PHENYL METHYLBIS(DIMETHYLAMINO) SILANE

Safety Data Sheet

Date of issue: 15/12/2016  Version: 1.0

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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Substance name</td>
<td>PHENYL METHYLBIS(DIMETHYLAMINO) SILANE</td>
</tr>
<tr>
<td>Product code</td>
<td>SIP6736.8</td>
</tr>
<tr>
<td>Formula</td>
<td>C11H20N2Si</td>
</tr>
<tr>
<td>Synonyms</td>
<td>BIS(DIMETHYLAMINO) METHYLPHENYL SILANE</td>
</tr>
<tr>
<td></td>
<td>BIS(DIMETHYLAMINO) PHENYL METHYL SILANE</td>
</tr>
<tr>
<td></td>
<td>N,N,N',N',1-PENTAMETHYL-1-PHENYL SILANEDIAMINE</td>
</tr>
<tr>
<td>Chemical family</td>
<td>ORGANOAMINOSILANE</td>
</tr>
</tbody>
</table>

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
info@gelest.com - www.gelest.com

GELEST INC.
Fritz-Klatte-Strasse 8
65933 Frankfurt
Germany
T +49 (0) 69 3535106-500 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM
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 1C H314
Serious eye damage/eye irritation, Category 1 H318

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

Signal word (CLP): Danger
PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE
Safety Data Sheet

Hazard statements (CLP): H314 - Causes severe skin burns and eye damage.
Precautionary statements (CLP): P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 - Dispose of contents/container to licensed waste disposal facility.
P310 - Immediately call a POISON CENTER or doctor/physician.

2.3. Other hazards
Other hazards not contributing to the classification: Additional dimethylamine may be formed by reaction with moisture and water. The US OSHA PEL (TWA) for dimethylamine is 10 ppm.

SECTION 3: Composition/information on ingredients

3.1. Substances
Substance type: Mono-constituent
Name: PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE
CAS-No.: 33567-83-8

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenylmethylbis(dimethylamino)silane</td>
<td>(CAS-No.) 33567-83-8</td>
<td>95 - 100</td>
<td>Skin Corr. 1C, H314 Eye Dam. 1, H318</td>
</tr>
</tbody>
</table>

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.
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 immediate 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, both acute and delayed
Symptoms/effects: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: Causes (severe) skin burns.
Symptoms/effects after eye contact: Causes serious eye damage.
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
Unsuitable extinguishing media: Do not use straight streams.

5.2. Special hazards arising from the substance or mixture
Fire hazard: Combustible liquid. Irritating fumes of dimethylamine and organic acid vapors may develop when material is exposed to water or open flame.

5.3. Advice for firefighters
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 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.

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

- **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, hot surfaces, sparks, open flames and other ignition sources. No smoking.

- **Precautions for safe handling**: Avoid all eye and skin contact and do not breathe vapour and mist. All transfers should be maintained under a dry inert atmosphere of nitrogen or argon. Ground/bond container and receiving equipment. Provide good ventilation in process area to prevent formation of vapour. Use only non-sparking tools.

- **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 in sealed containers under a dry inert atmosphere of nitrogen or argon. Keep in a cool place. Store locked up.

- **Incompatible materials**: Acids. alcohols. 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

No additional information available

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 or face shield. 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>208.38 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Straw.</td>
</tr>
<tr>
<td>Odour</td>
<td>Acrid. Amine.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>1.4982</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>&lt; 0 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>108 - 109 °C @ 11 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>78 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Combustible liquid</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.1 mm Hg @ 25°C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>&gt; 1</td>
</tr>
<tr>
<td>Relative density</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water. Reacts with water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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 a dry inert atmosphere.

10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating dimethylamine.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Acids. alcohols. Oxidizing agent.

10.6. Hazardous decomposition products

Dimethylamine. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
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: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified
Symptoms/effects after inhalation: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact: Causes (severe) skin burns.
Symptoms/effects after eye contact: Causes serious eye damage.
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

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. 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: 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): 1760
UN-No. (IMDG): 1760
UN-No. (IATA): 1760
UN-No. (ADN): 1760
UN-No. (RID): 1760

14.2. UN proper shipping name
Proper Shipping Name (ADR): CORROSIVE LIQUID, N.O.S.
Proper Shipping Name (IMDG): CORROSIVE LIQUID, N.O.S.
Proper Shipping Name (IATA): Corrosive liquid, n.o.s.
Proper Shipping Name (ADN): CORROSIVE LIQUID, N.O.S.
Proper Shipping Name (RID): CORROSIVE LIQUID, N.O.S.
Transport document description (ADR): UN 1760 CORROSIVE LIQUID, N.O.S. (PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE), 8, III, (E)
Transport document description (IMDG): UN 1760 CORROSIVE LIQUID, N.O.S. (PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE), 8, III
Transport document description (IATA): UN 1760 Corrosive liquid, n.o.s. (PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE), 8, III
| Transport document description (ADN) | UN 1760 CORROSIVE LIQUID, N.O.S. (PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE), 8, III |
| Transport document description (RID) | UN 1760 CORROSIVE LIQUID, N.O.S. (PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE), 8, III |

### 14.3. Transport hazard class(es)

#### ADR
- Transport hazard class(es) (ADR): 8
- Danger labels (ADR): 8

#### IMDG
- Transport hazard class(es) (IMDG): 8
- Danger labels (IMDG): 8

#### IATA
- Transport hazard class(es) (IATA): 8
- Hazard labels (IATA): 8

#### ADN
- Transport hazard class(es) (ADN): 8
- Danger labels (ADN): 8

#### RID
- Transport hazard class(es) (RID): 8
- Danger labels (RID): 8

### 14.4. Packing group
- Packing group (ADR): III
- Packing group (IMDG): III
- Packing group (IATA): III
- Packing group (ADN): III
- Packing group (RID): III
14.5. Environmental hazards

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

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : C9
Special provisions (ADR) : 274
Limited quantities (ADR) : 5 l
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P001, IBC03, LP01, R001
Mixed packing provisions (ADR) : MP19
Portable tank and bulk container instructions (ADR) : T7
Portable tank and bulk container special provisions (ADR) : TP1, TP28
Tank code (ADR) : L4BN
Vehicle for tank carriage : AT
Transport category (ADR) : 3
Special provisions for carriage - Packages (ADR) : V12
Hazard identification number (Keimer No.) : 80
Orange plates :

- Transport by sea

Special provisions (IMDG) : 223, 274
Limited quantities (IMDG) : 5 l
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP28
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B
Stowage category (IMDG) : A
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

- Air transport

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y841
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 852
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 856
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3
ERG code (IATA) : 8L

- Inland waterway transport

Classification code (ADN) : C9
Special provisions (ADN) : 274
<table>
<thead>
<tr>
<th>Limited quantities (ADN)</th>
<th>: 5 L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excepted quantities (ADN)</td>
<td>: E1</td>
</tr>
<tr>
<td>Carriage permitted (ADN)</td>
<td>: T</td>
</tr>
<tr>
<td>Equipment required (ADN)</td>
<td>: PP, EP</td>
</tr>
<tr>
<td>Number of blue cones/lights (ADN)</td>
<td>: 0</td>
</tr>
</tbody>
</table>

- Rail transport

| Classification code (RID) | : C9 |
| Special provisions (RID) | : 274 |
| Limited quantities (RID) | : 5L |
| Excepted quantities (RID) | : E1 |
| Packing instructions (RID) | : P001, IBC03, LP01, R001 |
| Mixed packing provisions (RID) | : MP19 |
| Portable tank and bulk container instructions (RID) | : T7 |
| Portable tank and bulk container special provisions (RID) | : TP1, TP28 |
| Tank codes for RID tanks (RID) | : L4BN |
| Transport category (RID) | : 3 |
| Special provisions for carriage – Packages (RID) | : W12 |
| Colis express (express parcels) (RID) | : CE8 |
| Hazard identification number (RID) | : 80 |

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
PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE is not on the REACH Candidate List
PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE is not on the REACH Annex XIV List

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-list van kankerverwekkende stoffen | The substance is not listed
SZW-list 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
Class for fire hazard | Class III-1
Store unit | 50 liter
Classification remarks | Flammable according to the Danish Ministry of Justice; 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

15.2. Chemical safety assessment
No additional information available

SECTION 16: Other information
PHENYLMETHYLBIS(DIMETHYLAMINO)SILANE
Safety Data Sheet

Abbreviations and acronyms:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ND</td>
<td>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</td>
</tr>
</tbody>
</table>

Other information: Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1C</td>
<td>Skin corrosion/irritation, Category 1C</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage.</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II) - Custom

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