

MATERIAL SAFETY DATA SHEET

Graphene
According to directive 2015/2099/RD
Date of issue 14/09/2015
Version 2.3

1. Identification of the substance/preparation and of the company

Identification of the Product : Graphene
Chemical family : Synthetic Graphite
Product name : GRP [all grades]
Use of the substance/preparation : Research/INDUSTRIAL use only
Manufacture/supplier identification : **KNV'S INCORPORATION**

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2. Hazards identification

Caution! To the best of our knowledge the toxicological properties of this material has not been thoroughly investigated. The present substance has been classified according to hazards identification of graphite.

Hazards classification for the substance according to the European directives:

Eye Irritation (Category 2);
Specific target organ toxicity – single exposure
Signal word: Warning
Hazards statement(s):
H319 Causes serious eye irritation
H335 May cause respiratory irritation

Precautionary statement(s)
P261 Avoid breathing dust/fume/gas/mist/vapours/spray
P305+ P338 if contact with eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. Composition/Information or ingredients

Graphene CAS: 7782-42-5 HS code: 250490.90
Concentration: ≤100%

4. First aid measures

After inhalation: Move the person into fresh air. If it is necessary, give artificial respiration with oxygen. Summon physician if necessary.

After skin contact: Wash skin with soap and copious amount of water. Consult a physician.

After ingestion: Make victim drink plenty of water. Never give anything by mouth to an unconscious person, rinse mouth with water. Consult a physician.

After eye contact: Rinse out with plenty of water with the eyelid held wide open for at least 15 minutes. Summon eye specialist.

In case of persisting adverse effect: Consult a physician

General: Show this safety data sheet to the doctor in attendance.

5. First –fighting measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon Dioxide

Special hazards arising from the substance: Metal oxides, carbon dioxide and carbon monoxide. May form toxic fumes.

Special protective equipment for firefighting: Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

Person-related precautionary measures: Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environment precautions: Do not discharge into the drains/surface waters/ground waters.

Procedures for cleaning/absorption: Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling: Avoid eye and skin contact. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage: Store in cool place. Keep container tightly closed in a dry and well-ventilated places.

8. Exposure controls/personal protection

Exposure controls

Respiratory protection : Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand Protection : The selected protective gloves have to satisfy the specification of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Handle with gloves.

Eye protection : Safety glasses with side-shields conforming to EN166.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. Physical and Chemical properties

General information : Form : Powder
Colour: black

Important health, safety and environmental information:

- pH value: not determined
- Solubility in water (20°C): soluble (hydrophilic)
- Relative vapour density: Not determined
- Refractive index: Not determined
- Melting temperature: Not determined
- Ignition temperature: Not determined

10. Stability and reactivity

Condition to be avoided: Heating should be avoided

Substances to be avoided: Strong oxidizing agents and/or reducing agents

Hazardous decomposition products: Hazardous decomposition products formed under fire conditions.

Further information: Stable under recommended storage conditions.

11. Toxicological information

Acute toxicity:

- Carcinogenicity:** no data available

Further toxicological Carcinogenicity: no data available

- After skin contact:** No irritation and no corrosion
- After eye contact:** Irritations
- After ingestion:** No data available
- After inhalation:** May cause respiratory irritation

12. Ecological information :

Mobility: No data available

Bioaccumulative potential: No data available

Persistence and degradability: No data available

Other adverse effects: No data available

13. Disposal considerations :

Product: Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an after burner and scrubber.

Packaging: Dispose of as unused product

14. Transport information :

Road transport: Not dangerous goods

Sea transport : Not dangerous goods

Air transport : Not dangerous goods

15. Regulatory information :

This safety datasheet complies with the requirements of Regulation (EC) 1907/2006 and/or 67/548/EEC and/or 1999/45/EC.

R-phrases:

R36/37 Irritating to eyes and respiratory system

S-phrases:

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36 Wear suitable protective clothing.

16. **Other information :**

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