO)SILANE, tech-95
Product code	: SIP6826.5
Formula	: C <sub>18</sub> H <sub>29</sub> N <sub>3</sub> O <sub>3</sub> Si
Synonyms	: PHENYLTRIS(BUTANONEOXIME)SILANE; PHENYLTRI(METHYLETHYLKETOXIME)SILANE; 2-BUTANONE-O,O',O"- (PHENYLSILYLIDYNE)TRIOXIME
Chemical family	: ORGANOAMINOSILANE

### 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

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

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[info@gelestde.com](mailto:info@gelestde.com) - [www.gelestde.com](http://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]

Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Carcinogenicity, Category 2	H351
Specific target organ toxicity — Repeated exposure, Category 2	H373
Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412
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) :



GHS05



GHS07



GHS08

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Signal word (CLP)	: Danger
Hazard statements (CLP)	: H317 - May cause an allergic skin reaction. H318 - Causes serious eye damage. H351 - Suspected of causing cancer. H373 - May cause damage to organs through prolonged or repeated exposure. H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP)	: P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P260 - Do not breathe vapours. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment. P310 - Immediately call a POISON CENTER or doctor/physician

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type	: Multi-constituent
Name	: PHENYLTRIS(METHYLETHYLKETOXIMINO)SILANE, tech-95
CAS-No.	: 34036-80-1
EC-No.	: 433-360-6
EC Index-No.	: 014-037-00-5

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Phenyltris(methylethylketoximino)silane	(CAS-No.) 34036-80-1 (EC-No.) 433-360-6 (EC Index-No.) 014-037-00-5	> 90	Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Chronic 3, H412
Methylethylketoxime	(CAS-No.) 96-29-7 (EC-No.) 202-496-6 (EC Index-No.) 616-014-00-0	< 5	Acute Tox. 4 (Dermal), H312 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351

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 after inhalation	: May cause irritation to the respiratory tract. Vapors from decomposition or exposure to atmospheric moisture may cause a reversible narcotic effect. Overexposure may cause coma and respiratory failure.
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

### 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. Foam. Carbon dioxide. Dry chemical.
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Unsuitable extinguishing media : Do not use straight streams.

### 5.2. Special hazards arising from the substance or mixture

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

### 5.3. Advice for firefighters

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 vapour 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

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. 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

Precautions for safe handling : 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. Provide good ventilation in process area to prevent formation of vapour. Take precautionary measures against static discharge. Use only non-sparking tools.  
Hygiene measures : Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.  
Storage conditions : Keep container tightly closed. Store in sealed containers without contacting iron or steel. Keep in a cool place. Store locked up.  
Incompatible materials : Acids. Iron. Metals. Moisture. Oxidizing agent. Water.  
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

Methylethylketoxime (96-29-7)		
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	0.3 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	10 ppm
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	3 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	33 mg/m <sup>3</sup>

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### Methylethylketoxime (96-29-7)

Ireland	OEL (15 min ref) (ppm)	10 ppm
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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 combination organic vapor - amine gas (brown 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	: 363.53 g/mol
Colour	: Straw.
Odour	: Mild.
Odour threshold	: No data available
Refractive index	: No additional information available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: < 0 °C
Boiling point	: 60 - 65 °C @ 3 mm Hg
Flash point	: > 61 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Combustible liquid
Vapour pressure	: 2.1 mm Hg @ 25°C
Relative vapour density at 20 °C	: > 1
Relative density	: 0.995
% Volatiles	: < 5 %
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
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Contact with iron should be avoided. Contact with electrophiles such as ferric chloride can lead to a violent reaction.

#### 10.2. Chemical stability

Stable in sealed containers. Do not expose to moisture acid, oxidizers and metals such as iron.

#### 10.3. Possibility of hazardous reactions

Reacts with water and moisture in air and acids liberating methylethylketoxime (MEKO).

#### 10.4. Conditions to avoid

Open flame. Heat. Sparks.

#### 10.5. Incompatible materials

Acids. Iron. Metals. Moisture. Oxidizing agent. Water.

#### 10.6. Hazardous decomposition products

Organic acid vapors. Carbon dioxide. Carbon monoxide. Methylethylketone. Methylethylketoxime. NOx. Silicon dioxide.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

##### Methylethylketoxime (96-29-7)

LD50 oral rat	930 mg/kg
LD50 dermal rabbit	0.2 ml/kg
ATE CLP (oral)	930 mg/kg bodyweight
ATE CLP (dermal)	1100 mg/kg bodyweight

##### Phenyltris(methylethylketoximino)silane (34036-80-1)

LD50 oral rat	2000 - 3000 mg/kg
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Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified In vivo and in vitro studies did not indicate mutagenicity or genotoxicity.
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Ingestion may produce blood effects, reducing the blood's ability to transport oxygen (methemoglobinemia and anemia.).
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract. Vapors from decomposition or exposure to atmospheric moisture may cause a reversible narcotic effect. Overexposure may cause coma and respiratory failure.
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.
Reason for classification	: Expert judgment

### SECTION 12: Ecological information

#### 12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Harmful to aquatic life with long lasting effects.

##### Methylethylketoxime (96-29-7)

LC50 fish 1	777 - 914 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	750 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	760 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])

#### 12.2. Persistence and degradability

No additional information available

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### 12.3. Bioaccumulative potential

Methylethylketoxime (96-29-7)	
BCF fish 1	0.5 - 5.8
Log Pow	0.65 (at 25 °C)

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 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 : 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

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

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### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
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, ADNOR or the IMDG regulations.

### 14.6. Special precautions for user

#### - Overland transport

Vehicle for tank carriage	: AT
Transport category (ADR)	: 3

#### - Transport by sea

No data available

#### - Air transport

No data available

#### - Inland waterway transport

No data available

#### - Rail transport

No data available

### 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

PHENYLTRIS(METHYLETHYLKETOXIMINO)SILANE, tech-95 is not on the REACH Candidate List

PHENYLTRIS(METHYLETHYLKETOXIMINO)SILANE, tech-95 is not on the REACH Annex XIV List

PHENYLTRIS(METHYLETHYLKETOXIMINO)SILANE, tech-95 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.

PHENYLTRIS(METHYLETHYLKETOXIMINO)SILANE, tech-95 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 : < 5 %

#### 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

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### 15.2. Chemical safety assessment

No additional information available

### SECTION 16: Other information

Indication of changes:

Applied changes to section 6. Applied changes to sections 4, 7.1-7.2 and 8.1. Applied changes to section 11. Added statement to section 13 and 6.3. Applied changes to section 2.

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
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H312	Harmful in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

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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