



## Safety Data Sheet

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**Company**

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### Section 1

### Identification of Substance

**Product Name**

Reduced Graphene Oxide

**Cat No**

WG-RGO-01

**CAS-No**

1034343-98-0

**Synonyms mineral**

Carbon

**Recommended Use**

Additive, laboratory chemicals, manufacturing substances

**Uses advised against**

Not for food, drug, pesticide or biocidal product use

### SECTION 2

### Hazards Identification

**Classification & Label Elements**

The substance is classified and labelled according to the Globally Harmonized System (GHS) Regulation (EC) No 1272/2008. Not a hazardous substance or mixture according to Regulation (EC) No.67/548/EEC  
Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

**Signal Word**

Danger

**Signal Word (GHS-US, GHS-CA)**

Warning

**Serious Eye Damage/Eye Irritation**

Category 2

**Specific target organ toxicity**

Category 3

**(single exposure)**

**Target Organs**

Respiratory system.



**Danger Eye Contact**

May cause eye irritation

**Skin Contact**

No known hazards, but may be mildly irritating

**Inhalation**

May cause irritation to respiratory tract

**Ingestion**

No known hazards, but may irritate gastrointestinal tract

**Health Effects**

Mucus membranes and respiratory tract.

**Storage**

Store in a well ventilated place. Keep container tightly closed Store locked up

**Additional Information**

Acute and chronic high concentration of dusts may be irritating to eyes, skin  
Information pertaining to particular dangers for man and environment  
R36/37 Irritating to eyes and respiratory system.

**Hazard statements (GHS-US, GHS-CA)**

May form combustible dust concentrations in air

**Other Hazards**

High slip hazard due to leaking or spilling product. Graphite dust can cause an electrical shortage.

**SECTION 3****Composition/Information on Ingredients**

<b>Synonyms</b>	Multi-Layer Reduced Graphene Oxide Powder, Reduced Graphite Oxide Powder, RGO Powder
<b>IUPAC name</b>	Carbon
<b>EC No</b>	801-282-5
<b>CAS No</b>	1034343-98-0
<b>Weight</b>	99%

**SECTION 4****First Aid Measures**

<b>Description of first aid measures</b>	If inhaled or if breathed in, move person into fresh air. If not breathing, give artificial respiration. In case of skin contact, clean/wash off with soap and plenty of water. In case of eye contact, flush eyes with water as a precaution. <u>If swallowed never give</u> anything by mouth to an unconscious person. Rinse mouth with water.
<b>Notes to Physician</b>	Treat symptomatically
<b>Most important symptoms and effects both acute and delayed</b>	The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11
<b>Indication of any immediate medical attention and special treatment</b>	No data available

**SECTION 5****Fire Fighting Measures**

<b>Extinguishing</b>	Suitable extinguishing media use water spray, alcohol-resistant foam, dry chemical or Carbon dioxide.
<b>Special hazards arising from the substance or mixture</b>	Carbon oxides
<b>Further information</b>	No data available
<b>Extinguishing Media</b>	No information available
<b>Flash Point</b>	No information available
<b>Method</b>	No information available
<b>Auto-ignition Temperature</b>	No data available
<b>Explosion Limits Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available
<b>Specific Hazards Arising from the Chemical</b>	Keep product and empty container away from heat and sources of ignition.
<b>Hazardous Combustion Products</b>	None known
<b>Protective Equipment and Precautions For Fire Fighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. NFPA 6.

**SECTION 6****Accidental Release Measures**

<b>Personal precautions, protective equipment and emergency procedures</b>	Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.
<b>Environmental precautions</b>	No special environmental precautions required.
<b>Methods and materials for containment and cleaning up</b>	Sweep up and shovel. Keep in suitable, closed containers for disposal.
<b>Reference to other section</b>	For disposal see section 13.

## **SECTION 7**

## **Handling and storage**

<b>Precautions for safe handling</b>	Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2
<b>Conditions for safe storage, including any incompatibilities</b>	Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
<b>Specific end use(s)</b>	Apart from the uses mentioned in section 1 no other specific uses are stipulated

## **SECTION 8**

## **Exposure Controls/Personal Protection**

<b>Control Parameters</b>	It is recommended that exposure levels be kept as low as possible, following good industrial hygiene practices, in order to minimize any potential lung effects. Exposure to skin should also be minimized.
<b>Exposure Guidelines</b>	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Engineering Measures</b>	Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Ventilation</b>	A local or general exhaust system is recommended.
<b><u>Personal Protective</u></b>	
<b>Equipment Eye/Face Protection</b>	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
<b>Skin and Body Protection</b>	Wear appropriate protective gloves and clothing to prevent skin exposure. Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice. General protective and hygienic measures The usual precautionary measures for handling chemicals should always be followed. Always keep away from foods, beverages and any 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.
<b>Respiratory Protection</b>	Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## **SECTION 9**

## **Physical & Chemical Properties**

<b>Appearance</b>	Powder form.
<b>Auto-ignition Temperature</b>	Not available
<b>Boiling Point</b>	Not available
<b>Colour</b>	Black
<b>Decomposition Temperature</b>	622°C Partition coefficient
<b>Evaporation Rate</b>	Not available
<b>Explosive Properties</b>	Not available
<b>Flammability Limit % (Higher)</b>	Not available
<b>Flammability Limit % (Lower)</b>	Not available
<b>Flash Point</b>	Not available
<b>Freezing Point</b>	Not available
<b>Ignition Temperature:</b>	Dispersed dust cloud - >600°C, deposited dust - >365°C
<b>Melting Point</b>	Approximately 3600°C.
<b>Odor</b>	Odourless
<b>Oxidising Properties</b>	Not available
<b>Partition Coefficient</b>	Not available
<b>pH</b>	Not available
<b>Relative Density</b>	0.200 g/cm <sup>3</sup> (at 20°C)
<b>Solubility</b>	Negligible
<b>Solubility in Water</b>	Dispersion
<b>Vapor Density</b>	Not available
<b>Viscosity</b>	Not available

**SECTION 10****Stability & Reactivity**

<b>Reactivity</b>	Oxidising agents
<b>Chemical stability</b>	Stable under normal temperatures and pressures
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use
<b>Conditions to avoid</b>	Incompatible materials, dust generation. Avoid heat, sparks, flames and other sources of ignition
<b>Incompatible materials</b>	Strong oxidizing substances
<b>Hazardous decomposition products</b>	Carbon monoxide (CO) and carbon dioxide (CO <sub>2</sub> )

**SECTION 11****Toxicological information****Acute Toxicity**

<b>Product Information</b>	No acute toxicity information is available for this product
<b>Component Information</b>	No information available
<b>Toxicologically Synergistic Products</b>	No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Irritation</b>	No information available
<b>Sensitization</b>	No information available
<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	ACGIH	IARC	Mexico	NTP	OSHA
Graphene	1034343-98-0	Not listed	Not listed	Not listed	Not listed	Not listed

<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental Effects</b>	No information available
<b>Teratogenicity</b>	No information available
<b>STOT (Single Exposure)</b>	None known
<b>STOT (Repeated Exposure)</b>	None known
<b>Aspiration hazard</b>	No information available
<b>Symptoms / effects, both acute &amp; delayed</b>	No information available
<b>Endocrine Disruptor Information</b>	No information available
<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated

**SECTION 12****Ecological information**

<b>Ecotoxicity</b>	Do not empty into drains or sewer water systems . Follow all hazardous waste guidelines when disposing hazardous materials.
<b>Persistence and Degradability</b>	No information available
<b>Bioaccumulation/ Accumulation</b>	No information available
<b>Mobility</b>	No information available

**SECTION 13****Disposal Considerations**

<b>Waste Disposal Methods</b>	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
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**SECTION 14****Transport Information**

<b>UN Number</b>	ADR/RID , IMDG , IATA , DOT (US)
<b>UN Proper Shipping Name</b>	
<b>DOT (US)</b>	Not dangerous goods
<b>ADR/RID:</b>	Not dangerous goods
<b>IMDG:</b>	Not dangerous goods
<b>IATA:</b>	Not dangerous goods

<b>Transport Hazard Class(es)</b>	ADR/RID , IMDG , IATA
<b>Packaging Group</b>	Not classified
<b>Environmental Hazards</b>	No
<b>Marine Pollutant</b>	No
<b>Special Precautions For User</b>	No data available

## **SECTION 15** Regulatory information

SARA 302 Components SARA 302	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA 313 Components SARA 313	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III
Section 313 - SARA 311/312	Hazards
Safety, health and environmental regulations/legislation specific for the substance or mixture This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006	

The EU chemicals legislation applies to all industry sectors dealing with chemicals and along the entire supply chain. It makes companies responsible for the safety of chemicals they place on the market. Reach is a regulation of the European Union, adopted to improve the protection of human health and the environment from the risks that can be posed by chemicals, while enhancing the competitiveness of the EU chemicals industry.

### **This material is listed on the US Toxic Substances Control Act (TSCA) Inventory and the following chemical inventories:**

Canadian Domestic Substances List (DSL),  
European Inventory of Existing Commercial Chemical Substances (EINECS),  
Korean Existing Chemicals List (ECL),  
Australian Inventory of Chemical Substances (AICS),  
the Philippines Inventory of Chemicals and Chemical Substances (PICCS)  
and the Swiss Giftliste 1 Inventory of Notified New Substances.

<b>Additional Information</b>	This substance is not regulated in Japan and excluded from the Japanese Chemical Substances Control Law according to the Japanese Ministry of Economy, Trade and Industry, formerly the Ministry of International Trade and Industry (MITI).
<b>Hazard Symbols</b>	Eye Irritant
<b>Risk Phrases</b>	Irritating to eyes and respiratory system.
<b>Safety Phrases</b>	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

National regulations All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Information about limitation of use: For use only by technically qualified individuals.

## **SECTION 16** Other Information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement 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 Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) Health Flammability Reactivity BASIS 1 0 0 Synthetic graphite powder.

### **Disclaimer**

This information is based on our present state of knowledge and our research into available scientific literature as well as information obtained from other sources. Use of this information shall not establish a legally binding relationship. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or any process. It does not represent any guarantee of the properties of the product. Marble Capital Partners Ltd takes no responsibility regarding the accuracy of the scientific literature or any third-party information and, therefore, cannot guarantee any specific material properties. Marble Capital Partners Ltd shall not be held liable for any damage resulting from handling or from contact with the product. It is the user's responsibility to satisfy him/her self as to the suitability of such information for his own particular use.

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