SIM6472.0 - MAGNESIUM SILICIDE, powder

MAGNESIUM SILICIDE, powder
Safety Data Sheet SIM6472.0
Date of issue: 01/23/2017   Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Product name : MAGNESIUM SILICIDE, powder
Product code: SIM6472.0
Product form: Substance
Physical state: Solid
Formula: Mg2Si
Synonyms: DIMAGNESIUM SILICIDE
MAGNESIUM SILICON ALLOY
Chemical family: METAL SILICIDE

1.2. Recommended use of the chemical and restrictions on use

Recommended use: Chemical intermediate
For research and industrial use only

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

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
Substances and mixtures which in contact with water emit flammable gases Category 2 H261
Full text of H statements: see section 16

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US): GHS02

Signal word (GHS-US): Danger
Hazard statements (GHS-US): H261 - In contact with water releases flammable gases
Precautionary statements (GHS-US): P280 - Wear protective gloves/protective clothing/eye protection/face protection
P223 - Do not allow contact with water
P231+P232 - Handle under inert gas. Protect from moisture
P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages
P370+P378 - In case of fire: Use extinguishing powder to extinguish
P402+P404 - Store in a dry place. Store in a closed container
P501 - Dispose of contents/container to licensed waste disposal facility

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type: Mono-constituent
Name: MAGNESIUM SILICIDE, powder
CAS No: 22831-39-6
MAGNESIUM SILICIDE, powder
Safety Data Sheet

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium silicide</td>
<td>(CAS no) 22831-39-6</td>
<td>95 - 100</td>
<td>Water-react. 2, H261</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: see section 16

3.2. Mixtures
Not applicable

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. If you feel unwell, seek medical advice.

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 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/injuries after inhalation: May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact: May cause skin irritation.
Symptoms/injuries after eye contact: May cause eye irritation.
Symptoms/injuries after ingestion: No information available.

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: Not combustible.
Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture
Fire hazard: In contact with water releases flammable gases. Exposure to water at elevated temperatures, particularly acid water, can generate highly flammable gases that may ignite spontaneously.
Explosion hazard: Air-borne dust presents fire/explosive potential.

5.3. Advice for firefighters
Firefighting instructions: Exercise caution when fighting any chemical fire.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Avoid contact with water.

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 product 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: Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections
No additional information available
SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe dust. Do not allow contact with water. Provide local exhaust or general room ventilation to minimize exposure to dust. Avoid dust formation. Handle under inert gas. Protect from moisture.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep container tightly closed. Avoid contact with water. Store in a dry place. Store in a closed container.
Storage area: Keep container tightly closed. Store in a well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>OSHA</th>
<th>OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnesium silicide</td>
<td></td>
<td>15 mg/m³ nuisance dust</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Provide local exhaust or general room ventilation.
Personal protective equipment: Avoid all unnecessary exposure.
Materials for protective clothing: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hand protection: Rubbers. 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 dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>76.71 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>Gray-black</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Refractive index</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>1102 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</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>In contact with water releases flammable gases</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>&lt; 0.01 mm Hg @ 20°C</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.94</td>
</tr>
<tr>
<td>VOC content</td>
<td>0 %</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>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>
**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.

10.3. **Possibility of hazardous reactions**

Exposure to water at elevated temperatures, particularly acid water, can generate highly flammable gases that may ignite spontaneously.

10.4. **Conditions to avoid**

No additional information available

10.5. **Incompatible materials**


10.6. **Hazardous decomposition products**


**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>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</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>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Symptoms/injuries after inhalation</td>
<td>May cause irritation to the respiratory tract.</td>
</tr>
<tr>
<td>Symptoms/injuries after skin contact</td>
<td>May cause skin irritation.</td>
</tr>
<tr>
<td>Symptoms/injuries after eye contact</td>
<td>May cause eye irritation.</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

**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**

Effect on ozone layer : No additional information available

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

GWPmix comment : No known effects from this product.
SECTION 13: Disposal considerations

13.1. Waste treatment methods
- Sewage disposal recommendations: Do not dispose of waste into sewer.
- Waste disposal recommendations: Landfill. 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
- UN-No.(DOT): 2624
- DOT NA no.: UN2624

14.2. UN proper shipping name
- Transport document description: UN2624 Magnesium silicide, 4.3, II
- Proper Shipping Name (DOT): Magnesium silicide
- Class (DOT): 4.3 - Class 4.3 - Dangerous when wet material 49 CFR 173.124
- Packing group (DOT): II - Medium Danger
- Hazard labels (DOT): 4.3 - Dangerous when wet

14.3. Additional information
- Emergency Response Guide (ERG) Number: 138
- Other information: No supplementary information available.

Transport by sea
- DOT Vessel Stowage Location:
  - (i) The material may be stowed “on deck” or “under deck” 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; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded
  - B
- DOT Vessel Stowage Other: 13 - Keep as dry as reasonably practicable
- Air transport
  - DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 15 kg
  - DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 50 kg

SECTION 15: Regulatory information

15.1. US Federal regulations
- Magnesium silicide (22831-39-6)
  - Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations
  - CANADA
    - Magnesium silicide (22831-39-6)
      - Listed on the Canadian NDSL (Non-Domestic Substances List)
  - EU-Regulations
    - Magnesium silicide (22831-39-6)
      - Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations
MAGNESIUM SILICIDE, powder
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**Magdnesium silicide (22831-39-6)**
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on INSO (Mexican National Inventory of Chemical Substances)

**15.3. US State regulations**
No additional information available

**SECTION 16: Other information**

**Full text of H-phrases:**

| H261 | In contact with water releases flammable gases |

**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.

**HMIS III Rating**

**Health**  
1 Slight Hazard - Irritation or minor reversible injury possible

**Flammability**  
3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

**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: 01/23/2017  
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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