1. Identification

Product identifier: ZINC NITRATE

Other means of identification
Product No.: 4344

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

Physical Hazards
Oxidizing solids Category 2

Health Hazards
Acute toxicity (Oral) Category 4
Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 2A
Specific Target Organ Toxicity - Single Exposure Category 3

Environmental Hazards
Acute hazards to the aquatic environment Category 1
Chronic hazards to the aquatic environment Category 2

Label Elements
Hazard Symbol:

Signal Word: Danger
Hazard Statement: May intensify fire; oxidizer. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary Statement

Prevention: Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep/Store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Specific treatment (see this label). Collect spillage.

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

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

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>ZINC NITRATE (HYDRATED FORM)</td>
<td></td>
<td>10196-18-6</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. 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. If skin irritation occurs: Get medical advice/attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin. Harmful if swallowed.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: May ignite other combustible materials. In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: May intensify fire; oxidizer. Contact with combustible material may cause fire. 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. Cool containers exposed to flames with water until well after the fire is out.

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. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Use personal protective equipment. See Section 8 of the SDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if possible without any risk. Sweep up and place in a clearly labeled container for chemical waste. Collect in a non-combustible container for prompt disposal. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental Precautions: Do not contaminate water sources or sewer. 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: Keep away from combustible material. Do not get in eyes, on skin, on clothing. Wash hands thoroughly after handling. Do not eat, drink or smoke when using the product. Do not taste or swallow. Avoid breathing dust or vapor. Use caution when adding this material to water. Add material slowly when mixing with water. Do not add water to the material; instead, add the material to the water.

Conditions for safe storage, including any incompatibilities: Do not store in metal containers. Store away from heat and light. Keep away from combustible material. Keep containers closed when not in use. Store in a cool, dry place. Keep container 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. An eye wash and safety shower must be available in the immediate work area.

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

Skin Protection

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

Other: Wear suitable protective clothing.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with a high efficiency particulate filter.

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 and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state: Solid
Form: Crystals or flakes
Color: White
Odor: Slight odor of nitric acid
Odor threshold: No data available.

pH: No data available.
Melting point/freezing point: 36 °C
Initial boiling point and boiling range: Approximate 105 °C Decomposes
Flash Point: No data available.
Evaporation rate: No data available.
Flammability (solid, gas): No data available.
Upper/lower limit on flammability or explosive limits
  Flammability limit - upper (%): No data available.
  Flammability limit - lower (%): No data available.
  Explosive limit - upper (%): No data available.
  Explosive limit - lower (%): No data available.
Vapor pressure: Estimated < 0.01 kPa (25 °C)
Vapor density: No data available.
Relative density: 2.07 (20 °C)
Solubility(ies)
  Solubility in water: 2,000 g/l (25 °C)
  Solubility (other): Alcohol: Very Soluble
Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

Other information
  Molecular weight: 297.49 g/mol (H2O.1/3HNO3.1/6Zn)

10. Stability and reactivity
Reactivity: Contact with combustible material may cause fire.
Chemical Stability: Unstable
Possibility of Hazardous Reactions: Hazardous polymerization does not occur.
Conditions to Avoid: Heat. Shocks and physical damage. Contact with incompatible materials.
Hazardous Decomposition Products: By heating and fire, toxic vapors/gases may be formed.

11. Toxicological information
Information on likely routes of exposure
  Ingestion: Harmful if swallowed.
  Inhalation: May cause irritation to the respiratory system.
  Skin Contact: Causes skin irritation.
  Eye contact: Causes serious eye irritation.

Information on toxicological effects
  Acute toxicity (list all possible routes of exposure)
    Oral
      Product: No data available.
Dermal Product: No data available.

Inhalation Product: No data available.

Repeated Dose Toxicity Product: No data available.

Skin Corrosion/Irritation Product: Causes skin irritation.

Serious Eye Damage/Eye Irritation Product: Causes serious eye irritation.

Respiratory or Skin Sensitization Product: Not a skin sensitizer.

Carcinogenicity Product: This substance has no evidence of carcinogenic properties.

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

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro Product: No mutagenic components identified

In vivo Product: No mutagenic components identified

Reproductive Toxicity Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure Product: Respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure Product: No data available.

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: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

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  
UN Number: UN 1514  
UN Proper Shipping Name: Zinc nitrate  
Transport Hazard Class(es)  
Class(es): 5.1  
Label(s): 5.1  
Packing Group: II  
Marine Pollutant: No
IMDG

| UN Number: | UN 1514 |
| UN Proper Shipping Name: | ZINC NITRATE |
| Transport Hazard Class(es): | 5.1 |
| Label(s): | 5.1 |
| EmS No.: | F-H, S-Q |
| Packing Group: | II |
| Marine Pollutant: | No |

IATA

| UN Number: | UN 1514 |
| Proper Shipping Name: | Zinc nitrate |
| Transport Hazard Class(es): | 5.1 |
| Label(s): | 5.1 |
| Marine Pollutant: | No |
| Packing Group: | II |

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):
ZINC NITRATE (HYDRATED FORM) Reportable quantity: 1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

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

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>RQ</th>
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</thead>
<tbody>
<tr>
<td>ZINC NITRATE</td>
<td>1000 lbs. (HYDRATED FORM)</td>
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</table>

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
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</thead>
<tbody>
<tr>
<td>ZINC NITRATE</td>
<td>500 lbs (HYDRATED FORM)</td>
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</tbody>
</table>

SARA 313 (TRI Reporting)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reporting threshold for other users</th>
<th>Reporting threshold for manufacturing and processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZINC NITRATE</td>
<td>10000 lbs</td>
<td>25000 lbs</td>
</tr>
</tbody>
</table>

HYDRATED FORM
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
ZINC NITRATE (HYDRATED FORM)  Reportable quantity: 1000 lbs.

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
ZINC NITRATE (HYDRATED FORM)  Listed

US. Massachusetts RTK - Substance List
ZINC NITRATE (HYDRATED FORM)  Listed

US. Pennsylvania RTK - Hazardous Substances
ZINC NITRATE (HYDRATED FORM)  Listed

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

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

Issue Date: 02-10-2015
Revision Date: No data available.
Version #: 1.1

Further Information: No data available.

Disclaimer:

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