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

## 1.1. Product identifier

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product form</td>
<td>Substance</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Substance name</td>
<td>ZINC BIS(HEXAMETHYLDISILAZIDE)</td>
</tr>
<tr>
<td>Product code</td>
<td>SIZ9700.0</td>
</tr>
<tr>
<td>Formula</td>
<td>C12H36N2Si4Zn</td>
</tr>
<tr>
<td>Synonyms</td>
<td>ZINC BIS[TRIMETHYLAMIDYL]AMIDE; BIS[TRIMETHYLAMIDYL]AMIDO</td>
</tr>
<tr>
<td>Chemical family</td>
<td>METAL ORGANOSILYLAMIDE</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]**

- Flammable liquids, Category 3  
  H261

- Substances and Mixtures which, in contact with water, emit flammable gases, Category 2  
  H226

- Skin corrosion/irritation, Category 1B  
  H318

- Serious eye damage/eye irritation, Category 1  
  H314

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](image1) ![GHS05](image2)

- Signal word (CLP): Danger
Hazard statements (CLP): H226 - Flammable liquid and vapour.
H261 - In contact with water releases flammable gases.
H314 - Causes severe skin burns and eye damage.

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.
P223 - Do not allow contact with water.
P531+P523 - Handle under inert gas. Protect from moisture.
P240 - Ground/bond container and receiving equipment.
P310 - Immediately call a POISON CENTER or doctor/physician.

EUH-statements: EUH029 - Contact with water liberates toxic gas.

2.3. Other hazards
No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

<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>
</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

Suitable extinguishing media: Dry powder.
Unsuitable extinguishing media: Water.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Flammable liquid and vapour. In contact with water releases flammable gases. Irritating fumes 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.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Eliminate 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

Additional hazards when processed: Handle empty containers with care because residual vapours are flammable. 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. Do not allow contact with water. Ground/bond container and receiving equipment. Handle under inert gas. Protect from moisture. 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 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

Technical measures: Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.
Storage conditions: Keep container tightly closed. Keep in a cool place. Store locked up.
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>Liquid.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>386.15 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless.</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>No additional information available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>12 - 13 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>82 - 87 °C @ 0.5 mm Hg</td>
</tr>
<tr>
<td>Flash point</td>
<td>40 °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>Flammable liquid and vapour.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 0.01 mm Hg @ 25°C</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.957</td>
</tr>
<tr>
<td>Solubility</td>
<td>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**
React with water.

**10.2. Chemical stability**
Stable in sealed containers stored under nitrogen.

**10.3. Possibility of hazardous reactions**
No additional information available

**10.4. Conditions to avoid**
Heat. Open flame. Sparks.

**10.5. Incompatible materials**
Strong oxidizing agents. Water.

**10.6. Hazardous decomposition products**

### SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</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>
</tbody>
</table>

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EN (English)
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<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<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>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
<td>May cause irritation to the respiratory tract.</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
<td>Causes (severe) skin burns.</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Reason for classification</td>
<td>Expert judgment</td>
</tr>
</tbody>
</table>

**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 of 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): 3129
- UN-No. (IMDG): 3129
- UN-No. (IATA): 3129
- UN-No. (ADN): 3129
- UN-No. (RID): 3129

14.2. **UN proper shipping name**
- Proper Shipping Name (ADR): WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
- Proper Shipping Name (IMDG): WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
- Proper Shipping Name (IATA): Water-reactive liquid, corrosive, n.o.s.
- Proper Shipping Name (ADN): WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
- Proper Shipping Name (RID): WATER-REACTIVE LIQUID, CORROSIVE, N.O.S.
- Transport document description (ADR): UN 3129 WATER-REACTIVE LIQUID, CORROSIVE, N.O.S. (ZINC BIS(HEXAMETHYLDISILAZIDE)), 4.3 (8), II, (D/E)
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14.3. Transport hazard class(es)
ADR
Transport hazard class(es) (ADR) : 4.3 (8)
Danger labels (ADR) : 4.3, 8

IMDG
Transport hazard class(es) (IMDG) : 4.3 (8)
Danger labels (IMDG) : 4.3, 8

IATA
Transport hazard class(es) (IATA) : 4.3 (8)
Hazard labels (IATA) : 4.3, 8

ADN
Transport hazard class(es) (ADN) : 4.3 (8)
Danger labels (ADN) : 4.3, 8

RID
Transport hazard class(es) (RID) : 4.3 (8)
Danger labels (RID) : 4.3, 8

14.4. Packing group
Packing group (ADR) : II
Packing group (IMDG) : II
Packing group (IATA) : II
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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) : WC1
Special provisions (ADR) : 274
Limited quantities (ADR) : 500ml
Excepted quantities (ADR) : E2
Packing instructions (ADR) : P402, IBC01
Mixed packing provisions (ADR) : MP15
Portable tank and bulk container instructions (ADR) : T11
Portable tank and bulk container special provisions (ADR) : TP2, TP7
Tank code (ADR) : L4DH
Tank special provisions (ADR) : TU14, TE21, TM2
Vehicle for tank carriage : AT
Transport category (ADR) : 0
Special provisions for carriage - Packages (ADR) : V1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV23
Hazard identification number (Kemler No.) : 382
Orange plates : 382
Tunnel restriction code (ADR) : D/E
EAC code : 4W

- Transport by sea
Special provisions (IMDG) : 76, 274
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P402
IBC packing instructions (IMDG) : IBC01
Tank instructions (IMDG) : T11
Tank special provisions (IMDG) : TP2, TP7
EmS-No. (Fire) : F-G
EmS-No. (Spillage) : S-N
Stowage category (IMDG) : E
Stowage and handling (IMDG) : SW5, H1
Segregation (IMDG) : SG26

- Air transport
PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : Forbidden
PCA max net quantity (IATA) : Forbidden
CAO packing instructions (IATA) : 481
CAO max net quantity (IATA) : 5L
Special provisions (IATA) : A3
ERG code (IATA) : 4CW
SECTION 14. Transport

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
ZINC BIS(HEXAMETHYLDISILAZIDE) is not on the REACH Candidate List
ZINC BIS(HEXAMETHYLDISILAZIDE) is not on the REACH Annex XIV List
ZINC BIS(HEXAMETHYLDISILAZIDE) 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.

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-limittievel lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed
NIET-limittievel lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
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NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling
The substance is not listed

Denmark
Class for fire hazard : Class II-1
Store unit : 5 liter
Classification remarks : R10 <H226;H261;H314>; 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

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:

| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| Water-react. 2 | Substances and Mixtures which, in contact with water, emit flammable gases, Category 2 |
| H226 | Flammable liquid and vapour. |
| H261 | In contact with water releases flammable gases. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| EUH029 | Contact with water liberates toxic gas. |

SDS EU (REACH Annex II) - Custom

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