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

1.1. Product identifier

Product form: Substance
Physical state: Liquid
Substance name: DIMETHYLcadmium
Product code: OMCD020
Formula: C₂H₆Cd
Synonyms: CADMIUM DIMETHYLALKYL
Chemical family: METAL COMPOUND

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: 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: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Flam. Liq. 2 H225
Pyr. Liq. 1 H250
Water-react. 1 H260
Skin Corr. 1B H314
Eye Dam. 1 H318
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

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

Signal word (GHS-US): Danger
Hazard statements (GHS-US):
- H225 - Highly flammable liquid and vapor
- H250 - Catches fire spontaneously if exposed to air
- H260 - In contact with water releases flammable gases which may ignite spontaneously
- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H335 - May cause respiratory irritation

Precautionary statements (GHS-US):
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P210 - Keep away from heat, sparks, open flames. - No smoking
- P222 - Do not allow contact with air
- P223 - Do not allow contact with water
- P231+P232 - Handle under inert gas. Protect from moisture
- P240 - Ground/bond container and receiving equipment
- P241 - Use explosion-proof electrical equipment
- P242 - Use only non-sparking tools
- P243 - Take precautionary measures against static discharge
- P260 - Do not breathe vapors
- P264 - Wash hands thoroughly after handling
- P271 - Use only outdoors or in a well-ventilated area
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P302+P334 - If on skin: Immerse in cool water/wrap with wet bandages.
P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a doctor.
P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
P363 - Wash contaminated clothing before reuse.
P402+P404 - Store in a dry place. Store in a closed container.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Keep in a cool place.
P405 - Store locked up.
P422 - Store contents under nitrogen.
P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS-US)
No data available

SECTION 3: Composition/information on ingredients

3.1. Substance
Substance type: Mono-constituent
Name: DIMETHYLcadmium
CAS No: 506-82-1
EC no: 208-055-4

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethylcadmium</td>
<td>(CAS No) 506-82-1</td>
<td>&gt; 95</td>
<td>Flam. Liq. 2, H225</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Pyr. Liq. 1, H250</td>
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<tr>
<td></td>
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<td></td>
<td>Water-react. 1, H260</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT SE 3, H335</td>
</tr>
</tbody>
</table>

3.2. Mixture
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 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 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/injuries: Causes severe skin burns and eye damage.
Symptoms/injuries after inhalation: Inhalation of combustion products (cadmium oxides) has toxic effects on the liver and kidneys. May cause respiratory irritation.
Symptoms/injuries after skin contact: Causes (severe) skin burns. Will produce severe burns, or at low concentrations, irritation or contact dermatitis.
Symptoms/injuries after eye contact: Causes serious eye damage. Causes severe burns at high concentrations. At low concentrations will cause immediate or delayed severe eye irritation.
Symptoms/injuries 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 chemical. Lime.
Unsuitable extinguishing media: Never use water, foam or halogenated suppressants.
5.2. Special hazards arising from the substance or mixture

Fire hazard:
Catches fire spontaneously if exposed to air. Highly flammable liquid and vapor. Pyrophoric liquid. Toxic fumes and organic acid vapors develop when material is exposed to air or open flame.

Explosion hazard:
May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

Firefighting instructions:
Exercise caution when fighting any chemical fire. In case of fire: Stop leak if safe to do so.

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 vapor and mist.

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.

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:
Evacuate area. Use appropriate protective equipment. If possible purge with inert gas. Bury with lime or non-combustible material and allow material to slowly oxidize in fire-resistant scrubber system.

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:
May ignite spontaneously - pyrophoric. Handle empty containers with care because residual vapors are flammable. Catches fire spontaneously if exposed to air.

Precautions for safe handling:
Avoid all eye and skin contact and do not breathe vapor and mist. Valve outlet seals must remain in place unless container is secured and valve outlet piped to point of use. Use a check valve or trap to prevent hazardous back-flow into the container. Provide good ventilation in process area to prevent accumulation of vapors. Use only non-sparking tools. Do not allow contact with air. Protect from moisture. Handle under inert gas. Use only outdoors or in a well-ventilated area.

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:
Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Store contents under nitrogen.

Storage conditions:
Keep container tightly closed. Store in a dry place. Protect from moisture.

Incompatible materials:
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

**Dimethylcadmium (506-82-1)**

<table>
<thead>
<tr>
<th></th>
<th>USA ACGIH ACGIH TWA (mg/m³)</th>
<th>USA OSHA OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.01 mg/m³ Cd</td>
<td>5 mg/m³ Cd</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. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:
Fire resistant gloves with impermeable liners.

Eye protection:
Full face shield with chemical workers goggles. Contact lenses should not be worn.
Skin and body protection: Wear suitable protective clothing. Fire resistant laboratory jacket or apron should be worn.
Respiratory protection: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid. May ignite spontaneously.</td>
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<tr>
<td>Molecular mass</td>
<td>142.88 g/mol</td>
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<tr>
<td>Color</td>
<td>Straw yellow.</td>
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<tr>
<td>Odor</td>
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</tr>
<tr>
<td>Odor threshold</td>
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<td>Refractive index</td>
<td>1.5488</td>
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<tr>
<td>pH</td>
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<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
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</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>105 - 106 °C</td>
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<tr>
<td>Flash point</td>
<td>-18 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&lt; 100 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Highly flammable liquid and vapor. Catches fire spontaneously if exposed to air</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>28.4 mm Hg @ 20°C</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>&gt; 1</td>
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<tr>
<td>Relative density</td>
<td>1.986</td>
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<tr>
<td>VOC content</td>
<td>&lt; 2 %</td>
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<tr>
<td>Solubility</td>
<td>Reacts violently with water.</td>
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<tr>
<td>Log Pow</td>
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<tr>
<td>Log Kow</td>
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</tr>
<tr>
<td>Viscosity, kinematic</td>
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<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Cadmium oxide fumes. Organic acid vapors.</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.

10.3. Possibility of hazardous reactions
No additional information available

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

10.5. Incompatible materials
Oxidizing agent.

10.6. Hazardous decomposition products
Cadmium oxide fumes. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified
Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/irritation: Causes serious eye damage.
Respiratory or skin sensitization: Not classified
DIMETHYLCADMIUM
Safety Data Sheet

Germ cell mutagenicity : Not classified
Cadmium compounds are potential mutagens.
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : May cause respiratory irritation.
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Symptoms/injuries after inhalation : Inhalation of combustion products (cadmium oxides) has toxic effects on the liver and kidneys. May cause respiratory irritation.
Symptoms/injuries after skin contact : Causes (severe) skin burns. Will produce severe burns, or at low concentrations, irritation or contact dermatitis.
Symptoms/injuries after eye contact : Causes serious eye damage. Causes severe burns at high concentrations. At low concentrations will cause immediate or delayed severe eye irritation.
Symptoms/injuries after ingestion : May be harmful if swallowed.
Reason for classification : Expert judgment

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 : Cadmium compounds are marine pollutants.
Effect on ozone layer : No additional information available
Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste disposal recommendations : Dispose of solid materials or residues at a licensed site. Dispose in a safe manner in accordance with local/national regulations. This is a RCRA hazardous waste: 40 CFR 261.21 (i.e. ignitable) 40 CFR 261.23 (i.e. reactive).

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) : 3394
DOT NA no. : UN3394

14.2. UN proper shipping name
Proper Shipping Name (DOT) : ORGANO METALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (DIMETHYLCADMIUM)
Department of Transportation (DOT) Hazard Classes : 4.2 - Class 4.2 - Spontaneously combustible material 49 CFR 173.124
Hazard labels (DOT) : 4.2 - Spontaneously combustible
4.3 - Dangerous when wet

DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : I - Great Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : None
DIMETHYL CADMIUM  
Safety Data Sheet  
02/23/2015  
EN (English US)  
SDS ID: OMCD020  

14.3. Additional information

Other information: IMDG Code: 4243.

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: 78 - Stow “separated longitudinally by an intervening complete compartment or hold from” explosives

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): Forbidden

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): Forbidden

SECTION 15: Regulatory information

15.1. US Federal regulations

15.2. International regulations

No additional information available

15.3. US State regulations

<table>
<thead>
<tr>
<th>DIMETHYL CADMIUM (506-82-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
</tr>
</tbody>
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</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
</tr>
</tbody>
</table>

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.

Full text of H-phrases:

| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Flam. Liq. 2 | Flammable liquids Category 2 |
| Pyr. Liq. 1 | Pyrophoric liquids Category 1 |
| Skin Corr. 1B | Skin corrosion/irritation Category 1B |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| Water-react. 1 | Substances and mixtures which in contact with water emit flammable gases Category 1 |
| H225 | Highly flammable liquid and vapor |
| H250 | Catches fire spontaneously if exposed to air |
| H260 | In contact with water releases flammable gases which may ignite spontaneously |
# DIMETHYLCADMIUM

## Safety Data Sheet

<table>
<thead>
<tr>
<th>H314</th>
<th>Causes severe skin burns and eye damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

### HMIS III Rating

- **Health**: 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures
- **Flammability**: 4 Severe Hazard
- **Physical**: 3 Serious Hazard

Prepared by safety and environmental affairs.

Date of issue: 02/23/2015  
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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