Material Safety Data Sheet

Revision Date: June 10th, 2014
Technical Information: 1-301-975-9798 or support@semicro.org
Head Office: 21604 Gentry Lane, Brookeville, MD, 20833
Emergency: Phone (313) 984-5581

Material Safety Data Sheet

For updates please download from www.semicro.org or phone 301-975-9798.

Section 1: Product Identification

MSDS Number: BHRTD  Name: Aquadag® E Colloidal Graphite  Other Names: Graphite in Water
Related Part Numbers: CP
Uses: Electrically conductive coating for electronics; anti-adherent/anti-static coating; photographic opaque

Section 2: Hazardous Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>% by weight</th>
<th>ACGIH TWA</th>
<th>Osha Pel</th>
</tr>
</thead>
<tbody>
<tr>
<td>7732-18-5</td>
<td>Water</td>
<td>~88</td>
<td>n/e</td>
<td>n/e</td>
</tr>
<tr>
<td>7782-42-5</td>
<td>Graphite</td>
<td>~10</td>
<td>2 mg/m³</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>1336-21-6</td>
<td>Ammonium Hydroxide</td>
<td>&lt;2</td>
<td>n/e</td>
<td>25.0 ppm</td>
</tr>
</tbody>
</table>

Section 3: Hazards Identification

Eyes: May cause temporary eye irritation.
Skin: Prolonged exposure may cause skin irritation or dermatitis.
Inhalation: Vapors and mists irritate eyes, nose and throat. Dusts generated from sanding and grinding on surfaces coated with this product may be harmful if inhaled.
Ingestion: Single dose oral toxicity is low. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of large amounts may be harmful.
Chronic: This product contains graphite which can accumulate in lung tissue after long-term exposure to the dust. The potential from the use of this product is very limited.

Section 4: First Aid Measure

Eyes: Remove contact lenses if worn. Flush with water or saline for 20 minutes, occasionally lifting the upper and lower eyelids. Get medical aid if irritation occurs.
Skin: Thoroughly wash skin with soap and water. Remove contaminated clothing and wash before reuse.
Inhalation: Immediately remove affected individual from exposure and to fresh air. Apply artificial respiration and other supportive measures as required. Get medical aid if symptoms persist.
Ingestion: Do not induce vomiting. If conscious, give 1-2 glasses of water. Seek medical advice.
Section 5: Fire Fighting Measures

Autoignition Temperature: n/e  
Flash Point: n/e  
LEL / UEL: n/e

Extinguishing Media: Not Flammable.
General Information: Material can splatter above 100°C/212°F. Dried product can burn.

Section 6: Accidental Release Measures

Spill Procedure: Take up with sand, earth or other noncombustible absorbent material. Wash spill area with soap and water.

Section 7: Handling and Storage

Handling: Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Do not ingest or inhale. Keep container closed. Loosen closure cautiously before opening. Empty containers may retain hazardous properties. Follow all MSDS warnings even after container is emptied.
Storage: Store closed container in a cool, dry, and well ventilated area away from incompatible substances. Avoid freezing.

Section 8: Exposure Controls

Routes of entry: Eyes, ingestion, inhalation, and skin.
Ventilation: Use adequate exhaust ventilation and/or fresh air entry to prevent overexposure to vapors and mists.
Personal Protection: Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing, including rubber gloves, to prevent skin contact. Use a fume hood or NIOSH approved respirator when necessary.

Section 9: Physical and Chemical Properties

Physical State: Black Fluid
Odor: Ammoniacal
Solubility: Miscible
Evaporation Rate: As Water
Boiling Point: 100°C/212°F
Specific Gravity: 1.1
Vapor Pressure: As Water
Vapor Density: As Water
pH: 10.0 to 10.5

Section 10: Stability and Reactivity

Stability: Stable at normal temperatures and pressures.
Conditions to avoid: Freezing and incompatible materials.
Incompatibilities: Avoid strong oxidizing agents.
Polymerization: Will not occur.
Decomposition: Oxides of Carbon and Nitrogen.
Section 11: Toxicological Information

**Sensitization:** (effects of repeated exposure)  This product is a skin sensitizer.

**Carcinogenicity:** (risk of cancer)  This material does not contain any compound listed by IARC, NTP, or OSHA as a carcinogen.

**Teratogenicity:** (risk of malformation in an unborn fetus)  No Data.

**Reproductive Toxicity:** (risk of sterility)  No Data.

**Mutagenicity:** (risk of heritable genetic effects)  No Data.

Lethal Exposure Concentrations:

<table>
<thead>
<tr>
<th>Lethal Exposure</th>
<th>Ingestion (LD50):</th>
<th>Inhalation (LC50):</th>
<th>Skin (LD50):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
</tr>
</tbody>
</table>

Section 12: Ecological Information

**General Information:**  No Data.

**Environmental Impact Data:** (percentage by weight)

<table>
<thead>
<tr>
<th>CFC</th>
<th>HFC</th>
<th>Cl.Solv.</th>
<th>VOC</th>
<th>HCFC</th>
<th>ODP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
</tr>
</tbody>
</table>

Section 13: Disposal Information

**General Information:**  Dispose of in accordance with all local, provincial, state, and federal regulations.

Section 14: Transportation Information

**US DOT Information:**  Non-regulated.

**IATA:**  Non-regulated.

**IMO:**  Non-regulated.

**EMS:**  ND

**MFAG:**  ND

**Marine Pollutant:**  None.

**Canadian TDG:**  Not regulated.

**IMDG Page:**  ND

**SARA** (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

No Data.

**EPCRA** (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does contain a chemical which is listed in Section 313 Title III of the SARA of 1986 and 40 CFR part 372. This chemical is at or above DE MINIMIS concentration:

<table>
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<th>Description</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1336-21-6</td>
<td>Ammonium Hydroxide</td>
<td>~1%</td>
</tr>
</tbody>
</table>

**RCRA**

No Data.

**CERCLA**

No Data.

**TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed or excluded from listing.

**CAA** (Clean Air Act, USA)

This product does not contain any class 1 ozone depletors.
This product does not contain any class 2 ozone depletors.
This product does not contain any chemicals listed as hazardous air pollutants.

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product does not contain any chemicals listed.

**Environment Canada**

Chemicals in this product are listed or are excluded from listing on the Domestic Substances List in the Canadian Environmental Protection Act.

**RoHS** (The restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2004)

This product is RoHS compliant.

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**Section 16: Other Information**

**Definitions:**

n/a = not applicable, n/e = not established, ND = No Data

**Disclaimer:**

This material safety data sheet is provided as an information resource only. M. E. Taylor Engineering believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.