

GRAPHENE OXIDE



DATA SHEET

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Description

Graphene Oxide (GO) is an oxidized form of graphene, that shares the same structure as graphene, but with oxygenated groups (hydroxyl, carbonyl, and epoxy) anchored on its surface. The GO (Graphenemex®) is produced by a patented method and process for the chemical oxidation of graphite. With this method, a material like Graphene is obtained, but with a specialized formula that keeps it stable in dispersion and that also allows additional functionalizations with other nanostructures or molecules to share their properties and improve or create new compounds.

Use

For scientific and technological research, in the design and development of multifunctional products for their mechanical, thermal, electrical, optical, antimicrobial properties, etc.

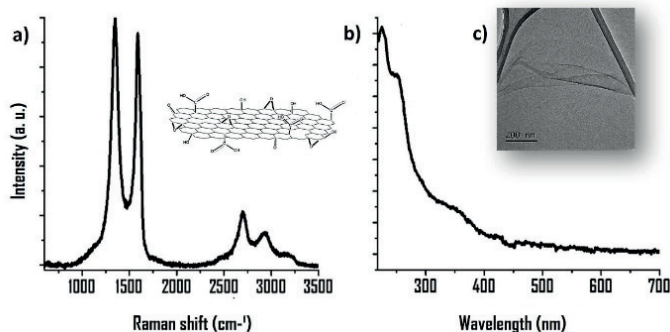
International research supports the potential of GO in biomedical applications, specialized plastics, anticorrosive coatings, antimicrobials, construction industry, automotive, security, among others.

Components and properties

Components	CAS No.	EC No.	%
Graphene oxide (GO)	7782-42-5	947-7685-1	60-100
Stabilizers	-	-	5 - 30
Properties			
Physical state: According to the presentation: powder, paste, dispersion, pellets.		Relative density: Paste: 1.12 g/cm³ Powder: 0.35 g/cm³ Dispersion: 1.0 g/cm³	
Colour: Black		Moisture: Powder: 10- 15% Paste: 30- 35%	
pH: Paste: ~ 3.0 Powder: 3.0-7.0 Dispersion: 4.5-7.0		Water solubility (20°C): Soluble	
Exfoliated particle size: ~ 1.0- 5.0 µm ± 0.5 µm			

**For more information, see the correspondent product Safety Data Sheet.*

Characterization



a) Graphene oxide scheme and Raman spectrum. DXR-Raman-microscope-BR51343, b) Uv- visible spectrum. Uv- Vis Evolution 300. Energeia Fusion, S.A. de C.V. c) GO image by High Resolution Transmission Electron Microscopy. TEM JEOL JEM-2100. Energy dispersive Spectroscopy. (EDX/EDS), Oxford, Instruments (U.A.S.L.P.)

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Presentation



Powder

1g, 10g, 20g, 50g y 100g



Paste

1g, 10g, 20g, 50g y 100g



Dispersion

250 ml, 500 ml y 1000 ml

Graphenic concentration: Upon request

Available solvents: Ethanol and water.



Masterbatch (pellets):

Check with supplier for available polymers

Material handling

Handle following the conventional safety and hygiene practices at work. Use personal protective equipment (PPE): proper gloves (neoprene or latex), dust mask and protective glasses; protective clothing according to the quantity, concentration, and purpose of usage. Graphenic materials may require additional functionalization to improve their performance according to the desired objective.

Recommendations

Prior to use, read the product data sheet and safety data sheet.

Dispersions: graphenic materials in dispersion, particularly those at high concentrations, tend to precipitate; before use, the dispersions should be sonicated or sheared during 5 to 30 minutes to exfoliate the aggregates.

Warnings

Do not ingest or inhale; avoid contact with skin and eyes. In case of ingestion, do not induce vomiting; rinse nose, mouth and throat and get medical attention. In case of contact with the skin, wash with plenty of soap and water. In case of contact with eyes, rinse with plenty of water. If irritation or discomfort occurs, get medical attention. Keep out of the reach of children.

It is not classified as a dangerous substance. Handle in accordance with good occupational hygiene and safety practices.



WEAR GLOVES



USE GLASSES

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Storage

Keep the container tightly closed, in a dry place at room temperature; keep away from sunlight. Store away from: oxidizing agents, halogens, and acids.

Waste management and environmental impact

The generation of waste should be avoided or minimized wherever may be possible. Avoid dispersion of material onto the ground, waterways, drains and sewers. The substance and/or contaminated packaging must be disposed of as special waste through a specialized waste management company, following the requirements of environmental protection and waste disposal legislation and any requirements of national, regional, and local authorities.

Expiration

Up to 12 months in its original sealed container and following storage recommendation

Legal Note

The information contained in this data sheet is provided in good faith and is valid only for the product to which reference is made. The information is not intended to be exhaustive, and it is based on Energeia Fusion, S.A. de C.V., current knowledge, and experience, as long as the product is properly stored, handled and applied under normal conditions and in accordance with the recommendations expressed here. Due to the variability of materials, working conditions and purpose of use, the guarantee is limited solely to the quality of the product supplied.

It is advisable to carry out the pertinent assays with the product and determine its suitability before its final application. Energeia Fusion, S.A. de C.V., is not responsible for any damage that may be caused by misuse of the product.

For more information contact contact@graphenemex.com.

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