

Section 1.- Identification of the substance/mixture and of the company

- **Identification of the product:** Graphene Quantum Dots
- **Chemical family:** Graphene Quantum Dots solution
- **Product name:** DRP-GQD
- **Use of the substance/preparation:** Research use only
- **Manufacturer/supplier identification:** DropSens, S.L.
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Section 2.- Hazards identification

Caution! To the best of our knowledge the toxicological properties of this material has not been thoroughly investigated. The present substance has been classified according to hazards identification of its components.

According to Regulation CLP (EC) No. 1272/2008:

Classification of the mixture:

- Not a hazardous substance or mixture.

Label elements:

- Not a hazardous substance or mixture.

Hazard statements:

- Not a hazardous substance or mixture.

Precautionary statements:

P305 + P338 + P351– In case of contact with eyes: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P261 – Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Supplemental Hazard Statements: None.

Section 3.- Composition/Information on ingredients

- **Graphene** Synonyms: graphite
CAS: Graphite 7782-42-5
- **Water** Synonyms: H2O
CAS: 7732-18-5
Molecular weight: 18 g/mol

Section 4.- First aid measures

- **General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance.
- **After skin contact:** Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
- **After ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
- **After eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **After inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Section 5.- Fire-fighting measures

- **Suitable extinguishing media:** Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.
- **Special hazards arising from the substance:** Carbon oxides.
- **Special protective equipment for fire fighting:** Wear self-contained breathing apparatus for fire fighting if necessary. Do not stay in dangerous zone without proper chemical protective clothing and breathing equipment.
- **Further information:** Use water spray to cool unopened containers.

Section 6.- Accidental release measures

- **Person-related precautionary measures:** Use personal protective equipment. Avoid breathing vapours. Ensure adequate ventilation. Evacuate personnel to safe areas.
- **Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- **Methods and materials for containment and cleaning up:** Contain spillage and then with an electrically protected vacuum cleaner or by wet-brushing and place in suitable closed containers for disposal according to local regulations.

Section 7.- Handling and storage

- **Handling:** Use personal protective equipment as required. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
- **Storage:** Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section 8.- Exposure controls/personal protection

At this time, the limited evidence available suggests caution when potential exposures to nanoparticles may occur. Due to the limited information about health risks from nanomaterials, it is prudent to take steps for minimizing worker exposures. Research is still needed to understand the impact of nanotechnology on health, and to determine appropriate exposure monitoring and control strategies.

Exposure controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

- Hand protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product.
- Eye protection Safety glasses with side-shields conforming to NIOSH (US) or EN166 (EU)
- Skin and body protection Choose body protection according to the amount and concentration of the dangerous substance at the work place. Handle with gloves. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it.
- Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9.- Physical and chemical properties

- **General information:** – Form: liquid
- **Important health, safety and environmental information:**
 - pH value: 7.0
 - Odour: no data available
 - Melting point/ freezing point: no data available
 - Initial boiling point and boiling range: no data available
 - Flash point: no data available
 - Vapour pressure: no data available
 - Vapour density: no data available
 - Relative density: no data available
 - Density: no data available
 - Solubility in water (20°C): Soluble

Section 10.- Stability and reactivity

- **Reactivity:** No data available.
- **Chemical Stability:** Stable under recommended storage conditions.
- **Conditions to avoid:** Extreme temperatures and direct sunlight.
- **Hazardous decomposition products:** Other decomposition products – no data available.
- **Possibility of hazardous reactions:** No data available.
- **Incompatible materials:** No data available.

Section 11.- Toxicological information

Toxicological information related to graphite.

	Graphite
LD ₅₀ (oral, rat)	>2000 mg/kg
LC ₅₀ (inhalation, rat)	2000 mg/m ³ (4h)
LD ₅₀ (dermal rabbit)	Non irritant (4h)
Skin corrosion/ irritation	Not irritant
Serious eye damage/ eye irritation	Not irritant
Respiratory or skin sensitisation	Not cause sensitisation
Germ cell mutagenicity	Negative
Reproductive toxicity	No data available
Additional information	RTECS: MD9659600

RTECS: registry of toxic effects of chemical substances.

At this time, the limited evidence available suggests caution when potential exposures to nanoparticles may occur. Due to the limited information about health risks from nanomaterials, it is prudent to take steps for minimize exposures. Studies have indicated that nanoparticles with low solubility are more toxic than larger particles on a mass for mass basis. There are strong indications that particles surface area and surface chemistry are responsible for observed responses in cell cultures and animals. There are indications that nanoparticles can penetrate through the skin or move from the respiratory system to other organs.

Section 12.- Ecological information:

To the best of our knowledge the ecological effects of this solution have not been thoroughly researched.

Ecological information related to Graphite

Graphite is a naturally occurring substance that is found throughout the world. To our knowledge, there is no reliable data regarding its bio-accumulation or mobility in environmental media, there is not data to suggest that it should be considered as an environmental hazard.

Section 13.- Disposal considerations

- **Product:** Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose this material.
- **Contaminated packaging:** Dispose of as unused product.

Section 14.- Transport information

Not a hazardous material for transportation.

Section 15.- Regulatory information

This safety datasheet has been revised to comply with the requirements establish in (EC) 453/2010.

Section 16.- Other information

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The contents and format of this MSDS are in accordance with EC 453/2010.

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