



A Group Company of MITSUBISHI CHEMICAL

**DIMETHYLCADMIUM****Safety Data Sheet OMCD020**

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Version: 2.1

**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	: C <sub>2</sub> H <sub>6</sub> Cd
Synonyms	: CADMIUM DIMETHYLALKYL
Chemical family	: METAL COMPOUND

**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](mailto:info@gelest.com) - [www.gelest.com](http://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](mailto:info@gelestde.com) - [www.gelest.com](http://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 according to Regulation (EC) No. 1272/2008 [CLP]**

Flammable liquids, Category 2	H225
Pyrophoric Liquids, Category 1	H250
Substances and Mixtures which, in contact with water, emit flammable gases, Category 1	H260
Skin corrosion/irritation, Category 1, Sub-Category 1B	H314
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335

Full text of H- and EUH-statements: see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available

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### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.  
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.  
H335 - May cause respiratory irritation.

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.  
P231+P232 - Handle under inert gas. Protect from moisture.  
P240 - Ground/bond container and receiving equipment.  
P310 - Immediately call a POISON CENTER or doctor.

EUH-statements

: EUH014 - Reacts violently with water.

### 2.3. Other hazards

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

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

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Dimethylcadmium	(CAS-No.) 506-82-1 (EC-No.) 208-055-4	> 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 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 : 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.

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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. 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 vapour. Pyrophoric liquids. Toxic fumes and organic acid vapors develop when material is exposed to air or open flame.
Explosion hazard	: May form flammable/explosive vapour-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 vapour 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.
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#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
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### 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.
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### 6.4. Reference to other sections

See Section 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 vapours are flammable. Catches fire spontaneously if exposed to air.
Precautions for safe handling	: Avoid all eye and skin contact and do not breathe vapour 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 formation of vapour. 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

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Dimethylcadmium (506-82-1)		
Italy - Portugal - USA ACGIH	ACGIH OEL TWA	0.01 mg/m <sup>3</sup> Cd
USA OSHA	OSHA PEL TWA [1]	5 mg/m <sup>3</sup> Cd

### 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

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid. May ignite spontaneously.
Molecular mass	: 142.88 g/mol
Colour	: Straw yellow.
Odour	: No data available
Odour threshold	: No data available
Refractive index	: 1.5488
pH	: No data available
Relative evaporation rate (butylacetate=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 vapour, Catches fire spontaneously if exposed to air.
Vapour pressure	: 28.4 mm Hg @ 20°C
Relative vapour density at 20 °C	: > 1
Relative density	: 1.986
% Volatiles	: < 2 %
Solubility	: Reacts violently with water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

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### 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.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
	Cadmium compounds are potential mutagens.
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-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

Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: 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 : Cadmium compounds are marine pollutants.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment 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 vapours are flammable.
Ecology - waste materials	: Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

In accordance with ADR / IMDG / IATA / ADN / RID

#### 14.1. UN number

UN-No. (ADR)	: 3394
UN-No. (IMDG)	: 3394
UN-No. (IATA)	: 3394
UN-No. (ADN)	: 3394
UN-No. (RID)	: 3394

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
Proper Shipping Name (IMDG)	: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
Proper Shipping Name (IATA)	: Organometallic substance, liquid, pyrophoric, water-reactive
Proper Shipping Name (ADN)	: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER REACTIVE
Proper Shipping Name (RID)	: ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE
Transport document description (ADR)	: UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (DIMETHYLCADMIUM), 4.2 (4.3), I, (B/E)
Transport document description (IMDG)	: UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (DIMETHYLCADMIUM), 4.2 (4.3), I
Transport document description (IATA)	: UN 3394 Organometallic substance, liquid, pyrophoric, water-reactive (DIMETHYLCADMIUM), 4.2 (4.3)
Transport document description (ADN)	: UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER REACTIVE (DIMETHYLCADMIUM), 4.2 (4.3), I
Transport document description (RID)	: UN 3394 ORGANOMETALLIC SUBSTANCE, LIQUID, PYROPHORIC, WATER-REACTIVE (DIMETHYLCADMIUM), 4.2 (4.3), I

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: 4.2 (4.3)
Danger labels (ADR)	: 4.2, 4.3



##### IMDG

Transport hazard class(es) (IMDG)	: 4.2 (4.3)
Danger labels (IMDG)	: 4.2, 4.3



##### IATA

Transport hazard class(es) (IATA)	: 4.2 (4.3)
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##### ADN

Transport hazard class(es) (ADN)	: 4.2 (4.3)
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Danger labels (ADN) : 4.2, 4.3



### RID

Transport hazard class(es) (RID) : 4.2 (4.3)

Danger labels (RID) : 4.2, 4.3



### 14.4. Packing group

Packing group (ADR) : I  
Packing group (IMDG) : I  
Packing group (IATA) : Not applicable  
Packing group (ADN) : I  
Packing group (RID) : I

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : IMDG Code: 4243

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : SW  
Special provisions (ADR) : 274  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E0  
Packing instructions (ADR) : P400  
Mixed packing provisions (ADR) : MP2  
Portable tank and bulk container instructions (ADR) : T21  
Portable tank and bulk container special provisions (ADR) : TP2, TP7, TP36  
Tank code (ADR) : L21DH  
Tank special provisions (ADR) : TU4, TU14, TU22, TC1, TE21, TM1  
Vehicle for tank carriage : AT  
Transport category (ADR) : 0  
Special provisions for carriage - Packages (ADR) : V1  
Special provisions for carriage - Operation (ADR) : S20  
Hazard identification number (Kemler No.) : X333  
Orange plates :



Tunnel restriction code (ADR) : B/E  
EAC code : 4W

#### - Transport by sea

Special provisions (IMDG) : 274

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Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P400
Special packing provisions (IMDG)	: PP86
Tank instructions (IMDG)	: T21
Tank special provisions (IMDG)	: TP2, TP7, TP36, TP41
EmS-No. (Fire)	: F-G
EmS-No. (Spillage)	: S-M
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: H1
Segregation (IMDG)	: SG35, SG63, SG26
Properties and observations (IMDG)	: Highly flammable liquid. Liable to ignite spontaneously in air. In contact with air, evolve irritating and slightly toxic fumes. React violently with moisture, water and acids evolving flammable gas.

### - Air transport

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)	: Forbidden
CAO max net quantity (IATA)	: Forbidden
ERG code (IATA)	: 4W

### - Inland waterway transport

Classification code (ADN)	: SW
Special provisions (ADN)	: 274
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 0

### - Rail transport

Classification code (RID)	: SW
Special provisions (RID)	: 274
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P400
Special packing provisions (RID)	: PP86
Mixed packing provisions (RID)	: MP2
Portable tank and bulk container instructions (RID)	: T21
Portable tank and bulk container special provisions (RID)	: TP2, TP7, TP36, TP41
Tank codes for RID tanks (RID)	: L21DH
Special provisions for RID tanks (RID)	: TU4, TU14, TU22, TU38, TC1, TE21, TE22, TE25, TM1
Transport category (RID)	: 0
Special provisions for carriage – Packages (RID)	: W1
Hazard identification number (RID)	: X333

### 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

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

23. Cadmium and its compounds	DIMETHYLCADMIUM ; Dimethylcadmium
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DIMETHYLCADMIUM is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

DIMETHYLCADMIUM is not on the REACH Candidate List

DIMETHYLCADMIUM is not on the REACH Annex XIV List

DIMETHYLCADMIUM 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 : < 2 %

### 15.1.2. National regulations

#### Germany

Regulatory reference : Not classified according to Regulation Governing Systems for Handling Substances Hazardous to Waters (AwSV)

Hazardous Incident Ordinance (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

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

#### Denmark

Classification remarks : 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

### 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
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Other information : Prepared by safety and environmental affairs.

Full text of H- and EUH-statements:

EUH014	Reacts violently with water.
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
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.
Pyr. Liq. 1	Pyrophoric Liquids, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1, Sub-Category 1B
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
Water-react. 1	Substances and Mixtures which, in contact with water, emit flammable gases, Category 1

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SDS EU (REACH Annex II) - Custom

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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