

DATA SHEET

GRAPHENE OXIDE



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EVERGEIA®

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 of Energeia Fusion, S.A de C.V 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.

Applications

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

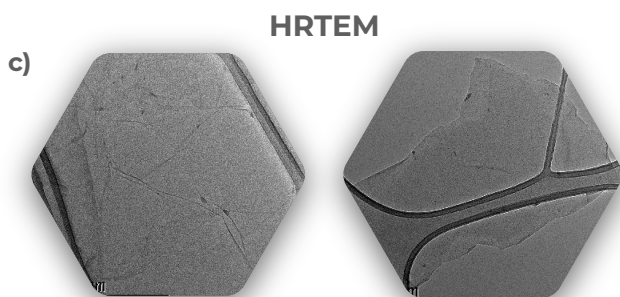
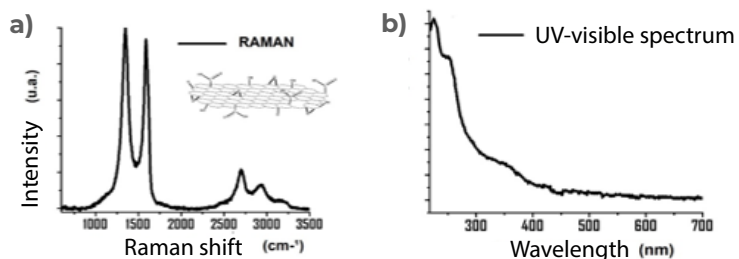
Known applications of Graphene Oxide

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

Technical data

Name: Graphene Oxide (GO)
Chemical Family: Graphite (CAS: 7782-42-5)
Paste Color: Black
Dispersion Color: Black
Odor: No odor
Solubility: Hydrophilic
Conductivity: Insulating
pH: <3.0 (0.1mg/ml)
Flake size: ~ 1.0-5.0 $\mu\text{m} \pm 0.5 \mu\text{m}$
Composition: C (87.7 ± 4.4), O (6.2 ± 2.1), Others (6.1 ± 0.8)

Characterization of Graphene Oxide



- a) DXR-Raman-microscope-BR51343 (Energieia Fusion, S.A. de C.V.)
- b) Uv-Vis Evolution 300 (Energieia Fusion, S.A. de C.V.)
- c) Micrographs of Graphene Oxide by High Resolution Transmission Electron Microscopy (HRTEM). Characterization equipment: TEM JEOL JEM-2100. Dispersive Spectroscopy (EDX/EDS), Oxford, Instruments (U.A.S.L.P.)

Warnings

Not considered a hazardous substance.

Available presentations



Paste:

Humidity: ~30%
1g, 10g, 20g, 50g and 100g



Dispersion:

250ml, 500ml and 1000ml
Concentration of graphene material: Upon request
Available solvents: Ethanol and water



Pellets:

Concentration of graphene material subject to availability.
Polímeros disponibles: Available polymers: Polypropylene (PP), Polyethylene Terephthalate (PET)

Material handling

Handle in accordance with conventional safety and hygiene practices at work.

Use personal protective equipment (PPE): appropriate gloves (neoprene or latex), dust mask and protective glasses; protective clothing according to the quantity, concentration, and purpose of use of the product.

With the passage of time and in dispersion, particularly at high concentrations, graphenic materials can be precipitated.

Prior to use, dispersions should be sonicated or sheared for 30 minutes to exfoliate aggregates.

The graphene material may require additional functionalization to improve their performance according to the desired objective.

Storage

Keep the container tightly closed, in a dry, cool place and away from sunlight.

Store away from: oxidizing agents, halogens and acids.

Product Disposal Information

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, in accordance with the requirements of environmental protection and waste disposal legislation and any requirements of national, regional and local authorities.

Uncontaminated packaging can be treated as normal waste.

* For additional information, please review the safety data sheet (SDS)

Legal Notice

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 be exhaustive and based on Energeia Fusion, S.A. de C.V current knowledge and experience, if 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 of each user and purpose of use, our guarantee is limited solely to the quality of the product supplied.

It is advisable to carry out the pertinent tests 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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