1. Product and Company Identification

Material name: MAGNESIUM SULFATE HEPTAHYDRATE

Version #: 02
Revision date: 08-29-2011
CAS #: 10034-99-8

Product Codes: J.T.Baker: 2500, 2504, 2505
Macron: 26806, 4200, 5099, 5691, 6046, 6066, 7778

Synonym(s): Magnesium sulfate (1:1) heptahydrate; Epsom salts; sulfuric acid, magnesium salt (1:1), heptahydrate; Magnesium sulfate, 7-hydrate

Manufacturer: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway
Suite #200
Center Valley, PA 18034
US

Customer Service: 855-282-6867
24 Hour Emergency: 908-859-2151
Chemtrec: 800-424-9300

2. Hazards Identification

Emergency overview: CAUTION
Product dust may be irritating to eyes, skin and respiratory system.

OSHA regulatory status: This material is not considered hazardous by the OSHA Hazard Communication Standard, OSHA 29 CFR 1910.1200.

Potential health effects:

Routes of exposure:
- Inhalation. Skin contact. Eye contact. Ingestion.

Eyes:
Dust or powder may irritate eye tissue. If irritation should occur, it is expected to be transient.

Skin:
Dust or powder may irritate the skin.

Inhalation:
Inhalation of dusts may cause respiratory irritation.

Ingestion:
Expected to be a low ingestion hazard. May cause temporary irritation of the throat, stomach, and gastrointestinal tract.

Chronic effects: None known.

Potential environmental effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

Non-hazardous components:

<table>
<thead>
<tr>
<th>Composition</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAGNESIUM SULFATE HEPTAHYDRATE</td>
<td>10034-99-8</td>
<td>98 - 100</td>
</tr>
</tbody>
</table>

Composition comments: CAS # 10034-99-8 can be described by the CAS # 7487-88-9.

4. First Aid Measures

First aid procedures:

Eye contact:
Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.

Skin contact:
Wash off with soap and water. Get medical attention if irritation develops and persists.

Inhalation:
Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.
Ingestion
Seek medical advice.

Notes to physician
Treat symptomatically.

General advice
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties
This product is not flammable.

Extinguishing media
Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
None known.

Protection of firefighters

Protective equipment and precautions for firefighters
Firefighters should wear full protective gear. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

Special protective equipment for fire-fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal precautions
Keep unnecessary personnel away. Keep upwind. Ventilate the area. Avoid inhalation of dust from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions
Prevent further leakage or spillage if safe to do so.

Methods for containment
If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up
Avoid dust formation.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Large Spills: Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

Never return spills in original containers for re-use. Clean contaminated surface thoroughly. Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

Storage
Keep container tightly closed. Store in a well-ventilated place.

8. Exposure Controls / Personal Protection

Engineering controls
Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Eye / face protection
Use tight fitting goggles if dust is generated.

Skin protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection
Wear respirator if there is dust formation.

General hygiene considerations
Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
9. Physical & Chemical Properties

Color: Colorless to white.
Odor: Odorless.
Odor threshold: Not available.
Physical state: Solid.
Form: Crystalline powder.
Flash point: Not available.
Evaporation rate: Not available.
Flammability limits in air, upper, % by volume: Not available.
Flammability limits in air, lower, % by volume: Not available.
Vapor density: Not available.
Specific gravity: 1.67
Relative density: Not available.
Solubility (water): Soluble
Partition coefficient (n-octanol/water): Not available
Auto-ignition temperature: Not available.
Molecular weight: 246.47 g/mol
Molecular formula: Mg-O4-S.7H2O

10. Chemical Stability & Reactivity Information

Chemical stability: Stable under normal temperature conditions.
Conditions to avoid: Incompatible materials.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: Sulfur oxides. May include oxides of Magnesium.
Possibility of hazardous reactions: Hazardous polymerization does not occur.

11. Toxicological Information

Sensitization: Not a skin sensitizer.
Acute effects: Low hazard for usual industrial or commercial handling.
Local effects: May cause eye irritation. May cause skin irritation. May cause irritation to the respiratory system.
Chronic effects: None known.
Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Skin corrosion/irritation: May irritate and cause redness and pain.
Epidemiology: No epidemiological data is available for this product.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Neurological effects: None known.
Reproductive effects: Contains no ingredient listed as toxic to reproduction
Teratogenicity: No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
Symptoms and target organs: Mild eye irritation.

Material name: MAGNESIUM SULFATE HEPTAHYDRATE
MSDS ID: M0234 Version #: 02 Revision date: 08-29-2011
### 12. Ecological Information

#### Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAGNESIUM SULFATE HEPTAHYDRATE (10034-99-8)</td>
<td>LC50 Fathead minnow (Pimephales promelas): 2610 mg/l 96.00 hours</td>
</tr>
</tbody>
</table>

#### Ecotoxicity

- This product has no known eco-toxicological effects.

#### Environmental effects

- Ecological injuries are not known or expected under normal use. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

#### Aquatic toxicity

- This material is not expected to be harmful to aquatic life.

#### Persistence and degradability

- The product is not expected to be biodegradable.

#### Partition coefficient (n-octanol/water)

- Not available

### 13. Disposal Considerations

#### Disposal instructions

- Dispose of contents/container in accordance with local/regional/national/international regulations. Incinerate the material under controlled conditions in an approved incinerator.

#### Contaminated packaging

- Offer rinsed packaging material to local recycling facilities. Since emptied containers retain product residue, follow label warnings even after container is emptied.

### 14. Transport Information

#### DOT

- Not regulated as dangerous goods.

#### IATA

- Not regulated as dangerous goods.

#### IMDG

- Not regulated as dangerous goods.

### 15. Regulatory Information

#### US federal regulations

- This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

- This product is not listed on the U.S. EPA TSCA Inventory. Under TSCA, hydrates are considered mixtures of their anhydrous salt and water. Accordingly, the anhydrous form is subject to TSCA reporting requirements.

#### CERCLA (Superfund) reportable quantity

- None

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

- **Hazard categories**
  - Immediate Hazard - No
  - Delayed Hazard - No
  - Fire Hazard - No
  - Pressure Hazard - No
  - Reactivity Hazard - No

- **Section 311 hazardous chemical**
  - No

- **Food and Drug Administration (FDA)**
  - Total food additive
  - Direct food additive
  - GRAS food additive

#### Inventory status

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Country(s) or region</td>
<td>Inventory name</td>
<td>On inventory (yes/no)*</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
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<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
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<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
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<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
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<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
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<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
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<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
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<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)*

**State regulations**
This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**Saf-T-Data**
- Health: 1 - Slight
- Flammability: 0 - None
- Reactivity: 1 - Slight
- Contact: 1 - Slight
- Lab Protective Equip: C - GOGGLES; LAB COAT; PROPER GLOVES
- Storage Color Code: G - Green (General Storage)

16. **Labeling Info**

**Label Hazard Warning**
CAUTION

Product dust may be irritating to eyes, skin and respiratory system.

**Label Precautions**
Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling. Keep container closed.

**Label First Aid**
Immediately flush eyes with plenty of water for at least 15 minutes. Flush skin thoroughly with water. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Get medical attention if symptoms persist. If ingestion of a large amount does occur, call a poison control center immediately.

17. **Other Information**

**NFPA ratings**
- Health: 1
- Flammability: 0
- Instability: 0
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Issue date

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