

SAFETY DATA SHEET

1. Identification

Product identifier: POTASSIUM NITRATE

Other means of identification

Product No.: 3193, 3192, 3190, 6715

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Avantor Performance Materials, Inc.
3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone:

Customer Service: 855-282-6867

Fax:

610-573-2610

Contact Person:

Environmental Health & Safety

E-mail:

info@avantormaterials.com

Emergency telephone number: CHEMTREC: 1-800-424-9300 within US and Canada

CHEMTREC: 1-703-527-3887 outside US and Canada

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Oxidizing solids Category 3

Environmental Hazards

Acute hazards to the aquatic environment Category 3

Label Elements

Hazard Symbol:



Signal Word: Warning

Hazard Statement: May intensify fire; oxidizer.
Harmful to aquatic life.

Precautionary Statement

- Prevention:** Keep away from heat. - No smoking. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment.
- Response:** In case of fire: Use water for extinction. Call a POISON CENTER or doctor/physician if you feel unwell.
- 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.

Unknown toxicity - Environment

Acute hazards to the aquatic environment 0 %
Chronic hazards to the aquatic environment 100 %

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

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
POTASSIUM NITRATE		7757-79-1	99 - 100%

* 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 persist.
- Skin Contact:** Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.
- Eye contact:** Flush thoroughly with water. If irritation occurs, get medical assistance.

Most important symptoms/effects, acute and delayed

Symptoms: May cause irritation to skin, eyes, and respiratory tract.

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:	The product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	None known.
Specific hazards arising from the chemical:	Strong oxidizer. Contact with combustible material may cause fire. Fire or high temperatures may cause explosive decomposition, especially if confined. Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Use water spray to keep fire-exposed containers cool. Move containers from fire area if you can do so without risk. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. 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. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. 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. Avoid dust formation. 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.
Notification Procedures:	Dike for later disposal. 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:	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Do not contaminate water sources or sewer.

7. Handling and storage

Precautions for safe 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 combustible material. Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Do not breathe dust. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.
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Conditions for safe storage, including any incompatibilities: Keep material from heat, light, sparks and flame. Oxidizing material - Keep away from flammable and combustible materials. Store away from incompatible materials. Keep container tightly closed. Store in a 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. An eye wash and safety shower must be available in the immediate work area.

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

Skin Protection

Hand Protection: Chemical resistant gloves

Skin protection: Chemical resistant clothing

Respiratory Protection: In case of inadequate ventilation use suitable respirator. High-efficiency particulate respirator with full facepiece.

Hygiene measures: Provide eyewash station and safety shower. Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Avoid contact with eyes, skin, and clothing.

9. Physical and chemical properties

Appearance

Physical state: solid

Form: Crystals or powder.

Color: White, Colorless

Odor: Odorless

Odor threshold: No data available.

pH: +/- 7

Melting point/freezing point: 337 °C

Initial boiling point and boiling range: 400 °C

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:	No data available.
Vapor density:	No data available.
Relative density:	2,109
Solubility(ies)	
Solubility in water:	316 g/l (20 °C) Soluble Soluble
Solubility (other):	glycerol: Soluble Alcohol: Slightly Soluble ethanol: Practically Insoluble
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:	101,1 g/mol (HNO3.K)

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Stable; however, may decompose if heated.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Contact with combustibles. Excessive heat. Contact with incompatible materials.
Incompatible Materials:	Flammable/combustible material. Organic compounds. Strong acids. Metals.
Hazardous Decomposition Products:	Oxygen. Nitrogen Oxides Nitrogen Oxides

11. Toxicological information

Information on likely routes of exposure

Ingestion:	May be harmful if swallowed.
Inhalation:	Dust may irritate throat and respiratory system and cause coughing.
Skin Contact:	May cause irritation.
Eye contact:	May irritate eyes.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	LD 50 (Rat): 3.750 mg/kg LD 50 (Rabbit): 1.901 mg/kg
Dermal	
Product:	No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: May cause skin irritation.

Serious Eye Damage/Eye Irritation
Product: No data available.

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

ACGIH Carcinogens:
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: 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.

Specified substance(s):

POTASSIUM NITRATE LC 50 (Bluegill (*Lepomis macrochirus*), 96 h): 420 mg/l Mortality
LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): 22,5 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

POTASSIUM NITRATE LC 50 (Water flea (*Daphnia magna*), 96 h): 39 mg/l Mortality

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:

The product is water soluble and may spread in water systems.

Other Adverse Effects:

Harmful to aquatic organisms.

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

TDG

UN Number	UN1486
Proper Shipping Name	POTASSIUM NITRATE
Class	5.1
Packing Group	III
Label(s)	5.1
Subsidiary risk label	–

IMDG

UN Number:	UN 1486
UN Proper Shipping Name:	POTASSIUM NITRATE
Transport Hazard Class(es):	
Class:	5.1
Label(s):	5.1
EmS No.:	F-A, S-Q
Packing Group:	III
Marine Pollutant:	No
Special precautions for user:	–

IATA

UN Number:	UN 1486
Proper Shipping Name:	Potassium nitrate
Transport Hazard Class(es):	
Class:	5.1
Label(s):	5.1
Marine Pollutant:	No
Packing Group:	III
Special precautions for user:	–

15. Regulatory information

Canada Federal Regulations
List of Toxic Substances (CEPA, Schedule 1)

Export Control List (CEPA 1999, Schedule 3)

National Pollutant Release Inventory (NPRI)

Greenhouse Gases

Controlled Drugs and Substances Act

Precursor Control Regulations

International regulations

Montreal protocol
not applicable

Stockholm convention
not applicable

Rotterdam convention
not applicable

Kyoto protocol
not applicable

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:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or 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:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision
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Revision Date: No data available.

Version #: 1.0

Further Information: No data available.

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