Potassium Nitrate
Safety Data Sheet
according to Regulation (EC) No. 453/2010
Date of issue:11/9/2015 Revision date:11/9/2015 Supersedes:7/2/2015 Version: 9.4

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

1.1. Product identifier

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>Potassium Nitrate</td>
</tr>
<tr>
<td>EC no</td>
<td>231-818-8</td>
</tr>
<tr>
<td>CAS No</td>
<td>7757-79-1</td>
</tr>
<tr>
<td>Product code</td>
<td>1665, 2996, 2997, 2998, 2999, 3569, 3660, 3661, 3663, 3664, 3665, 3667, 3668, 3669 &amp; 3999</td>
</tr>
<tr>
<td>Type of product</td>
<td>Pure substance</td>
</tr>
<tr>
<td>Formula</td>
<td>KNO3</td>
</tr>
</tbody>
</table>

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 chemical

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
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@josteurope.com

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

1.4. Emergency telephone number

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service (Birmingham Centre)</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0844 892 0111</td>
<td>UK only, Monday to Friday, 08.00 to 18.00 hours</td>
</tr>
</tbody>
</table>

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

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

Signal word (CLP): Warning

Hazard statements (CLP): H272 - May intensify fire; oxidiser

Precautionary statements (CLP): P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P220 - Keep/Store away from combustibles
P221 - Take any precaution to avoid mixing with combustibles
P280 - Wear protective gloves, protective clothing, face shield, face protection, eye protection
P370+P378 - In case of fire: Use alcohol resistant foam, dry extinguishing powder, dry sand to extinguish
P501 - Dispose of contents/container to an approved waste disposal plant

Child-resistant fastening: No

Tactile warning: No
2.3. Other hazards
PBT: not yet assessed
vPvB: not yet assessed

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Substance</th>
<th>Substance type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Nitrate</td>
<td>Mono-constituent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Nitrate</td>
<td>(CAS No) 7757-79-1</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>(EC no) 231-818-8</td>
<td></td>
</tr>
</tbody>
</table>

Full text of H-statements: see section 16

3.2. Mixture
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures


First-aid measures after inhalation: Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Rinse with water. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.

First-aid measures after eye contact: Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

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.

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

Symptoms/injuries after inhalation: Dry/sore throat. Coughing. Irritation of the respiratory tract.

Symptoms/injuries after skin contact: Red skin. ON CONTINUOUS EXPOSURE/CONTACT: Tingling/irritation of the skin.

Symptoms/injuries after eye contact: Redness of the eye tissue. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the eye tissue.


Chronic symptoms: 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: Adapt extinguishing media to the environment.

Unsuitable extinguishing media: No unsuitable extinguishing media known.

5.2. Special hazards arising from the substance or mixture

Fire hazard: DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Promotes combustion. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard: No data available on direct explosion hazard. No data available on indirect explosion hazard.

Hazardous decomposition products in case of fire: Toxic fumes may be released.
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/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray.


SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel


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

Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment: Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill. 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: Prevent dispersion by covering with dry sand/earth. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

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: Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

Hygiene measures: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. 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 temperature: 20 °C

Heat and ignition sources: heat sources.


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

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
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according to Regulation (EC) No. 453/2010

DNEL : 36.7 mg/m³ (Long-term - systemic effects, inhalation, workers)
PNEC : 0.45 mg/l (aqua, freshwater)

8.2. Exposure controls
Appropriate engineering controls : Extraction to remove dust at its source. Ensure good ventilation of the work station.
Materials for protective clothing : Wear suitable protective clothing, gloves and eye/face protection
Hand protection : Impermeable protective gloves
Eye protection : Safety glasses. In case of dust production: protective goggles
Skin and body protection : Protective clothing
Respiratory protection : Dust production: dust mask with filter type P2

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state : Solid
Appearance : Crystalline solid. Crystalline powder.
Molecular mass : 101.10 g/mol
Colour : Colourless-white.
Odour : Odourless.
Odour threshold : No data available
pH : 6 - 8 (5 %)
Relative evaporation rate (butylacetate=1) : No data available
Melting point : 334 °C
Freezing point : Not applicable
Boiling point : Not applicable
Flash point : Not applicable
Auto-ignition temperature : Not applicable
Decomposition temperature : 400 °C
Flammability (solid, gas) : Non flammable
Vapour pressure : No data available
Relative vapour density at 20 °C : 3
Relative density : 2.1
Density : 2100 kg/m³
Solubility : Soluble in water. Soluble in glycerol.
Water: 32 g/100ml
Ethanol: 0.16 g/100ml
Log Pow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : May intensify fire; oxidiser.
Explosive limits : Not applicable

9.2. Other information
Minimum ignition energy : Not applicable
SADT : Not applicable
VOC content : Not applicable
Other properties : Translucent.
**Potassium Nitrate**

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Decomposes on exposure to temperature rise: release of oxygen. On burning: release of toxic and corrosive gases/vapours (nitrous vapours). Violent to explosive reaction with many compounds e.g.: with organic material, with combustible materials, with (some) metals and their compounds and with (strong) reducers. Reacts with (some) acids: release of toxic and corrosive gases/vapours (nitrous vapours).

#### 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


#### 10.6. Hazardous decomposition products


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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Potassium Nitrate (7757-79-1)</th>
<th>LD50 oral rat</th>
<th>3750 mg/kg (Rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 0.527 mg/l/4h</td>
<td></td>
</tr>
</tbody>
</table>

Causes serious eye damage

<table>
<thead>
<tr>
<th>Potassium Nitrate (7757-79-1)</th>
<th>Not classified (Based on available data, the classification criteria are not met)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6 - 8 (5 %)</td>
</tr>
</tbody>
</table>

Serious eye damage/irritation

<table>
<thead>
<tr>
<th>Potassium Nitrate (7757-79-1)</th>
<th>Not classified (Based on available data, the classification criteria are not met)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6 - 8 (5 %)</td>
</tr>
</tbody>
</table>

Respiratory or skin sensitisation

| Potassium Nitrate (7757-79-1) | Not classified (Lack of data)                                                      |

Germ cell mutagenicity

| Potassium Nitrate (7757-79-1) | Not classified (Lack of data)                                                      |

Carcinogenicity

| Potassium Nitrate (7757-79-1) | Not classified (Lack of data)                                                      |

Reproductive toxicity

| Potassium Nitrate (7757-79-1) | Not classified (Lack of data)                                                      |

Specific target organ toxicity (single exposure)

| Potassium Nitrate (7757-79-1) | Not classified (Lack of data)                                                      |

Specific target organ toxicity (repeated exposure)

| Potassium Nitrate (7757-79-1) | Not classified (Lack of data)                                                      |

Aspiration hazard

| Potassium Nitrate (7757-79-1) | Not classified (Not applicable)                                                    |

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general

| Potassium Nitrate (7757-79-1) | The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment. |

Ecology - air

| Potassium Nitrate (7757-79-1) | Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). |

Ecology - water

| Potassium Nitrate (7757-79-1) | Mild water pollutant (surface water). Ground water pollutant. Maximum concentration in drinking water: 50 mg/l (nitrate) (Directive 98/83/EC). Not harmful to fishes (LC50(96h) >1000 mg/l). Slightly harmful to invertebrates (Daphnia) (EC50 (48h): 100 - 1000 mg/l). May cause eutrophication. Slightly harmful to plankton (EC50: 100 - 1000 mg/l). |

<table>
<thead>
<tr>
<th>Potassium Nitrate (7757-79-1)</th>
<th>LC50 fish 2</th>
<th>1378 mg/l (LC50: 96 h; Poecilia reticulata)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 other aquatic organisms 2</td>
<td>490 mg/l (48 h; Daphnia magna)</td>
<td></td>
</tr>
<tr>
<td>NOEC (acute)</td>
<td>180 mg/l (microorganisms)</td>
<td></td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

**Potassium Nitrate (7757-79-1)**

| Potassium Nitrate (7757-79-1) | Biodegradability: not applicable. |

| Potassium Nitrate (7757-79-1) | Not applicable. |

| Potassium Nitrate (7757-79-1) | Chemical oxygen demand (COD) |

**Potassium Nitrate (7757-79-1)**

| Potassium Nitrate (7757-79-1) | Not applicable. |

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11/9/2015 EN (English)
Potassium Nitrate (7757-79-1)  
ThOD : Not applicable

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

<table>
<thead>
<tr>
<th>Component</th>
<th>PBT</th>
<th>vPvB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Nitrate (7757-79-1)</td>
<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

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Precipitate/make insoluble. Remove to an authorized dump (Class I). Do not discharge into surface water.

Additional information : LWCA (the Netherlands): KGA category 05. Hazardous waste according to Directive 2008/98/EC.

European List of Waste (LoW) code : 06 10 02* - wastes containing dangerous substances

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

14.3. Transport hazard class(es)

ADR

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

IMDG

Transport hazard class(es) (IMDG) : 5.1  
Danger labels (IMDG) : 5.1
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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) : 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) : Subject
Potassium Nitrate
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according to Regulation (EC) No. 453/2010

Special provisions (IMDG) : 964, 967
Limited quantities (IMDG) : 5 kg
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) : Subject to the provisions
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
No data available

- Rail transport
Transport regulations (RID) : Subject

14.7. Transport in bulk according to Annex II of MARPOL 73/78 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
Contains no substance on the REACH candidate list
Potassium Nitrate is not on the REACH Annex XIV List
Contains no REACH Annex XIV substances

VOC content : Not applicable

15.1.2. National regulations
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on INSO (Mexican national Inventory of Chemical Substances)
Listed on N2IoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

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:
### Potassium Nitrate

#### Safety Data Sheet

according to Regulation (EC) No. 453/2010

<table>
<thead>
<tr>
<th>Ox. Sol. 3</th>
<th>Oxidising Solids, Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>H272</td>
<td>May intensify fire; oxidiser</td>
</tr>
</tbody>
</table>

SDS EU (REACH Annex II)

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.