SECTION 1: Identification

1.1. Identification

Product name: CADMIUM DIETHYLDITHIOCARBAMATE, 96%
Product code: AKC159.8
Product form: Substance
Physical state: Solid
Formula: C10H20CdN2S4
Synonyms: CADMIUM BIS(DIETHYLDITHIOCARBAMATE)
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
Acute toxicity (oral) Category 4 H302 - Harmful if swallowed
Acute toxicity (inhalation:dust,mist) Category 3 H331 - Toxic if inhaled
Skin corrosion/irritation Category 2 H315 - Causes skin irritation
Serious eye damage/eye irritation Category 2A H319 - Causes serious eye 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):
- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H331 - Toxic if inhaled

Precautionary statements (GHS US):
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P311 - Call a doctor
P261 - Avoid breathing dust.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P330 - Rinse mouth.
P301+P312 - If swallowed: Call a doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
P303+P361 - If skin irritation occurs: Get medical advice/attention.
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
P337+P313 - If eye irritation persists: Get medical advice/attention.
P321 - Specific treatment (see first aid instructions on this label).
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
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

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CADMIUM DIETHYLDITHIOCARBAMATE, 96%</td>
<td>(CAS-No.) 14239-68-0</td>
<td>95 - 100</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 (Inhalation), H331</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

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. Immediately call a poison center or doctor/physician.

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 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 after inhalation: Toxic if inhaled. May cause irritation to the respiratory tract. May cause somnolence, excitement, ataxia, convulsions, weight loss.

Symptoms/effects after skin contact: Causes skin irritation.

Symptoms/effects after eye contact: Causes serious eye irritation.

Symptoms/effects after ingestion: Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

Chronic symptoms: Questionable carcinogen, tumorigen, teratogen, reproductive effects, mutagenic data.

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
Unsuitable extinguishing media: None known.

5.2. Specific hazards arising from the chemical
Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters
Firefighting instructions: Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.
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
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

See Heading 8. Exposure controls and personal protection.

## 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. Avoid dust formation. Use only outdoors or in a well-ventilated area.

**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

**Storage conditions:** Keep container tightly closed. Store locked up.

**Incompatible materials:** Strong oxidizing agents.

**Storage area:** Direct sunlight. Store in a well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<table>
<thead>
<tr>
<th>Cadmium diethyldithiocarbamate (14239-68-0)</th>
<th>ACGIH TWA (mg/m³)</th>
<th>0.05 mg/m³ Cd</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>5 mg/m³ Cd</td>
<td></td>
</tr>
</tbody>
</table>

### 8.2. Appropriate engineering controls

**Appropriate engineering controls:** Handle in an enclosing hood with exhaust 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.

**Hand protection:**

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>Powder.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>408.94 g/mol</td>
</tr>
<tr>
<td>Color</td>
<td>No data available</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>
</tbody>
</table>
CADMIUM DIETHYLDITHIOCARBAMATE, 96%
Safety Data Sheet

pH: No data available
Relative evaporation rate (butyl acetate=1): No data available
Melting point: 63 - 69 °C
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: < 0.1 mm Hg @ 25°C
Relative vapor density at 20 °C: No data available
Relative density: 1.48
% Volatiles: < 1 %
Solubility: Slightly. Soluble in water, Organic solvent: Soluble: toluene, chloroform
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
No additional information available

10.5. Incompatible materials
Strong oxidizing agents.

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity (oral): Harmful if swallowed.
Acute toxicity (dermal): Not classified
Acute toxicity (inhalation): Toxic if inhaled.

<table>
<thead>
<tr>
<th>CADMIUM DIETHYLDITHIOCARBAMATE, 96% (14239-68-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US (oral)</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cadmium diethyldithiocarbamate (14239-68-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>ATE US (oral)</td>
</tr>
<tr>
<td>ATE US (gases)</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitization: Not classified
CADMIUM DIETHYLDITHIOCARBAMATE, 96%
Safety Data Sheet

Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Reproductive toxicity : Not classified
STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified
Symptoms/effects after inhalation : Toxic if inhaled. May cause irritation to the respiratory tract. May cause somnolence, excitement, ataxia, convulsions, weight loss.
Symptoms/effects after skin contact : Causes skin irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Symptoms/effects after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

Chronic symptoms : Questionable carcinogen, tumorigen, teratogen, reproductive effects, mutagenic data.
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 : This substance may be hazardous to the environment.
Effect on the ozone layer : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods
Product/Packaging disposal recommendations : 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) : 2570
DOT NA No UN2570

14.2. UN proper shipping name
Transport document description : UN2570 Cadmium compounds (CADMIUM DIETHYLDITHIOCARBAMATE), 6.1, III
Proper Shipping Name (DOT) : Cadmium compounds (CADMIUM DIETHYLDITHIOCARBAMATE)
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 6.1 - Poison

DOT Packaging Non Bulk (49 CFR 173.xxx) : 213
DOT Packaging Bulk (49 CFR 173.xxx) : 240
DOT Packaging Exceptions (49 CFR 173.xxx) : 153
DOT Symbols : G - Identifies PSN requiring a technical name
14.3. Additional information

Emergency Response Guide (ERG) Number: 154

Other information: No supplementary information available.

Transport by sea

DOT Vessel Stowage Location: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 100 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 200 kg

SECTION 15: Regulatory information

15.1. US Federal regulations

**Cadmium diethyldithiocarbamate (14239-68-0)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

**CANADA**

Cadmium diethyldithiocarbamate (14239-68-0)

Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**

Cadmium diethyldithiocarbamate (14239-68-0)

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

**National regulations**

Cadmium diethyldithiocarbamate (14239-68-0)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on NZIoC (New Zealand Inventory of Chemicals)

Japanese Poisonous and Deleterious Substances Control Law

Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Listed on the Canadian IDL (Ingredient Disclosure List)

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:***

| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H331 | Toxic if inhaled |

Abbreviations and acronyms:

- **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: 2 Moderate Hazard - Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 F but below 200 F. (Classes II & IIIA)

Physical: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

Date of issue: 11/16/2015  Revision date: 11/27/2019  Version: 2.0

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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