DATA SHEET

GRAPHENERGY
ADVANCED GRAPHENIC SOLUTIONS
CONSTRUCTION

NANOTECHNOLOGIC ADDITIVE FOR CONCRETE WITH GRAPHENE OXIDE

ENERGEIA
graphenemex®
contact@graphenemex.com

Description

State-of-the-art nanotechnologic additive for concrete reinforced with graphene oxide, with a specialized formulation to improve multiple properties of concrete and mortar.

Features

- Increased impermeability
- Anticorrosive protection
- Higher mechanical resistance
- Provides better flexibility
- Thermal insulation
- Speeds up setting time.
- Antimicrobial protection

**Results supported by certified laboratory tests.*

Use

All types of concrete: Conventional concrete, polymeric concrete, reinforced concrete, structural mortar, precast concrete, etc.

Yield

- 1 liter of additive yields 4 tons of cement.
- 5 liters of additive yield 20 tons of cement.
- 20 liters of additive yield 80 tons of cement.

ENERGEIA Grapheneмex
contact@graphenemex.com

Components and properties

Components	CAS. No.	EC No.	Weight %
Distilled water	7732-18-5	231-791-2	>95
Graphene oxide	7782-42-5	947-768-1	<5
Stabilizers	-	-	<1
Properties			
Physical state:		Fluid liquid	
Colour:		Dark gray	
Odor:		Odorless	
Relative density:		1.01	
Freezing Point:		0 °C (32 °F)	
Boiling point:		Not available	
Flash point:		Not available	
Explosion limits:		Not available	
Flammability:		0	
Solubility:		Soluble in water	
pH:		6.5 - 7.5	
Vapor pressure:		Not available	
*Compatible with conventional additives			

Presentation

1L, 5L, and 20L

ENERGEIA Graphenemex
contact@graphenemex.com

Material handling

Step 1. Calculate the amount of Graphenergy Construction additive per kilogram of cement, according to the dosage calculation section.

Step 2. Disperse the required volume of Graphenergy Construction in 100 to 1000 ml of the water required for the concrete or mortar mixture.

Step 3. Prepare the concrete or mortar mixture as usual, according to your specifications, considering water, aggregates, cement and other additives used in the design of the concrete or mortar.

Step 4. Once the concrete or mortar mixture is prepared and hydrated, in the final stage of mixing, add the pre-diluted additive and mix thoroughly for a minimum of 10 minutes.

Dosage calculation

Quantity per-kg of cement	0.25 ml
Quantity per-bag of cement (50kg)	12.5 ml
Quantity per-ton of cement	250 ml

Recommendations

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

- The dosage of the additive must be carried out when the concrete mixture is fully prepared and perfectly homogenized and hydrated.

- Normally, manual agitation of the additive is enough for its dosage, but if it has been stored for more than 4 months, it may be necessary to mix it mechanically with a propeller disperser for a few minutes before use.

- The performance of Graphenergy Construction can vary depending on the design of the concrete, the quality of the aggregates, the type of cement, additives and the homogenization of the mix; the product does not act as a superplasticizer or water reducer, but rather as a setting accelerator. It is advisable for the user to carry out the proper tests with the additive to determine its suitability before its final application.

- For more information, ask for technical support to Energeia Fusion S.A. de C.V.

ENERGEIA Grapheneмex
contact@graphenemex.com

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.

ATTENTION, HARMFUL IF SWALLOWED

Safety precautions

- Graphenergy Construction is classified as a non-hazardous, non-explosive, non-toxic and non-flammable substance.
- Handle in accordance with conventional safety and hygiene practices at work.
- Use personal protective equipment.

USE GLOVES

WEAR GLASSES

Storage

- Keep in its original container, hermetically closed, indoors, in a cool and dry place, protected from sunlight.
- Store away from oxidizing agents, halogens, acids, flammable and explosive substances.
- Storage class (TRGS 510): 12: Non-Combustible Liquids.

ENERGEIA Graphenemex®
contact@graphenemex.com

Waste management and environmental impact

The generation of waste should be avoided or minimized wherever may be possible. Avoid dispersion of material into the ground, waterways, drains and sewers.
- Spills: In case of spill, it does not present any danger, use safety material for its collection. It should be mechanically collected and placed in a suitable container for further treatment.
- Product: Observe state and local regulations on environmental protection. To dispose of this product, contact an authorized professional service.
- Contaminated packaging: Eliminate as unused product through an authorized professional service.
- Uncontaminated packaging: Can be treated as normal waste or recycled.

Expiration

Up to 12 months in its original sealed container, keep indoors in a dry place at room temperature.

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 tests with the product to determine its suitability before its final application. In case of changes in parameters of application or if it is planned to use for a different application, consult Technical Service. 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

Code	I-ENER-8.3
Version	0
Revision	03-01-23