



Materials Safety Data Sheet

Supplier/Company Identification

Manufacturer: Soochow Hengqiu Graphene Technology Co., Ltd.
Rm. 321, Bldg. 7, No. 3, Changjiang Rd.,
Mudu, Wuzhong Dist., Suzhou,
Jiangsu, China (Mainland)

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Product Information

Product name: Graphene
Product number: HQNANO-GR-001, 002, 003, 004,005
CAS number: 7782-42-5

Physical And Chemical Properties

Appearance: Black powder.
Odor: Odorless.
Melting point: Approximately 3600°C.
Flash point: Not applicable.
Boiling point: Not applicable.
Vapor density: not applicable.
Bulk density: 0.5 – 1.0 g/cm³.
Solubility in water: Negligible.
Evaporation Rate: Not applicable.
Ignition temperature: Dispersed dust cloud - >600°C, deposited dust - >365°C.

Hazard Identification

Emergency Overview: This material maybe an irritant to eyes, skin or respiratory tract.

Potential Health Effects: Eyes – may cause eye irritation. Skin – may cause skin irritation.

Respiratory tract/inhalation – at high concentrations may cause irritation. Ingestion – not hazardous in normal industrial use circumstances.

Cancer – natural graphite may contain small amounts of impurities of 0% - 1% crystalline silica, which is listed as a Group 1 carcinogen by IARC and as a suspected

human carcinogen by ACGIH. Inhalation of high concentrations of crystalline silica over prolonged periods of time has been linked to an increase in lung cancer. Inhalation of high concentrations of crystalline silica over prolonged periods of time may also cause silicosis. Inhalation of high concentrations of graphite dust over prolonged periods of time may cause pneumoconiosis.

Physical Hazards: Graphite is electrically conductive. Care should be taken, therefore, to avoid accumulations of graphite dusts or powders in places where these accumulations could cause shorting of electrical switches, circuits or components.

First Aid Measures

General: In the case of prolonged irritation or other adverse effects, contact a doctor.

Inhalation: Remove from exposure to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, begin artificial respiration immediately. Seek medical attention.

Eye contact: Flush eyes with water for 15 minutes.

Skin contact: Wash with soap and water.

Ingestion: Rinse mouth with water.

Clothing: Contaminated clothing should be removed and washed thoroughly before re-use.

Fire Fighting Measures

In general, graphite is difficult to combust. Normal care should be taken to avoid dust explosion risk through high concentrations of dust or finely suspended airborne particles, although graphite dust is not normally considered an explosion hazard.

Suitable Extinguishing Media: Water, carbon dioxide, dry chemical powder or foam as appropriate for surroundings.

Other Combustion Hazards: In the event of combustion or thermal decomposition, this material may release carbon monoxide (CO) or carbon dioxide (CO₂) or other toxic gases. At temperatures over 300°C, this material may react with potassium, sodium, rubidium, or cesium to create intercalation compounds that may ignite and may react explosively with water.

Protective Equipment: As with any fire, wear self-contained breathing apparatus and protective clothing to prevent contact with skin, eyes or lungs.

Accidental Release Measures

Spilled or released material should be collected mechanically and disposed of in suitable containers. Use care during cleanup to prevent the creation of concentrations of dust.

Personnel: Clean-up personnel should wear suitable protective equipment to prevent inhalation or skin contact. Cleanup personnel should beware of the risk of slippage due to the material's low coefficient of friction.

Environmental: Do not discharge into storm or sanitary sewers or groundwater.

Handling And Storage

This material is stable at room temperature and does not pose a significant risk of combustion. This material should be stored in labeled, closed containers away from sources of ignition or heat. Care should be taken to avoid creating accumulations or concentrations of dust, since any dust can form a potentially explosive mixture in air. Graphite is electrically conductive. Care should be taken, therefore, to avoid accumulations of graphite dusts or powders in places where these accumulations could cause shorting of electrical switches, circuits or components.

Advice on Safe Handling: Provide good ventilation when handling. Personnel should take measures to avoid breathing dust created when handling and should wear suitable protective clothing to prevent skin and eye contact.

Exposure Control Personal Protection Exposure Guidelines

Personal Protective Equipment Respiratory protection: Protect against inhalation. A respiratory protection program that meets applicable OSHA requirements should be maintained in the workplace.

Eye protection: Protect against contact with eyes by wearing suitable safety eyeglasses or chemical protective goggles or other face protection.

Skin protection: Protect against skin contact by wearing protective gloves. Protect against skin contact by wearing suitable clothing.

Engineering Controls: Provide adequate workplace ventilation. If dusts are generated through handling, local exhaust ventilation should be employed.

Stability And Reactivity

This material is stable. Avoid contact with strong oxidizing agents, fluorine, or chlorine trifluoride. There are no known hazardous decomposition products.

Toxicological Information Acute oral toxicity

Graphite: LD50 Rat > 2g/kg

Irritant effect on skin: Graphite: non-irritant.

Irritant effect on eyes: Graphite: slight irritant.

Carcinogenicity: Non-carcinogenic.

Ecological Information

Graphite is not biodegradable. To the best of our knowledge, there is no reliable data regarding its bioaccumulation or mobility in environmental media, nor is there reliable data to suggest that it should be considered as an environmental hazard.

Disposal Consideration

Dispose off in accordance with all local, state, or federal regulations.

Other Information

Disclaimer: To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we do not guarantee that these are the only hazards that exist.

Materials for R&D use only. Not for drug, household or other uses.