SAFETY DATA SHEET

1. Identification

Product identifier: SODIUM PYROPHOSPHATE

Other means of identification
Product No.: 3850

Recommended use and restriction on use
  Recommended use: Not available.
  Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
   Company Name: Avantor Performance Materials, Inc.
   Address: 3477 Corporate Parkway, Suite 200
              Center Valley, PA 18034
   Telephone: Customer Service: 855-282-6867
   Fax:
   Contact Person: Environmental Health & Safety
   e-mail: info@avantormaterials.com

Emergency telephone number:
   24 Hour Emergency: 908-859-2151
   Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Health hazards
   Acute toxicity (Oral) Category 4
   Serious eye damage/eye irritation Category 1

Label elements
   Hazard symbol:

   !

   Signal word: Danger
   Hazard statement: Harmful if swallowed. Causes serious eye damage.

Precautionary statement

Prevention: Wash hands thoroughly after handling. Wear eye protection/face protection. Do not eat, drink or smoke when using this product.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. IF SWALLOWED: Call a POISON
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM PYROPHOSPHATE (HYDRATED FORM)</td>
<td></td>
<td>13472-36-1</td>
<td>99 - 100%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Rinse mouth thoroughly. Get medical attention if symptoms occur.

Inhalation: Move to fresh air. Get medical attention if symptoms occur.

Skin contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Causes serious eye damage. Harmful if swallowed.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General fire hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Dust clouds may be explosive under certain conditions.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Do not get in eyes and avoid contact with skin and clothing. Avoid inhalation of dust. Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

Conditions for safe storage, including any incompatibilities: Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits: None of the components have assigned exposure limits.

Appropriate engineering controls: No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection: Use suitable protective gloves if risk of skin contact.

Other: Wear suitable protective clothing.
Respiratory protection: In case of inadequate ventilation, use respiratory protection.

Hygiene measures: 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 to remove contaminants. Discard contaminated footwear that cannot be cleaned.

9. Physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state:</td>
<td>Solid</td>
</tr>
<tr>
<td>Form:</td>
<td>Crystals</td>
</tr>
<tr>
<td>Color:</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor:</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold:</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH:</td>
<td>10.2 1% Aqueous solution</td>
</tr>
<tr>
<td>Melting point/freezing point:</td>
<td>80 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flash Point:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Upper/lower limit on flammability or explosive limits

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability limit - upper (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability limit - lower (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.82 (20 °C)</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Slightly Soluble</td>
</tr>
<tr>
<td>Solubility (other):</td>
<td>No data available.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>No data available.</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight:</td>
<td>446.06 g/mol (H4O7P2.10H2O.4Na)</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Material is unstable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Conditions to avoid: Contact with incompatible materials.

Incompatible materials: Strong oxidizing agents.
### Hazardous decomposition products:
By heating and fire, irritating vapors/gases may be formed.

### 11. Toxicological information

#### Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingestion</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Dust may irritate respiratory system.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>May cause irritation.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Causes serious eye damage.</td>
</tr>
</tbody>
</table>

#### Information on toxicological effects

**Acute toxicity (list all possible routes of exposure)**

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>No data available.</td>
</tr>
<tr>
<td>Dermal</td>
<td>No data available.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>No data available.</td>
</tr>
<tr>
<td>Repeated dose toxicity</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

*Skin corrosion/irritation*  
*Serious eye damage/eye irritation*  
*Respiratory or skin sensitization*  
*Carcinogenicity*  
*IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:*  
No carcinogenic components identified  
*US. National Toxicology Program (NTP) Report on Carcinogens:*  
No carcinogenic components identified  
*US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):*  
No carcinogenic components identified  

**Germ cell mutagenicity**

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>In vitro</td>
<td>No data recorded.</td>
</tr>
<tr>
<td>In vivo</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**  
*Product:*  
No components toxic to reproduction  

**Specific target organ toxicity - single exposure**
Product: None known.

Specific target organ toxicity - repeated exposure
Product: None known.

Aspiration hazard
Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and degradability

Biodegradation
Product: There are no data on the degradability of this product.

BOD/COD ratio
Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)
Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse 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.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.
Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
None present or none present in regulated quantities.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

- [x] Acute (Immediate)
- [ ] Chronic (Delayed)
- [ ] Fire
- [ ] Reactive
- [ ] Pressure Generating

SARA 302 Extremely hazardous substance
None present or none present in regulated quantities.

SARA 304 Emergency release notification
None present or none present in regulated quantities.

SARA 311/312 Hazardous chemical

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM PYROPHOSPHATE (HYDRATED FORM)</td>
<td>500 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US state regulations

US. California Proposition 65
No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

<table>
<thead>
<tr>
<th>Chemical identity</th>
<th>Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM PYROPHOSPHATE (HYDRATED FORM)</td>
<td>Listed</td>
</tr>
</tbody>
</table>
US. Massachusetts RTK - Substance List
SODIUM Listed
PYROPHOSPHATE (HYDRATED FORM)

US. Pennsylvania RTK - Hazardous Substances
SODIUM Listed
PYROPHOSPHATE (HYDRATED FORM)

US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:
Australia AICS: On or in compliance with the inventory
Canada DSL Inventory List: On or in compliance with the inventory
EINECS, ELINCS or NLP: On or in compliance with the inventory
Japan (ENCS) List: Not in compliance with the inventory.
China Inv. Existing Chemical Substances: On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI): Not in compliance with the inventory.
Canada NDSL Inventory: Not in compliance with the inventory.
Philippines PICCS: On or in compliance with the inventory
US TSCA Inventory: On or in compliance with the inventory
New Zealand Inventory of Chemicals: On or in compliance with the inventory
Japan ISHL Listing: Not in compliance with the inventory.
Japan Pharmacopoeia Listing: Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Reactivity</th>
<th>Special hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date: 09-15-2014
Revision date: No data available.
Version #: 1.0
Further information: No data available.
Disclaimer:

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