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

1.1. Product identifier

- **Product form**: Substance
- **Physical state**: Liquid
- **Substance name**: HEXAMETHYLDISILANE
- **Product code**: SIH6109.0
- **Formula**: C6H18Si2
- **Synonyms**: HMD; 2,2,3,3-TETRAMETHYL-2,3-DISILABUTANE
- **Chemical family**: ORGANOSILANE

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@gelesdte.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]**

- Flammable liquids, Category 2
  - H225

**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)**: GHS02
- **Signal word (CLP)**: Danger
- **Hazard statements (CLP)**: H225 - Highly flammable liquid and vapour.
- **Precautionary statements (CLP)**: P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.


2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Mono-constituent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>HEXAMETHYLDISILANE</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>1450-14-2</td>
</tr>
<tr>
<td>EC-No.</td>
<td>215-911-0</td>
</tr>
</tbody>
</table>

<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>Hexamethyldisilane</td>
<td>(CAS-No.) 1450-14-2</td>
<td>&gt; 97</td>
<td>Flam. Liq. 2, H225</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

4.2. Most important symptoms and effects, both acute and delayed

<table>
<thead>
<tr>
<th>Symptoms/effects after inhalation</th>
<th>May cause irritation to the respiratory tract. Overexposure may cause: Cough. Headache. Nausea.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>May cause skin irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>May cause eye irritation.</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Fire hazard</th>
<th>Highly flammable liquid and vapour. Irritating fumes and organic acid vapors may develop when material is exposed to water or open flame.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosion hazard</td>
<td>May form flammable/explosive vapour-air mixture.</td>
</tr>
</tbody>
</table>

5.3. Advice for firefighters

<table>
<thead>
<tr>
<th>Firefighting instructions</th>
<th>Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection during firefighting</td>
<td>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.</td>
</tr>
</tbody>
</table>

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| General measures | Eliminate every possible source of ignition. Use special care to avoid static electric charges. |

Print date: 10/04/2019  EN (English)  SDS ID: SIH6109.0
6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper 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

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

Additional hazards when processed: Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapour and mist. Provide good ventilation in process area to prevent formation of vapour. Containers must be properly grounded before beginning transfer. Take precautionary measures against static discharge. Use only in well ventilated areas. Use only non-sparking tools.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Ground/bond container and receiving equipment. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.
Storage conditions: Keep container tightly closed.
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. Contact lenses should not be worn

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

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: Clear liquid.
Molecular mass: 146.38 g/mol
Colour: No data available
Odour: Odourless.

Odour threshold: No data available

Refractive index: 1.4214

pH: No data available

Relative evaporation rate (butylacetate=1): No data available

Melting point: No data available

Freezing point: 12 - 14 °C

Boiling point: 112 - 113 °C

Flash point: -1 °C

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Flammability (solid, gas): Highly flammable liquid and vapour.

Vapour pressure: 22.9 mm Hg @ 20 °C

Relative vapour density at 20 °C: > 1

Relative density: 0.7293

% Volatiles: 100 %

Solubility: Insoluble in water.

Log Pow: No data available

Log Kow: No data available

Viscosity, kinematic: 1 cSt

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

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable in sealed containers in a cool place.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials


10.6. Hazardous decomposition products

Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

HEXAMETHYLDISILANE (1450-14-2)

LD50 oral rat > 20 g/kg

Hexamethyldisilane (1450-14-2)

LD50 oral rat > 20 g/kg

Skin corrosion/irritation: Not classified

Serious eye damage/irritation: Not classified

Respiratory or skin sensitisation: Not classified

Germ cell mutagenicity: Not classified

Carcinogenicity: Not classified

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. Overexposure may cause: Cough. Headache. Nausea.
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
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
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.
Additional information: Handle empty containers with care because residual vapours are flammable.
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) : 1993
UN-No. (IMDG) : 1993
UN-No. (IATA) : 1993
UN-No. (ADN) : 1993
UN-No. (RID) : 1993

14.2. UN proper shipping name
Proper Shipping Name (ADR) : FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IMDG) : FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (IATA) : Flammable liquid, n.o.s.
Proper Shipping Name (ADN) : FLAMMABLE LIQUID, N.O.S.
Proper Shipping Name (RID) : FLAMMABLE LIQUID, N.O.S.
Transport document description (ADR) : UN 1993 FLAMMABLE LIQUID, N.O.S. (HEXAMETHYLDISILANE), 3, II, (D/E)
Transport document description (IMDG) : UN 1993 FLAMMABLE LIQUID, N.O.S. (HEXAMETHYLDISILANE), 3, II
Transport document description (IATA) : UN 1993 Flammable liquid, n.o.s. (HEXAMETHYLDISILANE), 3, II
Transport document description (ADN) : UN 1993 FLAMMABLE LIQUID, N.O.S. (HEXAMETHYLDISILANE), 3, II
Transport document description (RID) : UN 1993 FLAMMABLE LIQUID, N.O.S. (HEXAMETHYLDISILANE), 3, II

14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : 3
Danger labels (ADR) : 3
HEXAMETHYLDISILANE
Safety Data Sheet

14.4. Packing group
Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
Packing group (ADN) : II
Packing group (RID) : II

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) : F1
Special provisions (ADR) : 274, 601, 640C
Limited quantities (ADR) : 1L
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P001
Mixed packing provisions (ADR) : MP19
Portable tank and bulk container instructions (ADR) : T7
Portable tank and bulk container special provisions (ADR) : TP1, TP8, TP28
Tank code (ADR) : L1.5BN
Vehicle for tank carriage : FL
Transport category (ADR) : 2
Special provisions for carriage - Operation (ADR) : S2, S20
Hazard identification number (Kemler No.) : 33
Orange plates : 33
Tunnel restriction code (ADR) : D/E

- Transport by sea
Special provisions (IMDG) : 274
Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP8, TP28
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-E
Stowage category (IMDG) : B

- Air transport
PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3
ERG code (IATA) : 3H

- Inland waterway transport
Classification code (ADN) : F1
Special provisions (ADN) : 274, 601, 640C
Limited quantities (ADN) : 1 L
Excepted quantities (ADN) : E2
Carriage permitted (ADN) : T
Equipment required (ADN) : PP, EX, A
Ventilation (ADN) : VE01
Number of blue cones/lights (ADN) : 1

- Rail transport
Classification code (RID) : F1
Special provisions (RID) : 274, 601, 640C
Limited quantities (RID) : 1L
Excepted quantities (RID) : E2
Packing instructions (RID) : P001
Mixed packing provisions (RID) : MP19
PORTABLE TANK AND BULK CONTAINER INSTRUCTIONS (RID)  
PORTABLE TANK AND BULK CONTAINER SPECIAL PROVISIONS (RID)  
TANK CODES FOR RID TANKS (RID)  
TRANSPORT CATEGORY (RID)  
COLIS EXPRESS (EXPRESS PARCELS) (RID)  
HAZARD IDENTIFICATION NUMBER (RID)  

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  
HEXAMETHYLDISILANE is not on the REACH Candidate List  
HEXAMETHYLDISILANE is not on the REACH Annex XIV List  
HEXAMETHYLDISILANE 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.  

% Volatiles  

15.1.2. National regulations  

Germany  

Netherlands  
SZW-lijst van kankerverwekkende stoffen: The substance is not listed  
SZW-lijst van mutagene stoffen: The substance is not listed  
NIET-limitevrie lijst van voor de voortplanting giftige stoffen – Borstvoeding: The substance is not listed  
NIET-limitevrie lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid: The substance is not listed  
NIET-limitevrie 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  

15.2. Chemical safety assessment  
No additional information available  

SECTION 16: Other information  

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:  
Flam. Liq. 2: Flammable liquids, Category 2  
H225: Highly flammable liquid and vapour.
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.