

Safety Data Sheet

Date revised: 06/06/2018
This form is subject to changes

1. IDENTIFICATION OF SUBSTANCE:

Product Name: Conductive Graphene Filament

Product Number(s): GRPHN-PLA

All Materials Sold are for Research & Development Only.

Manufacturer/Supplier:

Graphene Supermarket

Graphene Laboratories, Inc.

760 Koehler Ave.,

Ronkonkoma, NY11779

info@graphenelab.com

Phone: (516) 382-8649

Fax: (781) 287-1248

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315

Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word: Warning

Hot and/or melted polymer can severely burn the skin – handle with care.
Work only in a well-ventilated area, the processing fumes may cause eye and respiratory tract irritation and in severe cases nausea and headache.

Keep away from fire and open sources of ignition. Never burn filament, toxic gasses and vapors will be generated in the fire.
If exposed to fumes from overheating leave contaminated area and breathe fresh air, seek medical advice.

Precautionary statement(s)

- P201 Obtain special instructions before use.
 - P202 Do not handle until all safety precautions have been read and understood.
 - P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
 - P271 Use only outdoors or in a well-ventilated area.
 - P273 Avoid release to the environment.
 - P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 - P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
 - P402+404 Store in a dry place. Store in a closed container.
 - P501 Dispose of contents/ container to an approved waste disposal plant.
- 2.3 Hazards not otherwise classified (HNO) or not covered by GHS

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

CAS Number	Weight %	Component Name
7782-42-5	30 - 40	Graphene Platelets
26100-51-6	25 – 35	Polylactic Acid
26523-78-4	5 - 10	Tris(nonylphenyl) phosphite (TNPP)
Proprietary	5 - 10	Carbon Fibers

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

4. FIRST AID MEASURES

If inhaled: If you feel unwell by inhalation of vapor or gas, move to fresh air and keep at rest in a position comfortable for breathing. Call a doctor if you feel unwell.



If on skin: In case of contact with melted material, fully cool down by pouring plenty of water over the clothing. Then take off clothing, cover with clean gauze and get medical attention immediately. Get medical attention if appearance changes, irritating pain occurs or feeling unwell.

If in eyes: Immediately rinse the eye with plenty of clean running water for at least 15 minutes. Remove contact lenses, if present and easy to do. Rinse thoroughly the inner side of the eye lid. Get medical attention as soon as possible.

If swallowed: If swallowed by accident, keep at rest and get medical attention immediately. Avoid vomit entering into respiratory tract. Do not induce vomiting unless instructed by a doctor.
Protection of the person who gives the first aid:
Wear appropriate protective equipment (protective glasses, protective mask, gloves, etc.). Install ventilation.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, oxides of phosphorus.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary

5.4 Further information

No data available.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation. For personal protection see section 8.

6.2 Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling



Avoid inhalation of vapor or mist. Provide good ventilation at the workplace. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store in cool place away from sources of ignition and oxidizers.

7.3 Specific end use(s)

No data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective equipment:

Respiratory protection: Wear appropriate protective equipment to avoid inhalation or contact of gas generated from high temperature molten resin.

Hand protection: Wear the protective gloves.

It is preferable to wear cotton work gloves or leather gloves when handling the melted resin.

Eye protection: Wear protective glasses when handling.

Skin and body protection: Wear clothing to avoid direct exposure of skin to molten resin, when handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Form: Solid
- Color: Black
- Odor: Odorless
- Change in condition: No data available
- Melting point/Melting range: 170-240 degrees Celsius
- Boiling point/Boiling range: No data available
- Sublimation temperature / start: No data available
- Flash point: Not applicable
- Ignition temperature: No data available
- Decomposition temperature: No data available
- Danger of explosion: Product does not present an explosion hazard.
- Explosion limits: No data available
- Lower: No data available
- Upper: No data available
- Vapor pressure: No data available
- Density: No data available
- Solubility in / Miscibility with Water: none

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- Breathing equipment:

Use suitable respirator when high concentrations are present.

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

- Acute toxicity:

Acute toxicity (oral): Rat LD50 > 5,000 mg/kg

Germ cell mutagenicity: AMES Test Negative

- Skin corrosion/irritation: No data available

- Dermal: No data available

- Serious eye damage/eye irritation: No data available

- Sensitization: No sensitizing effects known.

- Subacute to chronic toxicity:

No data available

- Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Acute aquatic environmental hazards: Fish (*Oryzias latipes*) LC50 > 100 mg/L

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential



No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment.

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

• Information about limitation of use:

For use only by technically qualified individuals.

15. REGULATORY INFORMATION

US Toxic Substances Control Act

Components of the product are listed on the TSCA chemical inventory.

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

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

Acute Health Hazard, Chronic Health Hazard

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3. HMIS Rating



Further information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment 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.