



DIMETHYLCADMIUM
 Safety Data Sheet OMCD020
 Date of issue: 02/23/2015 Version: 1.0

SECTION 1: Identification

1.1. Identification

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

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 liquids Category 2	H225 Highly flammable liquid and vapor
Pyrophoric liquids Category 1	H250 Catches fire spontaneously if exposed to air
Substances and mixtures which in contact with water emit flammable gases Category 1	H260 In contact with water releases flammable gases which may ignite spontaneously
Skin corrosion/irritation Category 1B	H314 Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318 Causes serious eye damage
Specific target organ toxicity (single exposure) Category 3	H335 May cause respiratory irritation

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) : 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

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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.
P370+P378 - In case of fire: Use dry chemical or lime to extinguish.
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. 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 : DIMETHYLCADMIUM
CAS-No. : 506-82-1

Name	Product identifier	%	GHS-US classification
Dimethylcadmium	(CAS-No.) 506-82-1	> 95	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 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

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 (acute and delayed)

Symptoms/effects : Causes severe skin burns and eye damage.
Symptoms/effects after inhalation : Inhalation of combustion products (cadmium oxides) has toxic effects on the liver and kidneys. May cause respiratory irritation.
Symptoms/effects after skin contact : Causes (severe) skin burns. Will produce severe burns, or at low concentrations, irritation or contact dermatitis.
Symptoms/effects 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/effects after ingestion : May be harmful if swallowed.

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

Suitable extinguishing media : Dry chemical. Lime.
Unsuitable extinguishing media : Never use water, foam or halogenated suppressants.

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5.2. Specific hazards arising from the chemical

- 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. Special protective equipment and precautions for fire-fighters

- 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 backflow 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Dimethylcadmium (506-82-1)		
ACGIH	ACGIH TWA (mg/m ³)	0.01 mg/m ³ Cd
OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³ Cd

8.2. Appropriate engineering controls

- Appropriate engineering controls : Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

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.

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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

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid. May ignite spontaneously.
Molecular mass	: 142.88 g/mol
Color	: Straw yellow.
Odor	: No data available
Odor threshold	: No data available
Refractive index	: 1.5488
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: -4.5 °C
Boiling point	: 105 - 106 °C
Flash point	: -18 °C
Auto-ignition temperature	: < 100 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor, Catches fire spontaneously if exposed to air
Vapor pressure	: 28.4 mm Hg @ 20°C
Relative vapor density at 20 °C	: > 1
Relative density	: 1.986
% Volatiles	: < 2 %
Solubility	: Reacts violently with 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

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.

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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
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/effects after inhalation	: Inhalation of combustion products (cadmium oxides) has toxic effects on the liver and kidneys. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes (severe) skin burns. Will produce severe burns, or at low concentrations, irritation or contact dermatitis.
Symptoms/effects 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/effects 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 the ozone layer	: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging 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

Transport document description	: UN3394 Organometallic substance, liquid, pyrophoric, water-reactive (DIMETHYLCADMIUM), 4.2 (4.3), I
Proper Shipping Name (DOT)	: Organometallic substance, liquid, pyrophoric, water-reactive (DIMETHYLCADMIUM)

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Class (DOT) : 4.2 - Class 4.2 - Spontaneously combustible material 49 CFR 173.124
Packing group (DOT) : I - Great Danger
Hazard labels (DOT) : 4.2 - Spontaneously combustible
4.3 - Dangerous when wet



DOT Packaging Non Bulk (49 CFR 173.xxx) : 181
DOT Packaging Bulk (49 CFR 173.xxx) : 244
DOT Packaging Exceptions (49 CFR 173.xxx) : None
DOT Symbols : G - Identifies PSN requiring a technical name

14.3. Additional information

Emergency Response Guide (ERG) Number : 135

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 : 13 - Keep as dry as reasonably practicable, 52 - Stow "separated from" acids, 78 - Stow "separated longitudinally by an intervening complete compartment or hold from" explosives, 148 - In addition: from flammable gases and flammable liquids when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained.

Air transport

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

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

SECTION 15: Regulatory information

15.1. US Federal regulations

No additional information available

15.2. International regulations

CANADA

No additional information available

EU-Regulations

Dimethylcadmium (506-82-1)

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

National regulations

Dimethylcadmium (506-82-1)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

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::

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

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H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation

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 : 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures

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 : 3 Serious Hazard - Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion

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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