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 (HNOC) or not covered by GHS

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Weight %</th>
<th>Component Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>7782-42-5</td>
<td>30 - 40</td>
<td>Graphene Platelets</td>
</tr>
<tr>
<td>26100-51-6</td>
<td>25 – 35</td>
<td>Polylactic Acid</td>
</tr>
<tr>
<td>26523-78-4</td>
<td>5 - 10</td>
<td>Tris(nonylphenyl) phosphite (TNNP)</td>
</tr>
<tr>
<td>Proprietary</td>
<td>5 - 10</td>
<td>Carbon Fibers</td>
</tr>
</tbody>
</table>

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
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.