# Cadmium Selenide
CAS No 1306-24-7

## MATERIAL SAFETY DATA SHEET
SDS/MSDS

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

1.1 **Product identifiers**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Cadmium Selenide</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.</td>
<td>1306-24-7</td>
</tr>
</tbody>
</table>

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

Identified uses: Laboratory chemicals, Industrial & for professional use only.

1.3 **Details of the supplier of the safety data sheet**

<table>
<thead>
<tr>
<th>Company</th>
<th>Central Drug House (P) Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/28 Vardaan House</td>
<td></td>
</tr>
<tr>
<td>New Delhi-10002</td>
<td></td>
</tr>
<tr>
<td>INDIA</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td>+91 11 49404040</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:care@cdhfinechemical.com">care@cdhfinechemical.com</a></td>
</tr>
</tbody>
</table>

1.4 **Emergency telephone number**

| Emergency Phone #             | +91 11 49404040 (9:00am - 6:00 pm) [Office hours] |

### SECTION 2: Hazards identification

2.1 **Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

- Acute toxicity, Oral (Category 3), H301
- Acute toxicity, Inhalation (Category 3), H331
- Acute toxicity, Dermal (Category 4), H312
- Carcinogenicity (Category 1A), H350
- Specific target organ toxicity - repeated exposure (Category 2), H373
- Acute aquatic toxicity (Category 1), H400
- Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 **Label elements**

**Labelling according Regulation (EC) No 1272/2008**

<table>
<thead>
<tr>
<th>Pictogram</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Label pictogram]</td>
</tr>
</tbody>
</table>

**Signal word**

Danger

**Hazard statement(s)**

- H301 + H331: Toxic if swallowed or if inhaled
H312 Harmful in contact with skin.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P201 Obtain special instructions before use.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Supplemental Hazard Statements

Restricted to professional users.

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Formula</th>
<th>Molecular weight</th>
<th>CAS-No.</th>
<th>EC-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CdSe</td>
<td>191.37 g/mol</td>
<td>1306-24-7</td>
<td>215-148-3</td>
</tr>
</tbody>
</table>

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cadmium selenide</td>
<td>Acute Tox. 3; Acute Tox. 4; Carc. 1A; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H301, H311, H312, H350, H373, H400, H410</td>
<td>&lt;= 100 %</td>
</tr>
<tr>
<td></td>
<td>M-Factor - Aquatic Acute: 10</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.
4.3 Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Cadmium/cadmium oxides, Selenium/selenium oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
Personal protective equipment

**Eye/face protection**
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Body Protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Appearance</td>
<td>Form: granules</td>
</tr>
<tr>
<td></td>
<td>Colour: light grey</td>
</tr>
<tr>
<td>b) Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>c) Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>d) pH</td>
<td>No data available</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>g) Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>h) Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>i) Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>j) Upper/lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>k) Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>l) Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>m) Relative density</td>
<td>5.81 g/cm³ at 25 °C</td>
</tr>
<tr>
<td>n) Water solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>o) Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>p) Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>q) Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>r) Viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>
s) Explosive properties No data available

t) Oxidizing properties No data available

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Avoid moisture.

10.5 Incompatible materials
acids, Oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Cadmium/cadmium oxides, Selenium/selenium oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - > 5,000 mg/kg (Cadmium selenide)

Skin corrosion/irritation
No data available (Cadmium selenide)

Serious eye damage/eye irritation
No data available (Cadmium selenide)

Respiratory or skin sensitisation
No data available (Cadmium selenide)

Germ cell mutagenicity
No data available (Cadmium selenide)

Carcinogenicity
Human carcinogen. (Cadmium selenide)
IARC: 1 - Group 1: Carcinogenic to humans (Cadmium selenide)
3 - Group 3: Not classifiable as to its carcinogenicity to humans (Cadmium selenide)
IARC: 1 - Group 1: Carcinogenic to humans (Cadmium selenide)
3 - Group 3: Not classifiable as to its carcinogenicity to humans (Cadmium selenide)

Reproductive toxicity
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. (Cadmium selenide)

Specific target organ toxicity - single exposure
No data available (Cadmium selenide)

Specific target organ toxicity - repeated exposure
Ingestion - May cause damage to organs through prolonged or repeated exposure. - Kidney, Bone

Aspiration hazard
No data available (Cadmium selenide)
Additional Information
RTECS: EV2300000

Acute inhalation exposure to cadmium fumes may cause "metal fume fever" with chills, nausea, vomiting, dizziness, sweating, muscular pain, cough and within 24 hours and reaches a maximum by three days. The first chronic effect manifested by excretion of excessive protein in the urine, followed by an is believed to cause pulmonary emphysema and bone disease (Cadmium selenide).

SECTION 12: Ecological information

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Cadmium selenide)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 2570 IMDG: 2570 IATA: 2570

14.2 UN proper shipping name
ADR/RID: CADMIUM COMPOUND (Cadmium selenide) IMDG: CADMIUM COMPOUND (Cadmium selenide) IATA: Cadmium compound (Cadmium selenide)

14.3 Transport hazard class(es)
ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

14.4 Packaging group
ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user
No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out
SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H301  Toxic if swallowed.
H301 + H331  Toxic if swallowed or if inhaled
H312  Harmful in contact with skin.
H331  Toxic if inhaled.
H350  May cause cancer.
H373  May cause damage to organs through prolonged or repeated exposure.
H400  Very toxic to aquatic life.
H410  Very toxic to aquatic life with long lasting effects.

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.