Material Safety Data Sheet

ACS Material Graphene/PET

Graphene on Polyethylene Terephthalate

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1. Product and Company Identification

**Product Name**: ACS Material Graphene/PET, Graphene on Polyethylene Terephthalate

**Synonyms**: Graphene, Polyethylene Terephthalate.

**CAS NO.**: 7782-42-5 (graphite), 25038-59-9 (PET).

**Contacting Information:**
Manufacturer: ACS Material, LLC.
Address: 18 Vernon Street, Medford, MA 02155
Phone: (866)-227-0656
Fax: (781)-518-0284
E-Mail: contact@acsmaterial.com

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
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<tbody>
<tr>
<td>Carbon</td>
<td>7782-42-5</td>
</tr>
<tr>
<td>PET</td>
<td>25038-59-9</td>
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</tbody>
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Wafer Structure:

![Graphene on PET](image)

3. Hazards Identification

**Ingestion**: Not a probable route of exposure.

**Skin**: Molten material will cause thermal burns.

**Eye**: Mechanical irritation only.

**Inhalation**: Stock shapes are not respirable, avoid breathing dust, as fine particles can be inhaled and retained in the lungs.

4. First Aid Measures

If exposed to fumes from overheating, move to fresh air. Consult a physician if symptoms persist.

Wash skin with soap and plenty of water.

Flush eyes with water. Consult a physician if symptoms persist.

If molten material contacts skin, cool rapidly with cold water. Do not attempt to peel...
material from skin. Obtain medical attention to thermal burn.
Chronic effects: None known.
Medical conditions generally aggravated by this material: None known.

5. Fire Fighting Measures
Flash ignition temperature: 350°C / 662°F
Method: ASTM D-1929
Unusual fire, explosion hazards: None known.
Hazardous combustion products: At temperatures above 350°C / 662°F, heavy fuming, carbon dioxide and carbon monoxide will occur.
Special fire fighting instructions: Fire fighters and others exposed to products of combustion should wear full protective clothing including self-contained breathing apparatus. Fire fighting equipment should be thoroughly decontaminated after use.
Extinguishing media: Water spray or any class a extinguishing agent.

6. Accidental Release Measures
Spill or release: Clean up by vacuuming or sweeping to prevent falls.
Environmental precautions
Do not let product enter drains.
Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and Storage
Practice reasonable care and caution in handling.
Conditions for safe storage
Keep the products in a dry and low oxygen (or oxygen-free) container at moderate temperature (<30°C).
8. Exposure Controls, Personal Protection

Eye: Safety glasses are recommended to prevent particulate matter from entering eyes while grinding or machining.

Skin: Protective gloves are required when handling hot polymer. Also, long sleeve cotton shirt and long pants if handling molten polymer.

Ventilation: Local exhaust at processing equipment to assure that particulate levels are kept at recommended levels.

Respirator: None under normal processing, if ventilation is adequate.

9. Physical and Chemical Properties

Appearance: Stock shape may be rod, plate or tube form.

Odour: Essentially odourless.

Melting point: 225-260°C / 437-500°F

Solubility in water: Insoluble

Volatile content %: <1%

Specific gravity: 1.33-1.43

10. Stability and Reactivity

Stability at room temperature: Stable

Materials to avoid: Strong oxidants and bases.

Conditions to avoid: None known.

11. Toxicological Information

Chronic toxicity: PET does not appear to possess any toxicological properties.

Medical conditions prone to aggravation by exposure: None known.

Carcinogenicity: None known.

12. Ecological Information

Aquatic toxicity: Toxicity is expected to be low based on insolubility of polymer in water.

13. Disposal Considerations

Spill or release: Clean up by vacuuming or wet sweeping to minimize dust exposure.

Waste disposal: Landfill or incineration in compliance with federal, state, and local regulations.

14. Transport Information

Hazard class: NA
15. Regulatory Information

Graphite and PET are not listed as a hazardous material under US Federal regulations. It is not listed under the Clean Air Act, the Clean Water Act, SARA (section 302, section 311/312, or section 313), HAPS, or IARC.

Graphite (CAS no. 7782-42-5) is listed on:
US: TCSA Canada: DSL EC: EINECS
This product has WHMIS (Canada) classification D2A
US: TCSA Canada: DSL EC: EINECS
This product has WHMIS (Canada) classification D2A

16. Other Information

References: Not available.
Other Special Considerations: Not available.

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