SAFETY DATA SHEET

Product: Heat-Away 638
Revision Date: 1/03/2015

1. MATERIAL IDENTIFICATION

Product Name: Heat-Away 638
Product Description: Light Gray Paste, Odorless
Product Use: High Temperature Thermally Conductive Grease
Manufacturer: Aremco Products, Inc.
707-B Executive Blvd.
Valley Cottage, NY 10989
Telephone: 845-268-0039
Emergency Phone: 845-268-0039 or Infotrac (24/7) 800-535-5053

2. HAZARDS IDENTIFICATION

GHS Classification:
This product has not been classified as hazardous according to the legislation in force.

GHS Label Elements:
None

GHS Signal Word:
None

GHS Hazard Determining Component:
None

GHS Hazard Statements for Health Hazards:
None

GHS Precautionary Statements - Prevention:
None

GHS Precautionary Statements - Response:
None

GHS Storage/Disposal:
None

3. COMPOSITION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Concentration</th>
<th>GHS Product Identifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Nitride</td>
<td>24304-00-5</td>
<td>246-140-8</td>
<td></td>
<td>H314 Skin Corrosion/Irritation, Cat 1B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H319 Serious Eye Damage, Cat 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H335 STOT, SE; Respiratory System, Cat 3</td>
</tr>
<tr>
<td>Polydimethylsiloxane</td>
<td>63148-62-9</td>
<td>203-492-7</td>
<td>70.0-90.0%</td>
<td>None</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

**Eye Exposure:**
Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If a physician is not immediately available, eye irrigation should be continued for an additional 15 minutes.

**Skin Exposure:**
Immediately wipe excess material off skin with a dry cloth then wash with plenty of soap and water for at least 5 minutes. See medical attention if irritation develops or persists. Remove contaminated clothing and shoes and clean thoroughly before re-use.

**Inhalation:**
Remove from immediate source of exposure, assure that victim is breathing, and supply fresh air. If not breathing, administer cardio-pulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. Seek medical treatment.

**Ingestion:**
Do not induce vomiting. If person is conscious, give 1-3 glasses of water to drink. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Do not leave victim unattended. Seek medical treatment.

**Medical Conditions Possibly Aggravated by Exposure:**
Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

5. FIRE FIGHTING MEASURES

**Flash Point:** 301.6 °C (575 °F).

**Extinguishing Media:** Foam, carbon dioxide, dry powder, water spray.

**Unsuitable Extinguishing Agents:** None.

**Special Fire Fighting Procedures:** Firefighters should wear NIOSH/MSHA approved positive pressure breathing apparatus with full face-piece and full chemical resistant protective clothing. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

6. ACCIDENTAL RELEASE MEASURES

**Personal Protection:**
Wear chemical goggles, body-covering protective clothing, chemical resistant gloves, and rubber boots. Use NIOSH approved respirator where mist occurs.

**Spill Cleanup:**
Absorb with liquid-binding material (sand, diatomite, universal binders, and sawdust). Dispose of contaminated material according to local, state and federal regulations. Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents.

**Environmental Protection:**
Inform respective authorities in case product reaches water or sewage system. Do not allow to enter drainage system, surface or ground water.

7. HANDLING AND STORAGE

**Handling:**
Avoid contact with eyes, skin and clothing. Avoid breathing spray mist. Keep container closed. Promptly clean residue from closures with dry media. Promptly clean up spills.

**Storage:**
Store in an area that is cool, dry, well ventilated, away from combustible material, and away from ignition sources. Keep containers closed and well sealed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>TLV (mg/m$^3$)</th>
<th>PEL (mg/m$^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Nitride</td>
<td>24304-60-5</td>
<td>246-140-8</td>
<td>10</td>
<td>Not established</td>
</tr>
<tr>
<td>Polydimethylsiloxane</td>
<td>63148-62-9</td>
<td>203-492-7</td>
<td>Not established</td>
<td>Not established</td>
</tr>
</tbody>
</table>

**Engineering Controls:**
Use with adequate ventilation. Keep containers closed. Safety shower and eyewash fountain should be within direct access.

**Respiratory Protection:**
If exposure limits are exceeded and local ventilation is unavailable, a supplied-air respirator or a self-contained NIOSH-approved dust and mist respirator is required.

**Skin Protection:**
Wear body-covering protective clothing and gloves.

**Eye Protection:**
Wear chemical goggles.
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties represent typical properties of this product. Contact Technical Sales for exact specifications.

- **Form:** Grease
- **Color:** Light Gray
- **Odor:** None
- **Specific Gravity, g/cc:** 2.25-2.30
- **Water Solubility:** Insoluble
- **Solubility in Organic Solvent:** Soluble, Toluene
- **Melting Point:** Not Applicable
- **Boiling Point:** > 204 °C (> 400 °C)
- **Evaporation Rate (Butyl Acetate = 1):** < 1
- **Self-Inflammability:** Product is not self-igniting
- **Vapor Pressure:** Not Determined

10. STABILITY AND REACTIVITY

- **Chemical Stability:** This material is stable if handled and stored according to specifications.
- **Conditions to Avoid:** No decomposition if handled and stored according to specifications.
- **Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, formaldehyde.
- **Hazardous Polymerization:** Will not occur.

11. TOXICOLOGICAL INFORMATION

- **Acute Oral Toxicity:** LD50 Rat Male & Female
  - Dose > 5,000 mg/kg
- **Acute Inhalation Toxicity:** LC50 Rat
  - Dose > 535 mg/l
  - Exposure Time 1H
- **Acute Dermal Toxicity:** LD50 Rabbit
  - Dose > 10,000 mg/kg
- **Skin Irritation:** Rabbit
  - Exposure Time, 24 H
  - Result, No Skin Irritation
- **Eye Irritation:** Rabbit
  - Result, No Eye Irritation
- **Sensitization:** Test Type, Magnusson-Kligmann
  - Species, Guinea Pig
  - Result, The product did not show a sensitizing effect.
- **Genetic Toxicity In Vitro:** Test Type, Ames
  - Result, Negative (Not Mutagenic)
- **Human Experience:** According to current knowledge, polydimethylsiloxane is not physiologically a problem, but contact with eyes can cause short-term, harmless, reversible blurred vision due to formation of an oil film on the eye.

12. ECOLOGICAL INFORMATION

- **Ecotoxicity:** Fish
  - LC0
  - Species, Leuciscus Idus
  - Dose, 200 mg/l
  - Exposure Time, 96 H
  - Microorganisms
  - EC0
  - Species, Pseudomonas Putida
  - Dose > 10,000 mg/l
13. DISPOSAL CONSIDERATIONS

Disposal Method: Dispose in accordance with federal, state and local regulations and permits.

14. TRANSPORTATION INFORMATION

DOT UN Status: The material is not a regulated hazardous material for transportation.

15. REGULATORY INFORMATION

U.S. Federal Regulations

CERCLA: No CERCLA reportable quantity has been established for this material.

TSCA: All ingredients of this material are listed on the TSCA inventory.

SARA Title III

Sections 302, 304, 313: This product does not contain any substances reportable under these sections.

Sections 311, 312:

<table>
<thead>
<tr>
<th>Hazard Classes</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactivity Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Immediate Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Delayed Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

International Inventory Status

| Canada (DSL)     | Yes |
| Europe (EINECS/ELINCS) | Yes |
| Australia (AICS) | Yes |
| Japan (MITI)     | Yes |
| South Korea (KECL) | Yes |

16. OTHER INFORMATION

| NFPA Ratings (scale 0 – 4) | Health, 1 Flammability, 0 Reactivity, 0 Personal Protection, C |

| HMIS Ratings (scale 0 – 4) | Health, 1 Flammability, 0 Reactivity, 0 Personal Protection, C |
### Key Legend Information

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td>ARD</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation &amp; Liability Act</td>
</tr>
<tr>
<td>DSL</td>
<td>Domestic Substance List</td>
</tr>
<tr>
<td>HMIS</td>
<td>Hazardous Materials Identification System</td>
</tr>
<tr>
<td>ND</td>
<td>Not Determined</td>
</tr>
<tr>
<td>NE</td>
<td>Not Established</td>
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<tr>
<td>NFPA</td>
<td>National Fire Protection Association</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>RTECS</td>
<td>Registry of Toxic Effects of Chemical Substances</td>
</tr>
<tr>
<td>SARA</td>
<td>Superfund Amendments &amp; Reauthorization Act</td>
</tr>
<tr>
<td>SARA Title III</td>
<td>Emergency Planning &amp; Community Right to Know Act</td>
</tr>
<tr>
<td>SARA Section 302</td>
<td>Extremely Hazardous Substances</td>
</tr>
<tr>
<td>SARA Section 304</td>
<td>Emergency Release</td>
</tr>
<tr>
<td>SARA Section 311</td>
<td>MSDS/List of Chemicals &amp; Hazardous Inventory</td>
</tr>
<tr>
<td>SARA Section 312</td>
<td>Emergency &amp; Hazardous Inventory</td>
</tr>
<tr>
<td>SARA Section 313</td>
<td>Toxic Chemicals &amp; Release Reporting</td>
</tr>
<tr>
<td>STEL</td>
<td>Short Term Exposure Limit</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
</tbody>
</table>

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