1. Product and Company Identification

Material name: POTASSIUM NITRATE

Version #: 01
Revision date: 03-26-2012
CAS #: 7757-79-1
Product Codes: J.T.Baker: 3190, 3192, 3193
Macron: 6715

Synonym(s): Saltpeter; niter; Nitric acid, potassium salt

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
WARNING

Strong oxidizer - contact with other material may cause fire.

May be harmful if swallowed. Product dust may be irritating to eyes, skin and respiratory system.

OSHA regulatory status
This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

Potential health effects

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

Eyes
Dust or powder may irritate eye tissue.

Skin
Dust or powder may irritate the skin.

Inhalation
Dust may irritate throat and respiratory system and cause coughing.

Ingestion
May be harmful if swallowed. Irritating. May cause nausea, stomach pain and vomiting.

Target organs
Eyes. Skin. Respiratory system.

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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTASSIUM NITRATE</td>
<td>7757-79-1</td>
<td>99 - 100</td>
</tr>
</tbody>
</table>

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 or persists.

Skin contact
Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists.

Inhalation
Move to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
Ingestion

Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

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. May intensify fire; oxidizer.

Extinguishing media

Suitable extinguishing media

Water spray, fog (flooding amounts).

Protection of firefighters

Specific hazards arising from the chemical

OXIDIZING! May explode from heat or contamination. Contact with combustible material may cause fire. These substances will accelerate burning when involved in a fire. Some will react explosively with hydrocarbons (fuels). Some may decompose explosively when heated or involved in a fire. Runoff may create fire or explosion hazard. Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment and precautions for firefighters

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

Specific methods

In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Cool containers exposed to flames with water until well after the fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

6. Accidental Release Measures

Personal precautions

Eliminate all sources of ignition. Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow to enter drains, sewers or watercourses.

Methods for containment

Stop leak if you can do so without risk. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Keep combustibles (wood, paper, oil, etc.) away from spilled material. Avoid dust formation. Reduce airborne dust and prevent scattering by moistening with water.

Large Spills: Dike far ahead of spill for later disposal. Sweep up or vacuum up spillage and collect in suitable container for disposal.

Small Spills: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. Clean up in accordance with all applicable regulations. Collect in a non-combustible container for prompt disposal.

7. Handling and Storage

Handling

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Keep away from clothing and other combustible materials. Wear appropriate personal protective equipment. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid breathing dust. Use only with adequate ventilation. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

Material name: POTASSIUM NITRATE

MSDS ID: P5950  Version #: 01  Revision date: 03-26-2012
8. Exposure Controls / Personal Protection

**Engineering controls**
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.

**Personal protective equipment**

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

- **Skin protection**
  Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves.

- **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. Respirator type: High-efficiency particulate respirator with full facepiece.

**General hygiene considerations**
Provide eyewash station and safety shower. Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystalline</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Form</td>
<td>Crystals</td>
</tr>
<tr>
<td>pH</td>
<td>7</td>
</tr>
<tr>
<td>Melting point</td>
<td>638.6 °F (337 °C)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>638.6 °F (337 °C)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>752 °F (400 °C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>2.109</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
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<tr>
<td>Decomposition temperature</td>
<td>752 °F (400 °C)</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>101.1 g/mol</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>H-N-O3.K</td>
</tr>
</tbody>
</table>

10. Chemical Stability & Reactivity Information

- **Chemical stability**
  Stable, however, may decompose if heated.

- **Conditions to avoid**
  Excessive heat. Contact with combustibles.
Incompatible materials

Hazardous decomposition products
Nitrogen oxides (NOx).

Possibility of hazardous reactions
Hazardous polymerization does not occur.

11. Toxicological Information

<table>
<thead>
<tr>
<th>Toxicological data</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td></td>
</tr>
<tr>
<td>POTASSIUM NITRATE (7757-79-1)</td>
<td>Acute Oral LD50 Rat: 3750 mg/kg</td>
</tr>
</tbody>
</table>

Sensitization
Not a skin sensitizer.

Acute effects
May be harmful if swallowed.

Local effects
May cause eye irritation. May cause skin irritation. May cause irritation of respiratory tract.

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
Irritant effects.

12. Ecological Information

<table>
<thead>
<tr>
<th>Ecotoxical data</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td></td>
</tr>
<tr>
<td>POTASSIUM NITRATE (7757-79-1)</td>
<td>LC50 Western mosquitofish (Gambusia affinis): 22.5 mg/l 96.00 hours</td>
</tr>
</tbody>
</table>

Ecotoxicity
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.

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.

Persistence and degradability
No data is available on the degradability of this product.

Partition coefficient
Not available

13. Disposal Considerations

<table>
<thead>
<tr>
<th>Disposal instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. All wastes must be handled in accordance with local, state and federal regulations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contaminated packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.</td>
</tr>
</tbody>
</table>
14. Transport Information

DOT
Basic shipping requirements:
UN number UN1486
Proper shipping name Potassium nitrate
Hazard class 5.1
Packing group III
Additional information:
Special provisions A1, A29, IB8, IP3, T1, TP33

IATA
Basic shipping requirements:
UN number 1486
Proper shipping name Potassium nitrate
Hazard class 5.1
Packing group III

IMDG
Basic shipping requirements:
UN number 1486
Proper shipping name POTASSIUM NITRATE
Hazard class 5.1

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration
POTASSIUM NITRATE (CAS 7757-79-1) 1.0 % N511

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance
POTASSIUM NITRATE (CAS 7757-79-1) Listed. N511

CERCLA (Superfund) reportable quantity None
Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

**Section 311 hazardous chemical**
Yes

**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>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<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>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
</tbody>
</table>

United States & Puerto Rico: Toxic Substances Control Act (TSCA) Inventory  Yes

*"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.

**US - New Jersey Community RTK (EHS Survey): Reportable threshold**
POTASSIUM NITRATE (CAS 7757-79-1) 500 LBS

**US - Pennsylvania RTK - Hazardous Substances: Listed substance**
POTASSIUM NITRATE (CAS 7757-79-1) Listed.

**Saf-T-Data**
- Health: 2 - Moderate
- Flammability: 0 - None
- Reactivity: 3 - Severe (Oxidizer)
- Contact: 1 - Slight
- Lab Protective Equip: D - GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
- Storage Color Code: Y - Yellow (Reactive)

**16. Labeling Info**

**Label Hazard Warning**
WARNING

Strong oxidizer - contact with other material may cause fire. May be harmful if swallowed. Product dust may be irritating to eyes, skin and respiratory system.

**Label Precautions**
Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Avoid breathing dust. 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. Immediately flush skin with plenty of water. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Get medical attention immediately. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance.
17. Other Information

NFPA ratings

Health: 1
Flammability: 0
Instability: 0
Special hazards: OX

Disclaimer

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Issue date

03-26-2012