1. Identification

1.1. Product identifier

Product Identity: N002-PS-0.5/Nano Graphene Oxide Platelets/ Water Suspension
Alternate Names: N002-PS-0.5/Nano Graphene Oxide Platelets/ Water Suspension

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: See Technical Data Sheet.
Application Method: See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name: Angstron Materials, Inc.
1240 McCook Avenue
Dayton, Ohio 45404
Phone: (937) 331-9884
Fax: (937) 558-0606
www.AngstronMaterials.com

2. Hazard(s) identification

2.1. Classification of the substance or mixture

No applicable GHS categories.

2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

No applicable GHS categories.

[Prevention]:
No GHS prevention statements

[Response]:
No GHS response statements

[Storage]:
No GHS storage statements

[Disposal]:
No GHS disposal statements
3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

<table>
<thead>
<tr>
<th>Ingredient/Chemical Designations</th>
<th>Weight %</th>
<th>GHS Classification</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>&lt;= 3.00</td>
<td>Combustible Dust</td>
<td>[1][2]</td>
</tr>
</tbody>
</table>

Graphite CAS Number: 0007782-42-5

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

*The full texts of the phrases are shown in Section 16.

4. First aid measures

4.1. Description of first aid measures

**General**
In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

**Inhalation**
Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

**Eyes**
Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

**Skin**
Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

**Ingestion**
If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

**Overview**
Acute Effects:
Eye: Direct contact may cause mild irritation.
Skin: No significant irritation expected from a single short-term exposure.
Inhalation: Not likely to be a relevant route of exposure; however, under conditions where exposure to vapors or mists is possible, could cause irritation of respiratory tract.
Ingestion: Not likely to be a relevant route of exposure, but the toxicity level is very low, in normal industrial use.

Prolonged/Repeated Exposure Effects:
Skin: Repeated or prolonged exposure may cause irritation.
Inhalation: No known applicable information.
Ingestion: Repeated ingestion or swallowing large amounts may cause internal injuries.
5. Fire-fighting measures

5.1. Extinguishing media
Use water fog, foam, dry chemical, or carbon dioxide.

5.2. Special hazards arising from the substance or mixture
Hazardous decomposition: No hazardous decomposition data available.

5.3. Advice for fire-fighters
Do not enter fire area without full bunker gear, including positive pressure MSHA/NIOSH self-contained breathing apparatus. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure.

ERG Guide No. ----

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Put on appropriate personal protective equipment (see section 8).

6.2. Environmental precautions
Do not allow spills to enter drains or waterways.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

6.3. Methods and material for containment and cleaning up
Treat as normal non-toxic product. Clean up any spilled product with suitable floor detergent/soap cleaner and properly rinse and dry. This precaution will prevent a slip hazard. Dispose of saturated absorbent or cleaning materials appropriately. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

7. Handling and storage

7.1. Precautions for safe handling
Use with adequate ventilation. Provide ventilation to control exposure within inhalation guidelines when and if handling at elevated temperatures.

7.2. Conditions for safe storage, including any incompatibilities
Handle containers carefully to prevent damage and spillage.
It is recommended to store this material in a cool, dark, and dry environment at a temperature between 0°C – 5°C.
Incompatible materials: No data available.

7.3. Specific end use(s)
No data available.
8. Exposure controls and personal protection

8.1. Control parameters

Exposure

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0007782-42-5</td>
<td>Graphite</td>
<td>OSHA</td>
<td>TWA 15 mg/m3 TWA 15 mppcf</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>TWA: 2 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>TWA 2.5 mg/m3 (resp)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier</td>
<td>No Established Limit</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Respiratory Under normal use, a 3M 8211, NIOSH – N95 respirator is applicable for protection.

Eyes Protective safety glasses recommended

Skin Conventional work gloves and clothing.

Engineering Controls Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.

Other Work Practices Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

9. Physical and chemical properties

Appearance Dark Amber Liquid

Odor Characteristic

Odor threshold Not determined

pH Not Measured

Melting point / freezing point Not Measured

Initial boiling point and boiling range Not Measured

Flash Point None

Evaporation rate (Ether = 1) Not Measured

Flammability (solid, gas) Not Applicable

Upper/lower flammability or explosive limits Lower Explosive Limit: Not Measured  
Upper Explosive Limit: Not Measured

Vapor pressure (Pa) Not Measured

Vapor Density Not Measured

Specific Gravity ≤ 1.008

Solubility in Water Miscible

Partition coefficient n-octanol/water (Log Kow) Not Measured

Auto-ignition temperature Not Measured

Page 4 of 8
10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.

10.2. Chemical stability
Stable under normal circumstances.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
No data available.

10.6. Hazardous decomposition products
No hazardous decomposition data available.

11. Toxicological information

Acute toxicity
Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50, mg/kg</th>
<th>Skin LD50, mg/kg</th>
<th>Inhalation Vapor LC50, mg/L/4hr</th>
<th>Inhalation Dust/Mist LC50, mg/L/4hr</th>
<th>Inhalation Gas LC50, ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite - (7782-42-5)</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Carcinogen Data

<table>
<thead>
<tr>
<th>CAS No.</th>
<th>Ingredient</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0007782-42-5</td>
<td>Graphite</td>
<td>OSHA</td>
<td>Select Carcinogen: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NTP</td>
<td>Known: No; Suspected: No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IARC</td>
<td>Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
<th>Hazard Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (dermal)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Acute toxicity (inhalation)</td>
<td>---</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
12. Ecological information

12.1. Toxicity
No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>96 hr LC50 fish, mg/l</th>
<th>48 hr EC50 crustacea, mg/l</th>
<th>ErC50 algae, mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite - (7782-42-5)</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
There is no data available on the preparation itself.

12.3. Bioaccumulative potential
Not Measured

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects
No data available.

13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.
14. Transport information

14.1. UN number
Not Applicable

14.2. UN proper shipping name
Not Regulated

14.3. Transport hazard class(es)
DOT Hazard Class: Not Applicable
IMDG: Not Applicable
Sub Class: Not Applicable
Air Class: Not Applicable

14.4. Packing group
Not Applicable

14.5. Environmental hazards
IMDG Marine Pollutant: No;

14.6. Special precautions for user
No further information

15. Regulatory information

Regulatory Overview
The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

Toxic Substance Control Act (TSCA)
All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS Classification
Not Regulated

US EPA Tier II Hazards
Fire: No
Sudden Release of Pressure: No
Reactive: No
Immediate (Acute): No
Delayed (Chronic): No

EPCRA 311/312 Chemicals and RQs:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 Extremely Hazardous:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 Toxic Chemicals:
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Carcinogens (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Developmental Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Female Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

Proposition 65 - Male Repro Toxins (>0.0%):
To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

New Jersey RTK Substances (>1%):
Graphite

Pennsylvania RTK Substances (>1%):
  Graphite

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is: Not applicable

NFPA Ratings
Health-1  Flammability-0  Reactivity-0

The information contained herein is furnished without warranty of any kind. The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide. Users should make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

End of Document