

Deepak Nitrite Limited

Material Safety Data Sheet	Potassium nitrate
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1 Product And Company Identification :

Product Name	:	Potassium Nitrate
Other/Generic Names	:	Nitric Acid, Potassium Salt; Potassium Nitrate (various grades); Potassium nitrate,crystals; Nitrate of Potash;
CAS No.	:	7757-79-1
Product use	:	Food industry, An auxiliary for many sectors of industry, e.g. solar industries
Supplier	:	Deepak Nitrite Ltd. Aaditya-I, National Highway No. 8, Chhani Road, Vadodara - 390 024, India Manufacturing facilities at : Vadodara, Roha, Taloja & Hyderabad. Contact no. : +91-9904406400
For Chemical Emergency	:	Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazards Identification :

**GHS classification
(Classification according to
Regulation (EC) No 1272/2008)**

Oxidizing solid, Category 3

Precautionary Statement

**Health hazard: 1
Flammability: 0
Physical hazards: 1**

Hazard Statements

H272: May intensify fire; oxidizer.

H315 May cause skin irritation

H319 May causes eye irritation

P220 Keep/Store away from clothing/combustible materials

Keep away from heat/sparks/open flames/hot surfaces-No smoking

Wear protective gloves/protective clothing/eye protection/face protection

**EC classification
(Classification according to
Directive 67/548/EEC)**

Hazard pictograms



Signal word

R8, S16, S41

Warning

3 Composition / Information On Ingredients :

Chemical Formula	: KNO ₃
Common name	: Potassium nitrate
Synonyms	: Nitric acid, Potassium salt; Potassium saltpeter
Molecular formula	KNO ₃
Molecular weight	: 101.10 g/mol
CAS No.	: 7757-79-1
H S Code	:
UN No.	: 1486
EINECS No.	: 231-818-8

4 First Aid Measures :

After inhalation: If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

After skin contact: Wash off with plenty of water. Remove contaminated clothing.

After eye contact: Rinse out with plenty of water with eyelid held wide open. Call in ophthalmologist if necessary.

If swallowed: Never give any thing by mouth if person is unconscious. Seek medical advice. Give water to drink (two glasses at the most), if person is conscious. Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20-40 g in 10% slurry) and consult a doctor as quickly possible.

Notes to Physician: Absorption of this product into the body may cause cyanosis. Moderate degrees of cyanosis need to be treated by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, 1 mg/kg of body weight may be of value.
Antidote: None reported.

5 Fire Fighting Measures:

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool fire-exposed containers. Use water only!

Specific hazards during fire fighting

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapors.

Fire may cause evolution of: nitrogen oxides

Special protective equipment for fire-fighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear fully protective impervious suit.

Further information

Suppress (knock down) gases/Vapour/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system. Use water spray to cool unopened containers.

6 Accidental Release Measures :

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7 Handling & Storage :

Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from combustible material.

Conditions for safe storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Do not store near combustible materials and reducing agents.

Hygroscopic.

8 Exposure Control / Personal Protection :

Personal protective equipment

Protective clothing should be selected specifically for the working place, depending on concentration and quality of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Immediately change contaminated clothing. Apply skin-protective barrier cream.

Use adequate ventilation to keep airborne concentrations low.

9 Physical And Chemical Properties :

Appearance	: Solid crystalline powder
Colour	: White
Odour	: Odorless
pH	: 5.0 – 7.5 (5 % in H ₂ O, 25°C)
Boiling Point/range	: Not Applicable
Melting point	: 334 °C
Flash Point	: No data available
Thermal decomposition	: >400 °C
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Density	: 2.1 g/cm ³ .(20 °C)
Bulk density	800kg/m ³
Solubility/qualitative	: Easily soluble in cold water, hot water.
Water solubility	: 320 g/l water at 20°C
Partition coefficient: n- Octanol / water	: Product is more soluble in water. Log(octanol/water) <1.

10 Stability And Reactivity :

Chemical stability

Stable under recommended storage conditions at ambient temperatures.

Conditions to avoid

High temperatures, incompatible materials, exposure to air, combustible materials, organic material, exposure to moist air or water.

Materials to avoid

A risk of explosion and/or of toxic gas formation exists with the following substances:

Strong reducing agents, strong acids, amines, chlorates, finely powdered metals, hydrazine, liquid ammonia, amides (eg butyramide, diethyltoluamide, dimethyl formamide), cyanides, permanganates, hypophosphite, sulfites, tannic acid, carbon, antipyrine, sodium thiosulfate, ammonium salts, cellulose, acetanilide, iodides, mercury salts.

Risk of ignition or formation of inflammable gases or vapors with:

Calcium silicide

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NO_x), Potassium oxides

Hazardous Polymerization: Will not occur.

Thermal decomposition: > 400°C

11 Toxicological Information :

Acute oral toxicity : LD50 Oral (rat)->2000mg/kg

Acute dermal toxicity : LD50 (rat)- >5000 mg/kg

Acute inhalation toxicity : LC50 (rat) > 0.527 (4 h)

Irritation of the eyes : Causes irritation

Irritation of the skin : Causes irritation

RTECS# : TT3700000

Carcinogenicity : Not listed by ACGIH, IARC, EU, NTP or OSHA

Potential health effects : **Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion: Toxic if swallowed.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.

12 Ecological Information :

Ecotoxicity :

Acute aquatic toxicity : LC₅₀ 96 h fresh water fish : 1378 mg/L
Fish LC50 48h Daphnia magna: 490 mg/L

Persistence and degradability :

Biodegradability : In principle only abiotic degradation processes are relevant for the substance. In aqueous solutions, the substance will dissociate into Potassium and nitrate ions. Under anoxic conditions, denitrification occurs and nitrate is ultimately converted into nitrogen as a part of nitrogen cycle.
: KNO₃ has low potential for bioaccumulation based on Physico chemical properties (High water solubility)

Additional ecological information : Nitrate has a low potential for adsorption. Portion not taken up by plants, can leach to ground water.

Other adverse effects : Excess nitrate leaching may enrich water leading to eutrophication

13 Disposal Considerations :

Product

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Empty container should be taken for local recycling, recovery or waste disposal.

14 Transport Information :

UN No. : 1486

Hazard Class : 5.1

Packing Group : III

Proper shipping name : Potassium nitrate

Declaration for land shipment (rail road and road) ADR, RID: UN 1498 Potassium nitrate, 5.1, III

DOT (US)

UN-Number: 1486 Class: 5.1 Packing group: III

Proper shipping name: Potassium nitrate

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN-Number: 1486 Class: 5.1 Packing group: III EMS-No: F-A, S-Q

Proper shipping name: Potassium nitrate

Marine pollutant: No

IATA

UN-Number: 1486 Class: 5.1 Packing group: III

Proper shipping name: Potassium nitrate

Packing instruction, passenger : 516, Maximum quantity 25 Kg

Packing instruction, cargo : 518, Maximum quantity : 100 Kg

15 Regulatory Information :

Safety information according to GHS

Hazard Statement(s) : H272 May intensify fire; oxidiser.
H315 May cause skin irritation
H319 May causes eye irritation
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Precautionary Statement(s) : P220 Keep/Store away from clothing/ combustible materials.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Signal word : Warning

Hazard Pictogram(s) :



RTECS :

Storage class : 5.1 B Oxidizing agents (TRG 515 Group 2+3)

WGK :

Index No. : -

Labeling according to EC Directives

Symbol(s): : O Oxidizing

Risk phrase(s): : R8 Contact with combustible material may cause fire

Safety phrase(s): : S16 Keep away from sources of ignition - No smoking.
S41 In case of fire and/or explosion do not breathe fumes

CAS No. #7631-99-4 is listed on Canada`s DSL list, AICS, ENCS, IECSC, PICCS, KECI

Other regulations : Take note on Dir 94/33/EC on the protection of young people at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.

16 Other Information:

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