

MATERIAL SAFETY DATA SHEET (MSDS)

Product Name: Graphene Conductive Ink

Product Series: Grapink-001

1. Identification of substance

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

2. Hazard Identification

Potential Acute Health Effects: Slightly hazardous in skin contact (irritant), eye contact (irritant), ingestion, or inhalation.

Potential Chronic Health Effects:

Carcinogenic Effects: Not Available.

Mutagenic Effects: Not Available.

Teratogenic Effects: Not Available.

Developmental Toxicity: Not available. This substance can harm your breathing and heart. If you are around it for a long time, it can damage some of your organs.

3. Composition and information on ingredients

Description - Mixture of non-hazardous substances.

Ingredients - Carbon, <30-50% (weight)

CAS number- 7782-42-5

4. First-aid measures

Inhalation

Remove the affected individual from exposure and supply fresh air. Apply Artificial respiration and other support as required. Consult a doctor if irritation of respiratory passages occurs.

Skin contact

Wash thoroughly with soap and water. Consult a doctor if irritation continues. Remove contaminated clothing and wash before re-use.

Eye contact

Rinse with running water for 20 minutes. Consult a doctor if irritation continues.

Indigestion

Rinse your mouth thoroughly. Consult a doctor if irritation continues.

The most important symptoms and effects are both acute and delayed. No further relevant information is available.

5.Fire fighting measures

Flash point: No data available.

Autoignition temperature: No data available.

Flammable limits: No data available.

Special firefighting procedures: Wear full protective clothing. Wear a self-contained breathing apparatus.

Extinguishing media: Water spray, foam, dry powder or carbon dioxide

Unusual fire or explosion hazards: Not a fire hazard.

Hazardous combustion products: This compound forms toxic gases (CO, CO₂) during a fire.

6.Accidental release measures

Spill procedures: Mop up small spillages with washing-up liquid.

Environmental protection: Avoid discharge in sewer or waterways.

Person-related safety precautions: Wear protective equipment.

7.Handling and storage

Safe handling: To ensure your safety, please avoid contact with your eyes, skin, or clothing. Please avoid contact with your eyes, skin, or clothing to ensure your safety. Wash your hands thoroughly after handling. Do not inhale or digest. Loosen closure cautiously before opening.

Storage requirements: Do not freeze.

Keep containers sealed. Keep the item in a cool, dry, and well-ventilated place. Protect from direct sunlight.

8.Exposure controls and personal protection

It is essential to follow standard safety procedures when working with chemicals. Wear protective glasses and protective work clothes. Keep away from food and drinks. Wash hands during breaks.

9.Physical and chemical properties

Form: Black-colored paste

Odor: A residual odor from polymer binders may be present.

pH value: Not determined.

The danger of explosion: The product is not explosive.

Self-ignition: The product is not self-igniting.

Melting, boiling, and flash points: Flashpoint 95°C
Ignition temperature: Not determined.
Vapor pressure: Not determined.
Viscosity: Brookfield 1,000 - 2,500 mPa.s (cP) at 20 r.p.m. at 25 °C.
Solvent: Water
Solids content: 30-50% (weight)

11. Stability and reactivity

Stability: Stable at average temperatures and pressures.
Hazardous reactions: Not applicable.
Materials to be avoided: Not applicable.
Decomposition: Carbon oxides are formed during fire.
Conditions to avoid: Avoid excessive heat, flames, and other ignition sources.

12. Toxicological information

Routes of Entry: Inhalation. Ingestion.
Toxicity to Animals:
LD50 (oral, rat): >2000mg/kg (Graphene)
LC50 (inhalation, rat): Not available.
Chronic Effects on Humans: Causes damage to the following organs: upper respiratory tract. **It may cause damage to the following organs:** the cardiovascular system.
Other Toxic Effects on Humans: This substance may cause harm if ingested or inhaled. It is slightly hazardous.
Special Comments on Toxicity to Animals: Not available.
Special Comments on Chronic Effects on Humans: Not available.
Special Comments on Other Toxic Effects on Humans: Nuisance dust.
Acute Potential Health Effects:
Skin: Causes skin irritation.
Eyes: Dust causes eye irritation.

Inhalation: This may be harmful if inhaled. Dust causes respiratory tract and mucous membrane irritation.

Ingestion: May be harmful if swallowed. It may cause gastrointestinal (digestive) tract irritation with nausea and vomiting.

Chronic Potential Health Effects: Inhalation of high concentrations of graphene dust over prolonged periods may cause pneumoconiosis. Symptoms can include cough, shortness of breath, and decreased pulmonary function. Preexisting pulmonary disorders such as emphysema may be aggravated by prolonged exposure to high concentrations of graphene dust. The toxicology of this substance has yet to be thoroughly investigated.

13. Ecological Information

Ecotoxicity: Not available.
BOD5 and COD: Not available.

Products of Biodegradation:

Hazardous short-term degradation products are not likely. It is possible that long-term degradation products may develop over time.

Toxicity of the Biodegradation Products: "The product and its breakdown components are non-toxic."

Special Remarks on the Products of Biodegradation: Not available.

Disposal considerations

Waste Disposal:

Waste must be disposed of by federal, state, and local environmental control regulation

14. Transport information

DOT Classification: Not a DOT-controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable

15. Regulatory information

Graphene (CAS no. 7782-42-5) is not listed as a hazardous material under US Federal regulations. It is not listed under the Clean Air Act, the Clean Water Act, SARA (section 302, section 311/312, or section 313), HAPS, or

Graphene (CAS no. 7782-42-5) is listed on:

US: TCSA Canada: DSL EC: EINECS

This product has WHMIS (Canada) classification D2A

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16. Other information

Rest assured, the information presented is reliable and accurate as of the date mentioned. However, no warranty, express or implied, is given. The client is responsible for ensuring its activities comply with the relevant laws.