

Material Safety Data Sheet

1. Identification of substance:

Product name: Graphene Oxide

Synonyms: oxydic graphene, graphite oxide, oxidized graphite

Prepared on 01/12/2010

This form is subject to changes

All Materials Sold by Graphene Supermarket are for Research & Development Only.

Manufacturer/Supplier:

Graphene Supermarket

www.graphene-supermarket.com

Graphene Laboratories, Inc.

5 Archstone Cir. Unit 202

Reading, MA, 01867

info@graphenelab.com

Phone: (516) 382-8649

Fax: (781) 287-1248

2. Composition/Data on components:

• **Chemical characterization:**

Description: (CAS#) Graphite, (CAS# 7782-42-5), Water (CAS# 7732-18-5)

• **Identification number(s):**

• **EINECS Number:** 231-955-3

3. Hazards identification

Hazard description: If dries, may cause eye, skin and respiratory tract irritation

Ingestion: Low toxicity

• **Information pertaining to particular dangers for man and environment**

R 36/37 Irritating to eyes and respiratory system.

4. First aid measures

• **After skin contact**

Immediately wash with water and soap and rinse thoroughly.

• **After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

• **After swallowing** Rinse mouth for several minutes with water. Seek immediate medical advice.

5. Fire fighting measures

Graphene Oxide is difficult to combust.

• **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray.

• Special hazards caused by the material, its products of combustion or resulting gases: In case of fire, the following can be released: Carbon monoxide (CO)

• Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit.

6. Accidental release measures

• **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation

• **Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

• **Measures for cleaning/collecting:** Collect mechanically, use a suitable tight container

• **Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7. Handling and storage

• **Handling**

• **Information for safe handling:** Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Provide good ventilation at the workplace.

• **Information about protection against explosions and fires:** No special measures required.

• **Storage**

• **Requirements to be met by storerooms and receptacles:** No special requirements.

• **Information about storage in one common storage facility:** Store away from oxidizing agents. Store away from halogens. Do not store together with acids.

• **Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8. Exposure controls and personal protection

• **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

• **Breathing equipment:**

Use suitable respirator when high concentrations are present.

• **Protection of hands:** Impervious gloves

• **Eye protection:** Safety glasses

• **Body protection:** Protective work clothing.

9. Physical and chemical properties:

• **General Information**

• **Form:** Aqueous Solution

• **Color:** Brown

• **Odor:** Odorless

• **Change in condition**

• **Melting point/Melting range:** Not determined

• **Boiling point/Boiling range:** Not determined

- **Sublimation temperature / start:** Not determined
- **Flash point:** Not applicable
- **Ignition temperature:** Not determined
- **Decomposition temperature:** Not determined
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
- **Lower:** Not determined
- **Upper:** Not determined
- **Vapor pressure:** Not determined
- **Density:** at 20 ° C 2.25 g/cm³
- **Solubility in / Miscibility with Water:** none

10. Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
Decomposition will not occur if used and stored according to specifications.
- **Materials to be avoided:** Oxidizing agents, acids, halogens, alkali metals
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** Carbon monoxide and carbon dioxide

11. Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **On the skin:** Irritant to skin and mucous membranes.
- **On the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Subacute to chronic toxicity:**
The inhalation of graphite, both natural and synthetic, has caused pneumoconiosis in exposed workers. The pneumoconiosis found is similar to coal worker's pneumoconiosis.
- **Additional toxicological information:**
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information

- **General notes:** Do not allow material to be released to the environment without proper governmental permits.
- **Biodegradability:** not degradable

13. Transport information

- Not a hazardous material for transportation.
- **DOT regulations: Hazard class:** None
 - **Land transport ADR/RID (cross-border)**
 - **ADR/RID class:** None
 - **Maritime transport IMDG:**

- **IMDG Class:** None
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** None
- **Transport/Additional information:**
Not dangerous according to the above specifications.

• **14. Regulations**

- **Product related hazard information:**
- **National regulations**
TSCA: None of the ingredients is listed.
Clean Air Act: None of the ingredients is listed.
Clean Water Act: None of the ingredients is listed.

- **Information about limitation of use:**
For use only by technically qualified individuals.

15. Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.