

**3-(DIPHENYLPHOSPHINO)PROPYLTRIETHOXY SILANE**

Safety Data Sheet SID4558.2

Date of issue: 11/25/2015

Version: 1.0

**SECTION 1: Identification****1.1. Identification**

|                 |  |
|-----------------|--|
| Product name    | : 3-(DIPHENYLPHOSPHINO)PROPYLTRIETHOXY SILANE        |
| Product code    | : SID4558.2  |
| Product form    | : Substance  |
| Physical state  | : Liquid   |
| Formula         | : C <sub>21</sub> H <sub>31</sub> O <sub>3</sub> PSi |
| Synonyms        | : 3-(TRIETHOXY SILY PROPYL)DIPHENYLPHOSPHINE         |
| Chemical family | : ORGANOSILANE                                       |

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

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)

: H319 - Causes serious eye irritation

Precautionary statements (GHS US)

: P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
 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.

**2.3. Hazards not otherwise classified (HNOC)**

Other hazards not contributing to the classification

: Additional ethanol may be formed by reaction with moisture and water. The hydrolysis product of this compound is ethanol. 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. The US OSHA PEL (TWA) for ethanol is 1000 ppm. This product contains ethanol which is classified as a carcinogen by IARC in alcoholic beverages.

**2.4. Unknown acute toxicity (GHS US)**

Not applicable

**SECTION 3: Composition/Information on ingredients****3.1. Substances**

|                |   |
|----------------|---|
| Substance type | : Mono-constituent                            |
| Name           | : 3-(DIPHENYLPHOSPHINO)PROPYLTRIETHOXY SILANE |
| CAS-No.        | : 52090-23-0                                  |

# 3-(DIPHENYLPHOSPHINO)PROPYLTRIETHOXYSIANE

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| Name                                       | Product identifier   | %        | GHS-US classification |
|--|----------------------|----------|-----------------------|
| 3-(Diphenylphosphino)propyltriethoxysilane | (CAS-No.) 52090-23-0 | 95 - 100 | 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. Get medical advice/attention if you feel unwell.  |
| First-aid measures after skin contact | : Wash with plenty of soap and 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 immediate 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    | : 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. |
| Unsuitable extinguishing media | : Do not use straight streams.                     |

### 5.2. Specific hazards arising from the chemical

|             |   |
|-------------|---|
| Fire hazard | : 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

#### 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. Avoid release to the environment.

### 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.

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### 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.
- 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.
- Incompatible materials : Acids. Alkalis. Moisture. Oxidizing agent. Peroxides. Water.
- 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 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 : 390.53 g/mol
- Color : Straw.
- Odor : Mild.
- Odor threshold : No data available
- Refractive index : No data available
- pH : No data available
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : No data available
- Freezing point : < 0 °C
- Boiling point : 190 °C @ 1 mm Hg
- Flash point : > 110 °C
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : No data available
- Vapor pressure : No data available
- Relative vapor density at 20 °C : No data available
- Relative density : No data available
- Solubility : Reacts with water.
- Log Pow : No data available

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|                      |                     |
|----------------------|---------------------|
| 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 stored under an inert atmosphere.

### 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

Acids. Alkalis. Moisture. Oxidizing agent. Peroxides. Water.

### 10.6. Hazardous decomposition products

Ethanol. Organic acid vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

|   |   |
|---|---|
| Acute toxicity                                      | : Not classified  |
| 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  |
| Reproductive toxicity                               | : Not classified  |
| Specific target organ toxicity – single exposure    | : Not classified  |
| Specific target organ toxicity – repeated exposure  | : Not classified  |
| Aspiration hazard                                   | : Not classified  |
| Potential Adverse human health effects and symptoms | : This material slowly generates ethanol on contact with water and moisture in living tissues. Material generates ethanol 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                 | : 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

No additional information available

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

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### 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 : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

### 14.1. UN number

Not regulated for transport.

### 14.2. UN proper shipping name

Not applicable

### 14.3. Additional information

Other information : No supplementary information available.

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### 3-(DIPHENYLPHOSPHINO)PROPYLTRIETHOXYSIANE (52090-23-0)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

#### 3-(Diphenylphosphino)propyltriethoxysilane (52090-23-0)

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

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 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::

H319

Causes serious eye irritation

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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.

### Hazard Rating

- Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
- 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.

Date of issue: 11/25/2015 Version: 1.0

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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