

**DIMETHYLSILANE**

Safety Data Sheet SID4230.0

Date of issue: 01/06/2015

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Version: 1.1

SECTION 1: Identification**1.1. Identification**

Product name : DIMETHYLSILANE
 Product code : SID4230.0
 Product form : Substance
 Physical state : Gas
 Formula : C₂H₈Si
 Synonyms : DIMETHYLSILYLDIHYDRIDE
 Chemical family : ORGANOHYDRIDOSILANE

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 - 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 gases Category 1 H220 Extremely flammable gas
 Gases under pressure Liquefied gas H280 Contains gas under pressure; may explode if heated
 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) : Danger

Hazard statements (GHS US) : H220 - Extremely flammable gas
 H280 - Contains gas under pressure; may explode if heated

Precautionary statements (GHS US) : P210 - Keep away from heat, open flames, sparks. - No smoking.
 P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 P381 - Eliminate all ignition sources if safe to do so.
 P403 - Store in a well-ventilated place.
 P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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

Substance type : Mono-constituent
 Name : DIMETHYLSILANE
 CAS-No. : 1111-74-6

Name	Product identifier	%	GHS-US classification
Dimethylsilane	(CAS-No.) 1111-74-6	95 - 100	Flam. Gas 1, H220 Press. Gas (Liq.), H280

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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

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|---------------------------------------|--|
| 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. If you feel unwell, seek medical advice. |
| 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)

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|-------------------------------------|--|
| 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 | : May cause eye irritation. |
| Symptoms/effects after ingestion | : No information available. |

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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| Suitable extinguishing media | : Water spray. Foam. Carbon dioxide. Dry chemical. |
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5.2. Specific hazards arising from the chemical

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| Fire hazard | : Extremely flammable gas. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame. |
| Explosion hazard | : Contains gas under pressure; may explode if heated. |

5.3. Special protective equipment and precautions for fire-fighters

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| Firefighting instructions | : If material is ignited, allow to burn. Use water spray to cool exposed surfaces. Eliminate all ignition sources if safe to do so. Exercise caution when fighting any chemical fire. |
| Protection during firefighting | : Do not breathe fumes from fires or vapors from decomposition. Fire fighters must wear positive pressure self-contained breathing apparatus. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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| General measures | : Remove ignition sources. Use special care to avoid static electric charges. |
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6.1.1. For non-emergency personnel

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| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

6.1.2. For emergency responders

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| Protective equipment | : Equip cleanup crew with proper protection. |
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6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

No additional information available

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

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| Additional hazards when processed | : Flammable gas. Handle empty containers with care because residual vapors are flammable. |
| Precautions for safe handling | : Handle only in sealed purged systems. Containers must be properly grounded before beginning transfer. Provide good ventilation in process area to prevent accumulation of vapors. |
| Hygiene measures | : Wash contaminated clothing before reuse. Wash hands thoroughly after handling. |

7.2. Conditions for safe storage, including any incompatibilities

- | | |
|--------------------|--|
| Technical measures | : Ground/bond container and receiving equipment. Use explosion-proof electrical equipment. |
|--------------------|--|

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Storage conditions	: Keep container tightly closed.
Incompatible materials	: Oxidizing agent.
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 : Handle in an enclosing hood with exhaust ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid all unnecessary 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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless gas.
Molecular mass	: 60.17 g/mol
Color	: No data available
Odor	: Distinct. Mild.
Odor threshold	: No data available
Refractive index	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: > 1
Melting point	: -150 °C
Freezing point	: No data available
Boiling point	: -20 °C
Flash point	: < -40 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable gas
Vapor pressure	: 30 atm @ ~80°C
Relative vapor density at 20 °C	: > 1
Relative density	: 0.68
% Volatiles	: 100 %
Solubility	: Insoluble in 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
Oxidizing properties	: No data available
Explosion limits	: No data available

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9.2. Other information

Gas group : Press. Gas (Liq.)

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

Can liberate hydrogen in the presence of precious metals (platinum or palladium) and Lewis acids (aluminum chloride etc.).

10.4. Conditions to avoid

Heat. Sparks. Open flame.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

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	: Not classified
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
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	: May cause eye irritation.
Symptoms/effects after ingestion	: No information available.

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
Effect on global warming	: No known effects from this product.
GWPmix comment	: No known effects from this product.

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SECTION 13: Disposal considerations

13.1. Disposal methods

- Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
- Additional information : Handle empty containers with care because residual vapors are flammable.
- Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

- UN-No.(DOT) : 3161
- DOT NA no. UN3161

14.2. UN proper shipping name

- Transport document description : UN3161 Liquefied gas, flammable, n.o.s. (DIMETHYLSILANE), 2.1
- Proper Shipping Name (DOT) : Liquefied gas, flammable, n.o.s.
(DIMETHYLSILANE)
- Class (DOT) : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
- Hazard labels (DOT) : 2.1 - Flammable gas



- DOT Packaging Non Bulk (49 CFR 173.xxx) : 304
- DOT Packaging Bulk (49 CFR 173.xxx) : 314;315
- DOT Packaging Exceptions (49 CFR 173.xxx) : 306
- DOT Symbols : G - Identifies PSN requiring a technical name

14.3. Additional information

- Emergency Response Guide (ERG) Number : 115
- Other information : No supplementary information available.

Transport by sea

- DOT Vessel Stowage Location : D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
- DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Air transport

- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

Dimethylsilane (1111-74-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Dimethylsilane (1111-74-6)

Listed on the Canadian NDSL (Non-Domestic Substances List)

EU-Regulations

Dimethylsilane (1111-74-6)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

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Dimethylsilane (1111-74-6)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

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::

H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated

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 : 4 Severe Hazard - Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air. (Class IA)

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.

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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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