



Potassium Nitrate Prill, Refined Grade

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 9/13/2021 Revision date: 9/13/2021 Supersedes: 10/25/2018 Version: 7.3

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Trade name	: Potassium Nitrate Prills, Refined Grade
CAS-No.	: 7757-79-1
Product code	: 001_USA
Formula	: HNO ₃ .K
Synonyms	: Nitric acid potassium salt / Nitric acid, potassium salt / Nitric acid potassium salt (1:1) / POTASSIUM NITRATE / Potassiumnitrate
Other means of identification	: Potassium Nitrate, Refined Grade, Crystals

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Industrial uses: Uses of substances as such or in preparations at industrial sites Industrial use resulting in manufacture of another substance (use of intermediates) Formulation [mixing] of preparations and/or re-packaging (excluding alloys) Heat transferring agents
Restrictions on use	: Food/feedstuff additives, Water treatment chemicals, Fertilizers

1.3. Supplier

Supplier

SQM North America
2727 Paces Ferry Rd, Building Two, Suite 1425
Atlanta, GA 30339 - United States
T (770) 916 9400 - F (700) 916 9404
product_safety@sqm.com; ind-northamerica@sqm.com - www.sqm.com/sqmnutrition.com
product_safety@sqm.com

1.4. Emergency telephone number

Emergency number	: For Chemical Emergency Call CHEMTREC 24hr/day 7days/week Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Oxidizing solids Category 3	May intensify fire; oxidizer
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2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US)	: Warning
Hazard statements (GHS US)	: May intensify fire; oxidizer
Precautionary statements (GHS US)	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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Keep/Store away from clothing, combustible materials, flammable materials, reducing materials, strong acids
Take any precaution to avoid mixing with clothing, combustible materials, flammable materials, reducing materials, strong acids
Wear protective gloves, eye protection, face protection.
In case of fire: Use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name : Potassium nitrate
CAS-No. : 7757-79-1

Name	Product identifier	%	GHS US classification
Potassium nitrate	CAS-No.: 7757-79-1	> 99.8	Ox. Sol. 3, H272
Perchlorate	-	≤ 0.01	Not classified
Iodate	-	≤ 0.01	Not classified

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell. Never give anything by mouth to an unconscious person.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact : Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : 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.
First-aid measures after ingestion : Rinse mouth. Drink plenty of water. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Irritation of the respiratory tract. Thermal decomposition can lead to the release of irritating gases and vapors. Delayed adverse effects possible.
Symptoms/effects after skin contact : May cause moderate irritation.
Symptoms/effects after eye contact : May cause slight irritation.
Symptoms/effects after ingestion : On ingestion in large quantities: Digestive disorder.

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4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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| Suitable extinguishing media | : use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water. |
| Unsuitable extinguishing media | : Use extinguishing media appropriate for surrounding fire. |

5.2. Specific hazards arising from the chemical

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| Fire hazard | : May intensify fire; oxidizer. |
| Reactivity in case of fire | : thermal decomposition may produce : Nitrogen oxides. Potassium oxides. potassium nitrite. |
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. |

5.3. Special protective equipment and precautions for fire-fighters

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| Precautionary measures fire | : Do not approach fire except upwind and only with proper skin and respiratory protection (supplied air only). |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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| General measures | : Thermal decomposition can lead to the release of irritating gases and vapors. Thermal decomposition generates : Nitrogen oxides. Potassium oxide. potassium nitrite. |
| 6.1.1. For non-emergency personnel | |
| Emergency procedures | : Ventilate spillage area. No open flames, no sparks, and no smoking. |
| 6.1.2. For emergency responders | |
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |

6.2. Environmental precautions

Do not allow into drains or water courses.

6.3. Methods and material for containment and cleaning up

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|-------------------------|--|
| Methods for cleaning up | : Mechanically recover the product. Notify authorities if product enters sewers or public waters. Do not absorb with saw-dust or any other combustible absorbent material. |
| Other information | : Dispose of materials or solid residues at an authorized site. |

6.4. Reference to other sections

For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	: Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and section 15 for more information regarding California State regulations.
Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Containers which are opened should be properly resealed and kept upright to prevent leakage.
Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Heat sources, flames or sparks.
Incompatible materials	: Flammable or combustible materials. Reducing agents. strong acids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium Nitrate (7757-79-1)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	Not established
ACGIH OEL Ceiling	Not established

USA - OSHA - Occupational Exposure Limits

OSHA PEL (STEL) [1]	Not established
OSHA PEL (Ceiling)	Not established

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Local exhaust is recommended where dust may occur.
Environmental exposure controls	: Do not allow to enter drains or water courses.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Butyl-rubber protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Prills, granules
Color	: White
Odor	: odorless
Odor threshold	: Not applicable
pH	: 8 – 11
Melting point	: $\approx 333\text{ }^{\circ}\text{C}$ / 635°F (Published data)
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: Not applicable
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: Negligible vapor pressure at ambient conditions
Vapor pressure at 50 °C	: Not applicable
Relative vapor density at 20 °C	: No data available
Particle size distribution	: 0.5 — 0.08 mm
Particle shape	: Crystal
Relative density	: Not applicable
Density	: $1160 - 1300\text{ kg/m}^3$ at 68°F
Solubility	: Water: $> 100\text{ g/l}$ 25°C / 77°F
Partition coefficient n-octanol/water (Log Pow)	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: $> 600\text{ }^{\circ}\text{C}$ / 1112°F (Published data)
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosion limits	: Not applicable
Explosive properties	: Not explosive.
Oxidizing properties	: Oxidizer. Test O.1 Test for oxidizing solids.

9.2. Other information

Bulk density	: $\approx 1190\text{ kg/m}^3$
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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. May intensify fire; oxidizer.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

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10.4. Conditions to avoid

Avoid contact with : hot surfaces. flames or sparks. Ignition sources. Do not store together with empty wood pallets.

10.5. Incompatible materials

Flammable, combustible, strong acids and strong reducing agents under specific conditions. These incompatible materials shall not include approved packaging materials, pallets, or other dunnage (NFPA 400/2016, Hazardous Materials Code, item 15.3.5.2.1.1).

10.6. Hazardous decomposition products

Thermal decomposition can lead to the release of irritating gases and vapors. Thermal decomposition generates : Nitrogen oxides. Potassium oxides. potassium nitrite.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Potassium Nitrate (7757-79-1)

LD50 oral rat	> 2000 mg/kg body weight (OECD 405 method)
LD50 dermal rat	> 5000 mg/kg body weight (OECD 402 method)
LC50 Inhalation - Rat	> 0.527 mg/l/4h (OECD 403 method)

Skin corrosion/irritation : Not classified. (OECD 439 method)
pH: 8 – 11
Serious eye damage/irritation : Not classified
pH: 8 – 11
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified (No mutagenic effect. Reverse Mutation Assays. (OECD 479 method))
Carcinogenicity : Not classified (No carcinogenic effect)

Potassium Nitrate (7757-79-1)

IARC group	Not listed
National Toxicology Program (NTP) Status	Not listed

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Potassium Nitrate (7757-79-1)

NOAEL (subacute,oral,animal/male,28 days)	1500 mg/kg body weight (OECD 422 method)
NOAEL (subacute,oral,animal/female,28 days)	1500 mg/kg body weight

Aspiration hazard : Not classified
Viscosity, kinematic : Not applicable
Likely routes of exposure : Inhalation. Skin and eye contact.
Symptoms/effects after inhalation : Irritation of the respiratory tract. Thermal decomposition can lead to the release of irritating gases and vapors. Delayed adverse effects possible.
Symptoms/effects after skin contact : May cause moderate irritation.
Symptoms/effects after eye contact : May cause slight irritation.
Symptoms/effects after ingestion : On ingestion in large quantities: Digestive disorder.
Other information : This product contains trace amounts of naturally-occurring perchlorate and iodate. Like other goitrogenic substances, perchlorate may affect iodine uptake by thyroid under specific conditions.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Potassium nitrate (7757-79-1)

LC50 - Fish [1]	≥ 1378 mg/l
EC50 - Crustacea [1]	≥ 490 mg/l
ErC50 algae	> 1700 mg/l

12.2. Persistence and degradability

Potassium Nitrate (7757-79-1)

Persistence and degradability	Contains no substances known to be hazardous to the environment.
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12.3. Bioaccumulative potential

Potassium Nitrate (7757-79-1)

Partition coefficient n-octanol/water (Log Pow)	Not applicable
Partition coefficient n-octanol/water (Log Kow)	Not applicable
Bioaccumulative potential	Low bioaccumulation potential. Information on basic physical and chemical properties.

12.4. Mobility in soil

Potassium Nitrate (7757-79-1)

Ecology - soil	Expected to be highly mobile in soil.
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12.5. Other adverse effects

Other information : May cause eutrophication at very low concentration.

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : U.S. - RCRA (Resource Conservation and Recovery Act) - List for Hazardous Constituents.
Waste treatment methods : Gather the product and place it in a spare container that has been suitably labeled. This material and its container must be disposed of as hazardous waste. Solid waste exhibiting the characteristic of ignitability has the EPA Hazardous Waste Number of D001 according to the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Product/Packaging disposal recommendations : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and section 15 for more information regarding California State regulations.
Ecology - waste materials : Do not allow to enter drains or water courses.

SECTION 14: Transport information

In accordance with Department of Transport / IMDG / IATA

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14.1. UN number

DOT NA No : UN1486
UN-No. (IMDG) : 1486
UN-No. (IATA) : 1486

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Potassium nitrate
Proper Shipping Name (TDG) : SODIUM NITRATE
Proper Shipping Name (IMDG) : POTASSIUM NITRATE
Proper Shipping Name (IATA) : Potassium nitrate

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 5.1
Hazard labels (DOT) : 5.1



IMDG

Transport hazard class(es) (IMDG) : 5.1
Hazard labels (IMDG) : 5.1



IATA

Transport hazard class(es) (IATA) : 5.1
Hazard labels (IATA) : 5.1



14.4. Packing group

Packing group (DOT) : III
Packing group (IMDG) : III
Packing group (IATA) : III

14.5. Environmental hazards

Other information : None.

14.6. Special precautions for user

Special transport precautions : None known

DOT

UN-No.(DOT) : UN1486

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DOT Special Provisions (49 CFR 172.102)	: A1 - Single packaging are not permitted on passenger aircraft. A29 - Combination packaging consisting of outer expanded plastic boxes with inner plastic bags are not authorized for transportation by aircraft. B120 - The use of flexible bulk containers conforming to the requirements in subpart R and subpart S of part 178 of this subchapter is permitted. IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2). IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner. T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter. W1 - This substance in a non friable prill or granule form is not subject to the requirements of this subchapter when tested in accordance with the UN Manual of Test and Criteria (IBR, see §171.7 of this subchapter) and is found to not meet the definition or criteria for inclusion in Division 5.1.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 152
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 25 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 100 kg
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
IMDG	
Special provision (IMDG)	: 964, 967
IBC special provisions (IMDG)	: B3
IATA	
Special provision (IATA)	: A803

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IBC code : Not applicable.

SECTION 15: Regulatory information

15.1. US Federal regulations

Potassium Nitrate (7757-79-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes	Physical hazard - Oxidizer (liquid, solid or gas)
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Listed in DHS (Department of Homeland Security) United States - Chemical of Interest (Appendix A to 6CFR part 27)

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All components of this product are listed as Active, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Perchlorate	CAS-No.	≤ 0.01%
Iodate	CAS-No.	≤ 0.01%

15.2. International regulations

CANADA

Potassium Nitrate (7757-79-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Potassium nitrate (7757-79-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)- Directive 79/831/EEC, sixth Amendment of Directive 67/548/EEC (dangerous substances)

National regulations

Potassium nitrate (7757-79-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed in DHS (Department of Homeland Security) United States - Chemical of Interest (Appendix A to 6CFR part 27)
Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)

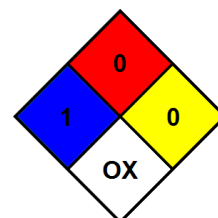
15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Revision date	: 09/13/2021
Data sources	: REACH registrations. Information in this safety data sheet is based on actual knowledge in our possession and our experience.
Other information	: NFPA 400/2016: Hazardous Materials Code: Oxidizer Class 1 (Inorganics Nitrates). California Code of Regulations Title 22 (Health & Safety Code), Chapter 33 : See http://www.dtsc.ca.gov/hazardouswaste/perchlorate/ .
NFPA 704/2017	
NFPA health hazard	: 1 - Materials that, under emergency conditions, can cause significant irritation.
NFPA fire hazard	: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.
NFPA specific hazard	: OX - Materials that possess oxidizing properties.



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Indication of changes:			
Section	Changed item	Change	Comments
1	Use of the substance/mixture	Modified	
1	Name	Modified	
1	Other means of identification	Modified	
3	Composition/Information on ingredients	Modified	
9	Bulk density	Modified	
9	Particle size distribution	Added	
9	Particle shape	Added	
9	Melting point	Modified	
11	Skin corrosion/irritation - comment	Added	

Safety Data Sheet (SDS), USA

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