

## **MATERIAL SAFETY DATA SHEET (MSDS)**

**Product Name: Copper Oxide Nanoparticles**

**Product Series: CuO-NANO**

### **1. Product and Company Identification**

#### **1.1 Product identifiers**

Product name Copper Oxide (CuO)

Product Brand: Techinstro

CAS-No: 1317-38-0

#### **1.2 Relevant identified uses of the substance & uses advised against**

**Recognized uses:** Laboratory chemicals, Research, and development

#### **1.3 Details of the Supplier**

Company: M/s. Techinstro

Plot No. - 463, Yadav Nagar

Nagpur, Maharashtra, India

Pin Code- 440026

Emergency Contact: +91(0) 8007799090

Emergency Contact Email: [info@techinstro.com](mailto:info@techinstro.com)

### **2. Hazards (Dangerous) Identification**

#### **2.1 Classification of the substance**

GHS Classification under 29 CFR 1910 (OSHA HCS)

Eye irritation (Category 2A), H319

Respiratory system, H335

For the full text of the H-Statements in this Section, refer to Section 16.

#### **2.2 GHS Label elements, including precautionary statements**

##### **Signal Word Warning**

Hazard statement(s)

H319 Causes severe eye irritation.

H335 Might cause respiratory irritation.

### **Precautionary Statement(s)**

P261 Avoid breathing dust/gas/ mist/vapors/ spray.

P264 Wash skin after using.

P271 Use only in a well-ventilated place.

P280 Wear protective gloves/ face protection & eye protection

P304 + P340 IF INHALED: Remove them to fresh air & keep him at rest in a position that is comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse with water for certain minutes. If you have contact lenses, then remove them. Rinse continuously.

P312 Call a doctor if you feel unwell.

P337 + P313 If eye irritation exists: Get medical advice/ attention.

P403 + P233 Store in a well-ventilated place. Keep the container tightly closed. P405 Store locked up.

P501 Dispose of the container to an appropriate disposal plant.

### **2.3 Hazards (dangers) not otherwise classified (HNOC) or not covered by GHS**

None

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

### **3.1 Substances**

Synonyms: Copper Oxide (CuO) Powder

Copper Oxide (CuO) CAS#: 1317-38-0

### **Hazardous Components**

Component: Copper Oxide (CuO)

Classification: Eye Irrit. 2A; STOT SE 3;

H319, H335

Concentration:

For the full text of the H-Statements in this Section, refer to Section 16.

## **4. First Aid Precautions**

### **4.1 Details of the first aid measures & General Advice**

Consult a doctor. If inhaled, move out of a dangerous area.

If breathed in, then move the person into the fresh air. If they are not breathing, then give artificial respiration. Consult a doctor.

### **In case of skin contact**

Wash with soap and water. Consult a doctor.

**In the case of eye contact**

Rinse properly with water for a minimum of 15 minutes and consult a doctor.

**If Swallowed**

If someone is unconscious, do not give them anything. Instead, rinse their mouth with water and seek medical advice from a doctor.

**4.2 Most important symptoms, effects, both acute and delayed**

The most significant known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention or special treatment needed**

No data available

**5. Firefighting Measures**

**5.1 Extinguishing Media**

The appropriate extinguishing materials are water spray, alcohol-resistant foam, dry chemicals, or carbon dioxide.

**5.2 Special hazards (dangers) arising from the substance or mixture**

The product is not flammable

**5.3 Advice for Firefighters**

If needed, make sure to wear a self-contained breathing apparatus while fighting fires.

**5.4 Further information**

No data available

**6. Accidental Release Measures**

**6.1 Personal Precautions, About Protective Equipment, and Emergency Procedures**

Use personal protective equipment. Avoid the formation of dust. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection, refer to SECTION 8

**6.2 Environmental Precautions**

Do not let the product enter drains.

**6.3 Methods & materials for containment as well as for cleaning up**

Please pick up and arrange the items in question to avoid creating dust. Use a broom and shovel to sweep them up. Then, please place them in appropriate, sealed containers for disposal.

#### **6.4 Reference to other sections**

For disposal, refer to section 13.

### **7. Handling and Storage**

#### **7.1 Precautions for safe & proper handling**

Avoid contact with the skin & eyes. Avoid the formation of dust & aerosols. Provide proper exhaust ventilation at places where dust is formed. For precautions, refer to section 2.2.

#### **7.2 Conditions for safe storage, including incompatibilities, if any**

Keep the containers tightly closed in a dry & well-ventilated/ airy place.

#### **7.3 Specific End Use(s)**

Apart from the uses in section 1.2, no other specific uses are specified.

### **8. Exposure Controls/Personal Protection**

#### **8.1 Control Parameters**

This product's workplace control parameters do not include any substances that exceed occupational exposure limit values.

#### **8.2 Exposure controls**

Appropriate engineering controls

#### **Personal Protective Equipment**

##### **Eye/Face Protection**

Wear safety glasses with side shields that meet the standards listed in EN166. Only use eye protection equipment tested and approved by the appropriate government agencies such as NIOSH (in the US) or EN 166 (in the EU).

##### **Skin Protection**

For any handling steps where the substance is particulate or in a suspension with pure water where the substance is not solubilized, the gloves must comprise a material that successfully passes ASTM F-1671. For any handling steps where the substance is part of a carrier liquid other than the aqueous suspension noted in the previous paragraph, gloves must be comprised of material that successfully passes ASTM F-739 (continuous liquid contact method). Gloves must be changed before they show degradation and before the designated breakthrough time for the carrier liquid (as determined by the ASTM F-739 testing or by the manufacturer). Handle with gloves. Gloves must be inspected before use. Use proper glove removal technique (without touching the glove's outer surface) to avoid any skin contact with the product. Dispose of contaminated gloves after use, following applicable laws and good laboratory practices. Wash and dry hands.

## Body Protection

The appropriate protective clothing and equipment should be chosen based on the quantity and concentration of hazardous substances in the workplace. Respiratory protection may also be necessary.

The EPA mandates using full-face respirators with minimum N100-grade cartridges if there is any risk of exposure to dust. Use type P95 (US) or type P1 (EU EN 143) particle respirator for nuisance exposures. For higher level protection, use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use government-approved respirators and control environmental exposure to ensure safety.

Make sure to prevent the product from entering any drains.

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical & chemical properties

- a. Appearance: Solid
- b. Odor: No data available
- c. Odor Threshold: No data available
- d. pH: No data available
- e. Melting point/freezing point: 1326 °C
- f. Initial boiling point & 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, explosive limits: No data available
- k. Vapor pressure: No data available
- l. Vapor density: No data available
- m. Relative density: 6.4
- n. Water solubility: insoluble
- o. Partition coefficient - 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

## 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

### **10.6 Hazardous (dangerous) decomposition products**

#### **Other decomposition products**

No data available

**In the event of fire:** Refer to section 5

## **11. Toxicological Information**

### **11.1 Information on toxicological effects** Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation: No data available

Severe eye damage/eye irritation: No data available

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity: Single exposure

Inhalation: This may cause respiratory irritation.

Specific target organ toxicity: If repeated exposure: No data available

Aspiration hazard: No data available

Additional Information RTECS: Not available

As far as we know, the chemical, physical, and toxicological characteristics have yet to be extensively studied.

## **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

**12.5 Results of PBT and vPvB Assessment**

A PBT/vPvB assessment is not available because a chemical safety assessment was not required or conducted.

**12.6 Other adverse effects** No data available

**13. Disposal Considerations**

**13.1 Waste Treatment Methods**

Contact a licensed disposal company for safe and efficient disposal of surplus and non-recyclable materials. Contaminated packaging should also be disposed of through a professional waste service.

Dispose of it as an unused product.

**14. TRANSPORT INFORMATION**

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

**15. Regulatory Information**

SARA 302 Components

**SARA 302:** According to SARA Title III, Section 302, none of the chemicals present in this material need to be reported.

SARA 313 Ingredients/Components

**SARA 313:** The substance has no chemical components that surpass the reporting levels set by SARA Title III, Section 313, and CAS numbers. As for SARA 311/312 hazards, there are none.

**16. OTHER INFORMATION**

The details presented herein are accurate as of the date shown above. However, no warranty, express or implied, is given. The client's responsible for ensuring that its activities comply with the relevant laws.