# Zinc Cyanide

## Material Safety Data Sheet (SDS/MSDS)

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

### 1.1 Product identifiers

- **Product name**: Zinc Cyanide
- **CAS-No.**: 557-21-1

### 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

- **Company**: Central Drug House (P) Ltd
  7/28 Vardaan House
  New Delhi -110002
  INDIA
- **Telephone**: +91 11 49404040
- **Email**: care@cdhfinechemical.com

### 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 2)**, H300
- **Acute toxicity, Inhalation (Category 2)**, H330
- **Acute toxicity, Dermal (Category 1)**, H310
- **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**

- **Pictogram**

#### Signal word

- **Danger**

#### Hazard statement(s)

- **H300 + H310 + H330**: Fatal if swallowed, in contact with skin or if inhaled.
- **H410**: Very toxic to aquatic life with long lasting effects.

#### Precautionary statement(s)

- **P260**: Do not breathe dust/ fume/ gas/ mist/ vapours/spray.
- **P264**: Wash hands thoroughly after handling.
- **P273**: Avoid release to the environment.
P280 Wear protective gloves/ protective clothing.
P284 Wear respiratory protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

Supplemental Hazard information (EU)
EUH032 Contact with acids liberates very toxic gas.

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.
Contact with acids liberates very toxic gas.

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula : Zn(CN)_2
Molecular weight : 117.42 g/mol
CAS-No. : 557-21-1
EC-No. : 209-162-9
Index-No. : 006-007-00-5

Hazardous ingredients according to Regulation (EC) No 1272/2008
Component Classification Concentration
Zinc cyanide
   CAS-No. 557-21-1 Acute Tox. 2; Acute Tox. 1; <= 100 %
   EC-No. 209-162-9 Aquatic Acute 1; Aquatic
   Index-No. 006-007-00-5 Chronic 1; H300, H330, H310,
                                      H400, H410
                                    M-Factor - Aquatic Acute: 10

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
   Dry powder

5.2 Special hazards arising from the substance or mixture
Carbon oxides, Zinc/zinc 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. Do not flush with water. 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. 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. Never allow product to get in contact with water during storage. Do not store near acids. Storage class (TRGS 510): Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

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 th 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

- **a)** Appearance
  - Form: powder
  - Colour: beige
- **b)** Odour
  - No data available
- **c)** Odour Threshold
  - No data available
- **d)** pH
  - No data available
- **e)** Melting point/freezing point
  - No data available
- **f)** Initial boiling point and boiling range
  - No data available
- **g)** Flash point
  - No data available
- **h)** Evaporation rate
  - No data available
- **i)** Flammability (solid, gas)
  - No data available
- **j)** Upper/lower flammability or explosive limits
  - No data available
- **k)** Vapour pressure
  - No data available
- **l)** Vapour density
  - No data available
- **m)** Relative density
  - 1.85 g/cm³ at 25 °C
- **n)** Water solubility
  - No data available
- **o)** Partition coefficient: n-octanol/water
  - No data available
- **p)** Auto-ignition temperature
  - No data available
- **q)** Decomposition temperature
  - No data available
- **r)** Viscosity
  - No data available
- **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
No data available

### 10.5 Incompatible materials
Strong oxidizing agents, acids
10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Zinc/zinc 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 - 54 mg/kg(Zinc cyanide)

Skin corrosion/irritation
No data available(Zinc cyanide)

Serious eye damage/eye irritation
No data available(Zinc cyanide)

Respiratory or skin sensitisation
No data available(Zinc cyanide)

Germ cell mutagenicity
No data available(Zinc cyanide)

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available(Zinc cyanide)

Specific target organ toxicity - single exposure
No data available(Zinc cyanide)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available(Zinc cyanide)

Additional Information
RTECS: ZH1575000
Nausea, Dizziness, Headache, Lung irritation, Cyanosis, Central nervous system depression(Zinc cyanide)

SECTION 12: Ecological information

12.1 Toxicity
No data available

12.2 Persistence and degradability
Biodegradability Result: - Not readily biodegradable.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available(Zinc cyanide)

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: 1713  
IMDG: 1713  
IATA: 1713

14.2 UN proper shipping name
ADR/RID: ZINC CYANIDE  
IMDG: ZINC CYANIDE  
IATA: Zinc cyanide

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

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

14.5 Environmental hazards
ADR/RID: no  
IMDG Marine pollutant: yes  
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.

EUH032  Contact with acids liberates very toxic gas.
H300  Fatal if swallowed.
H300 + H310 +  Fatal if swallowed, in contact with skin or if inhaled
H330
H310  Fatal in contact with skin.
H330  Fatal if inhaled.
H400  Very toxic to aquatic life.

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.