SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form: Sub stance
Substance name: Potassium Nitrate
EC-No.: 231-818-8
CAS-No.: 7757-79-1
Formula: KNO₃

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses
Use of the substance/mixture: Laboratory Reagent
Nutritional Supplement
Oral Care; Pharmaceuticals

1.2.2. Uses advised against
No additional information available

1.3. Details of the supplier of the safety data sheet

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

Distributor
JOST CHEMICAL EUROPE SPRL
rue du Bois Portal n° 30/1-3
B - 5300 Andenne - BELGIQUE
T +32 85-552655 - F +32 85-552654
info@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: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Oxidising Solids, Category 3
H272
Full text of H statements: see section 16

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP): GHS03

Signal word (CLP): Warning
Hazard statements (CLP): H272 - May intensify fire; oxidizer.
Precautionary statements (CLP): P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 - Keep away from clothing and other combustible materials.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378 - In case of fire: Use media other than water to extinguish.
P501 - 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

PBT: not yet assessed
vPvB: not yet assessed

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type: Mono-constituent
**SECTION 4: First aid measures**

4.1. **Description of first aid measures**

First-aid measures general

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 or a doctor if you feel unwell.

4.2. **Most important symptoms and effects, both acute and delayed**

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
- ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation.

4.3. **Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures**

5.1. **Extinguishing media**

Suitable extinguishing media

5.2. **Special hazards arising from the substance or mixture**

Fire hazard
- DIRECT FIRE HAZARD: Non combustible. May intensify fire; oxidizer.

Explosion hazard
- INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".

Hazardous decomposition products in case of fire
- On heating/burning: release of toxic and corrosive gases/vapours (nitrous vapours).

5.3. **Advice for firefighters**

Precautionary measures fire
- Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions
- Cool tanks/drum with water spray/remove them into safety. Dilute toxic gases with water spray.

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

Measures in case of dust release: In case of dust production: keep upwind. Dust production: have neighbourhood 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/vapour 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 and ignition sources: KEEP SUBSTANCE AWAY FROM: heat sources.


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.

7.3. Specific end use(s)
No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium Nitrate (7757-79-1)

DNEL/DMEL (Workers)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term - systemic effects, dermal</td>
<td>20.8 mg/kg bw/day</td>
</tr>
<tr>
<td>Long-term - systemic effects, inhalation</td>
<td>36.7 mg/m³</td>
</tr>
</tbody>
</table>

PNEC (Water)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC aqua (freshwater)</td>
<td>0.45 mg/l</td>
</tr>
<tr>
<td>PNEC aqua (marine water)</td>
<td>0.045 mg/l</td>
</tr>
<tr>
<td>PNEC (STP)</td>
<td></td>
</tr>
<tr>
<td>PNEC sewage treatment plant</td>
<td>18 mg/l</td>
</tr>
</tbody>
</table>
8.2. Exposure controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Crystals. Granules.</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>101.1 g/mol</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless-white.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>6 - 8 (5 %)</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>334 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>400 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>3</td>
</tr>
<tr>
<td>Relative density</td>
<td>2.1</td>
</tr>
<tr>
<td>Density</td>
<td>2100 kg/m³</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water. Soluble in glycerol.</td>
</tr>
<tr>
<td>Water: 32 g/100ml</td>
<td>Ethanol: 0.16 g/100ml</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Potassium Nitrate
Safety Data Sheet
according to Regulation (EC) No. 453/2010

Oxidising properties : May intensify fire; oxidiser.
Explosive limits : Not applicable

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; oxidiser.

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/vapours (nitrous vapours).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Potassium Nitrate (7757-79-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
<tr>
<td>Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)</td>
</tr>
</tbody>
</table>

LD50 oral rat : 3750 mg/kg (Rat)
LC50 inhalation rat (mg/l) : > 0.527 mg/l/4h
Causes serious eye damage: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: 6 - 8 (5 %)
Respiratory or skin sensitisation : 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)
STOT-single exposure : Not classified (Lack of data)
STOT-repeated exposure : Not classified (Lack of data)
Aspiration hazard : Not classified (Not applicable)
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.

SECTION 12: Ecological information

12.1. Toxicty
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).
Dangerous for the environment : Not classified
Chronic aquatic toxicity : Not classified

<table>
<thead>
<tr>
<th>Potassium Nitrate (7757-79-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1 : 1378 mg/l (96 h, Poecilia reticulata, Static system)</td>
</tr>
<tr>
<td>NOEC (acute) : 180 mg/l (microorganisms)</td>
</tr>
</tbody>
</table>
12.2. Persistence and degradability

Potassium Nitrate (7757-79-1)

<table>
<thead>
<tr>
<th>Persistence and degradability</th>
<th>Biodegradability: not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ThOD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

Potassium Nitrate (7757-79-1)

| Bioaccumulative potential | No bioaccumulation data available. |

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Potassium Nitrate (7757-79-1)

<table>
<thead>
<tr>
<th>PBT</th>
<th>vPvB</th>
</tr>
</thead>
<tbody>
<tr>
<td>not yet assessed</td>
<td>not yet assessed</td>
</tr>
</tbody>
</table>

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment 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.


SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

| UN-No. (ADR) | 1486 |
| UN-No. (IMDG) | 1486 |
| UN-No. (IATA) | 1486 |
| UN-No. (ADN) | 1486 |
| UN-No. (RID) | 1486 |

14.2. UN proper shipping name

| Proper Shipping Name (ADR) | Potassium nitrate |
| Proper Shipping Name (IMDG) | Potassium nitrate |
| Proper Shipping Name (IATA) | Potassium nitrate |
| Proper Shipping Name (ADN) | Potassium nitrate |
| Proper Shipping Name (RID) | Potassium nitrate |

Transport document description (ADR): UN 1486 Potassium nitrate, 5.1, III, (E)

Transport document description (IMDG): UN 1486 Potassium nitrate, 5.1, III

Transport document description (IATA): UN 1486 Potassium nitrate, 5.1, III

Transport document description (ADN): UN 1486 Potassium nitrate, 5.1, III

Transport document description (RID): UN 1486 Potassium nitrate, 5.1, III

14.3. Transport hazard class(es)

ADR

| Transport hazard class(es) (ADR) | 5.1 |
| Danger labels (ADR) | 5.1 |
Potassium Nitrate
Safety Data Sheet
according to Regulation (EC) No. 453/2010

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

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

ADN
Transport hazard class(es) (ADN) : 5.1
Danger labels (ADN) : 5.1

RID
Transport hazard class(es) (RID) : 5.1
Danger labels (RID) : 5.1

14.4. Packing group
Packing group (ADR) : III
Packing group (IMDG) : III
Packing group (IATA) : III
Packing group (ADN) : III
Packing group (RID) : III

14.5. Environmental hazards
Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user
Overland transport
Transport regulations (ADR) : Not subject
Classification code (ADR) : O2
Hazard identification number (Kemler No.) : 50
Orange plates : 50 1486
Tunnel restriction code (ADR) : E

Transport by sea
Transport regulations (IMDG) : Not subject
Special provisions (IMDG) : 964, 967
Limited quantities (IMDG) : 5 kg
Potassium Nitrate
Safety Data Sheet
according to Regulation (EC) No. 453/2010

Excepted quantities (IMDG): E1
Packing instructions (IMDG): P002, LP02
IBC packing instructions (IMDG): IBC08
IBC special provisions (IMDG): B3
Tank instructions (IMDG): T1, BK2, BK3
Tank special provisions (IMDG): TP33
EmS-No. (Fire): F-A
EmS-No. (Spillage): S-Q
Stowage category (IMDG): A

Air transport
Transport regulations (IATA): Not subject
PCA Excepted quantities (IATA): E1
PCA Limited quantities (IATA): Y546
PCA limited quantity max net quantity (IATA): 10kg
PCA packing instructions (IATA): 559
PCA max net quantity (IATA): 25kg
CAO packing instructions (IATA): 563
CAO max net quantity (IATA): 100kg
ERG code (IATA): 5L

Inland waterway transport
Transport regulations (ADN): Not subject
Classification code (ADN): O2
Carriage permitted (ADN): B

Rail transport
Transport regulations (RID): Not subject
Classification code (RID): O2

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations
No REACH Annex XVII restrictions
Potassium Nitrate is not on the REACH Candidate List
Potassium Nitrate is not on the REACH Annex XIV List
VOC content: 0 %
Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on the Canadian DSL (Domestic Substances List)

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:
This sheet was updated (refer to the date at the top of this page).

Full text of H- and EUH-statements:

| Ox. Sol. 3 | Oxidising Solids, Category 3 |
| H272 | May intensify fire; oxidizer |

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.