

SECTION 1: Identification

1.1. Identification

Product form : Substance
Substance name : Potassium Nitrate
CAS-No. : 7757-79-1
Formula : KNO_3

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory Reagent
Nutritional Supplement
Oral Care; Pharmaceuticals

1.3. Supplier

Manufacturer

Jost Chemical Co.
8150 Lackland Rd.
Saint Louis, Missouri 63114
T 314-428-4300 - F 314-428-4366
sds@jostchemical.com - www.jostchemical.com

1.4. Emergency telephone number

Emergency number : For Hazardous Materials [or Dangerous Goods] Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
United States and Canada: 1-800-424-9300 / +1 703-527-3887
Global: +1 703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Oxidizing solids Category 3 H272 May intensify fire; oxidizer
Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : H272 - May intensify fire; oxidizer
Precautionary statements (GHS-US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P220 - Keep/Store away from clothing, combustibles
P221 - Take any precaution to avoid mixing with combustibles
P280 - Wear eye protection, face protection, face shield, protective clothing, protective gloves.
P370+P378 - In case of fire: Use D-powder to extinguish.
P501 - Dispose of contents/container to an approved waste disposal plant

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

Substance type : Mono-constituent

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Name	Product identifier	%	GHS-US classification
Potassium Nitrate (Main constituent)	(CAS-No.) 7757-79-1	100	Ox. Sol. 3, H272

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 : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
- First-aid measures after skin contact : Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Victim is fully conscious: immediately induce vomiting. Induce vomiting by giving a 0.9 % saline solution. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Doctor: administration of chemical antidote. Call a poison center/doctor/physician if you feel unwell.

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

- Potential Adverse human health effects and symptoms : Obstructs oxygen absorption. Practically non-toxic if swallowed (LD50 oral 2000/5000 mg/kg). Slightly irritant to skin. Slightly irritant to respiratory organs.
- Symptoms/effects after inhalation : AFTER INHALATION OF DUST: Dry/sore throat. Coughing. Irritation of the respiratory tract.
- Symptoms/effects after skin contact : Red skin. ON CONTINUOUS EXPOSURE/CONTACT: Tingling/irritation of the skin.
- Symptoms/effects after eye contact : Redness of the eye tissue. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.
- Symptoms/effects after ingestion : Gastrointestinal complaints. Vomiting. Nausea. Diarrhoea. AFTER INGESTION OF HIGH QUANTITIES: Blood in stool. Methemoglobinemia. FOLLOWING SYMPTOMS MAY APPEAR LATER: Blue/grey discolouration of the skin. Dizziness. Feeling of weakness. Disturbances of heart rate. Headache. Disturbances of consciousness.
- Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires. Water spray. Dry powder. Foam.

5.2. Specific hazards arising from the chemical

- Fire hazard : DIRECT FIRE HAZARD: Non combustible. May intensify fire; oxidizer.
- Explosion hazard : INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
- Reactivity : Reacts with many compounds e.g.: with organic material, with combustible materials, with (some) metals and their compounds and with (strong) reducers. May cause or intensify fire; oxidizer.

5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighborhood close doors and windows.
- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray.

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Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. 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

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit.

Emergency procedures : Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. No open flames, no sparks, and no smoking.

Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighborhood close doors and windows.

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

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapor with water spray. Take account of toxic/corrosive precipitation water.

Methods for cleaning up : Mechanically recover the product. Prevent dispersion by covering with dry sand/earth. Scoop solid spill into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Notify authorities if product enters sewers or public waters.

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid raising dust. Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment.

Hygiene measures : Observe normal hygiene standards. Keep container tightly closed. 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 : Does not require any specific or particular technical measures.

Storage conditions : Store in a clean, dry warehouse in the original unopened containers. Store in a well-ventilated place. Keep cool.

Incompatible materials : Combustible materials.

Storage temperature : 20 °C

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. reducing agents. (strong) acids. metals. organic materials.

Storage area : Store in a dry area. Fireproof storeroom. Detached building. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: synthetic material. glass. MATERIAL TO AVOID: wood.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium Nitrate (7757-79-1)		
DNEL	DNEL	36.7 mg/m ³ (Long-term - systemic effects, inhalation, workers)
PNEC	PNEC	0.45 mg/l (aqua, freshwater)

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Dust production: dust mask with filter type P2. Gloves. Safety glasses.

Materials for protective clothing:

GIVE GOOD RESISTANCE: butyl rubber. neoprene. rubber. GIVE POOR RESISTANCE: natural fibres

Hand protection:

Gloves

Eye protection:

Safety glasses. In case of dust production: protective goggles. Safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Dust production: dust mask with filter type P2

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Crystals. Granules.
Color : Colorless-white
Odor : Odorless
Odor threshold : No data available
pH : 6 - 8 (5 %)
Melting point : 334 °C
Freezing point : Not applicable
Boiling point : Not applicable
Flash point : Not applicable
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : Non flammable.
Vapor pressure : No data available
Relative vapor density at 20 °C : 3
Relative density : 2.1

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Specific gravity / density	: 2100 kg/m ³
Molecular mass	: 101.1 g/mol
Solubility	: Soluble in water. Soluble in glycerol. Water: 32 g/100ml Ethanol: 0.16 g/100ml
Log Pow	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: 400 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: May intensify fire; oxidiser.

9.2. Other information

Minimum ignition energy	: Not applicable
SADT	: Not applicable
VOC content	: 0 %
Other properties	: Translucent.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with many compounds e.g.: with organic material, with combustible materials, with (some) metals and their compounds and with (strong) reducers. May cause or intensify fire; oxidizer.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Refer to section 10.1 on Reactivity.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Combustible materials.

10.6. Hazardous decomposition products

Reacts with (some) acids: release of toxic and corrosive gases/vapors (nitrous vapors).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Potassium Nitrate (7757-79-1)	
LD50 oral rat	3750 mg/kg (Rat)
LC50 inhalation rat (mg/l)	> 0.527 mg/l/4h

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 6 - 8 (5 %)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 6 - 8 (5 %)
Respiratory or skin sensitization	: Not classified (Lack of data)
Germ cell mutagenicity	: Not classified (Lack of data)
Carcinogenicity	: Not classified (Lack of data)
Reproductive toxicity	: Not classified (Lack of data)
Specific target organ toxicity – single exposure	: Not classified (Lack of data)

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Specific target organ toxicity – repeated exposure	: Not classified (Lack of data)
Aspiration hazard	: Not classified (Lack of data)
Viscosity, kinematic	: No data available
Likely routes of exposure	: Skin and eye contact. Inhalation.
Potential Adverse human health effects and symptoms	: Obstructs oxygen absorption. Practically non-toxic if swallowed (LD50 oral 2000/5000 mg/kg). Slightly irritant to skin. Slightly irritant to respiratory organs.
Symptoms/effects after inhalation	: AFTER INHALATION OF DUST: Dry/sore throat. Coughing. Irritation of the respiratory tract.
Symptoms/effects after skin contact	: Red skin. ON CONTINUOUS EXPOSURE/CONTACT: Tingling/irritation of the skin.
Symptoms/effects after eye contact	: Redness of the eye tissue. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.
Symptoms/effects after ingestion	: Gastrointestinal complaints. Vomiting. Nausea. Diarrhoea. AFTER INGESTION OF HIGH QUANTITIES: Blood in stool. Methemoglobinemia. FOLLOWING SYMPTOMS MAY APPEAR LATER: Blue/grey discolouration of the skin. Dizziness. Feeling of weakness. Disturbances of heart rate. Headache. Disturbances of consciousness.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
Ecology - air	: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Slightly harmful to crustacea. Not harmful to fishes. Groundwater pollutant. Mild water pollutant (surface water). May cause eutrophication. Slightly harmful to plankton.

Potassium Nitrate (7757-79-1)

LC50 fish 1	1378 mg/l (96 h, Poecilia reticulata, Static system)
NOEC (acute)	180 mg/l (microorganisms)

12.2. Persistence and degradability

Potassium Nitrate (7757-79-1)

Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Potassium Nitrate (7757-79-1)

Bioaccumulative potential	No bioaccumulation data available.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste)	: LWCA (the Netherlands): KGA category 06.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Do not discharge into surface water. Remove to an authorized dump. Precipitate/make insoluble.
Additional information	: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN1486 Potassium nitrate, 5.1, III
UN-No.(DOT)	: UN1486
Proper Shipping Name (DOT)	: Potassium nitrate
Class (DOT)	: 5.1 - Class 5.1 - Oxidizer 49 CFR 173.128
Packing group (DOT)	: III - Minor Danger
Hazard labels (DOT)	: 5.1 - Oxidizer



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx)	: 240
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 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.
Emergency Response Guide (ERG) Number	: 140
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Transport document description	: UN 1486 POTASSIUM NITRATE, 5.1, III
<tx:_T_02537> (TDG)	: UN 1486
Proper Shipping Name (Transportation of Dangerous Goods)	: POTASSIUM NITRATE
TDG Primary Hazard Classes	: 5.1 - Class 5.1 - Oxidizing Substances
Packing group	: III - Minor Danger

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Transport by sea

Transport document description (IMDG)	: UN 1486 Potassium nitrate, 5.1, III
UN-No. (IMDG)	: 1486
Proper Shipping Name (IMDG)	: Potassium nitrate
Class (IMDG)	: 5.1 - Oxidizing substances
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 kg
EmS-No. (1)	: F-A
EmS-No. (2)	: S-Q

Air transport

Transport document description (IATA)	: UN 1486 Potassium nitrate, 5.1, III
UN-No. (IATA)	: 1486
Proper Shipping Name (IATA)	: Potassium nitrate
Class (IATA)	: 5.1 - Oxidizing Substances
Packing group (IATA)	: III - Minor Danger

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	Immediate (acute) health hazard Delayed (chronic) health hazard

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

15.2. International regulations

CANADA

Potassium Nitrate (7757-79-1)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

Potassium Nitrate (7757-79-1)	
State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List

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 : 06/11/2018

Full text of H-phrases:

H272	May intensify fire; oxidizer
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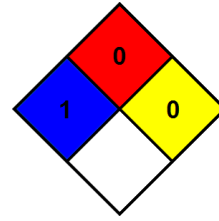
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NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

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.



Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible
* - Chronic (long-term) health effects may result from repeated overexposure

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Indication of changes:

This sheet has been revised completely (changes were not marked).

SDS US (HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product