Potassium Nitrate

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 06/30/2014

SECTION 1: Identification of the substance/mixture

1.1. Product identifier

Product form	:	Substance
Substance name	:	Potassium Nitrate
Formula	:	KNO_3
Molecular weight	:	101.10 g/mol
CAS No.	:	7757-79-1
Product code	:	LW-KNO3
Synonyms	:	Saltpeter

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

Use of the substance/mixture	:	Manufacture of substances

1.3. Emergency telephone number

Emergency number	:	1.800.424.9300 (USA) +1.703.527.3887 (INT)

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing solids (Category 3), H272

Acute aquatic toxicity (Category 3), H402

Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label elements

GHS Label elements, including precautionary statements

Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Warning

Hazard statements (GHS-US)

H272 : May intensify fire; oxidiser.

H412 : Harmful to aquatic life with long lasting effects.

Precautionary statements (GHS-US)

P210 : Keep away from heat.

P220	:	Keep/Store away from clothing/ combustible materials.
P221	:	Take any precaution to avoid mixing with combustibles.
P273	:	Avoid release to the environment.
P280	:	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P370 + P378	:	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P501	:	Dispose of contents/ container to an approved waste disposal plant.

2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

none

SECTION 3: Composition/information on ingredients

3.1. Substances

Component	Classification	Concentration
Potassium Nitrate	Ox. Sol. 3; Aquatic Acute 3; Aquatic Chronic 3; H272, H412	<= 100 %
For the full text of the H-Statements mentioned in this Section, see Section 16.		

SECTION 4: Description of first aid measures

4.1. Description of first aid measures

General advice	:	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	:	Wash off with soap and plenty of water. Consult a physician.
First-aid measures after eye contact	:	Flush eyes with water as a precaution.
First-aid measures after ingestion	:	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

no data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

nitrogen oxides (NOx), Potassium oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus for fire-fighting if necessary.

5.4. More Information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2. 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.

6.3. Methods and material for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1. 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 heat and sources of ignition. Normal measures for preventive fire protection.

For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic

7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3. Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin Protection : Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method:
EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the

		CE approved gloves. This recommendation is advisory only and must be evaluated by an Sigma-Aldrich - P8394 Page 4 of 8 industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
Body protection	:	Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
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).
Environmental exposure controls	:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	:	Form: crystalline Color: white
Odor	:	No data available
Odor Threshold	:	No data available
pH	:	5.5 - 8 at 50 g/l at 20 °C (68 °F)
Melting point/freezing point	:	Melting point/range: 334 °C (633 °F) - lit.
Initial boiling point and boiling range	:	No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper/lower flammability or explosive limits	:	No data available
Vapor pressure	:	No data available
Vapor density	:	No data available
Relative density	:	2.109 g/cm3

Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

Bulk density	:	800 kg/m3

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Strong reducing agents, Powdered metals, Strong acids, Organic materials

10.6. Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	LD50 Oral - rat - 3,750 mg/kg Inhalation: no data available Dermal: no data available no data available
Skin corrosion/irritation	:	no data available

Serious eye damage/irritation	:	No data available
Respiratory or skin sensitization	:	No data available
Germ cell mutagenicity	:	No data available
Carcinogenicity		
IARC:	:	2A - Group 2A: Probably carcinogenic to humans (Potassium nitrate)
ACGIH:	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity	:	no data available Reproductive toxicity - rat - Oral Effects on Fertility: Other measures of fertility Reproductive toxicity - rat - Oral Effects on Newborn: Behavioral. Reproductive toxicity - rabbit - Oral Effects on Fertility: Abortion. Reproductive toxicity - guinea pig - Oral Sigma-Aldrich - P8394 Page 6 of 8 Effects on Newborn: Stillbirth. Reproductive toxicity - guinea pig - Oral Effects on Fertility: Female fertility index (e.g., # females pregnant per # sperm positive females; # females pregnant per # females mated). Effects on Embryo or Fetus: Other effects to embryo. no data available
Specific target organ toxicity (single exposure)	:	No data available
Specific target organ toxicity (repeated exposure)	:	No data available
Aspiration hazard	:	No data available

Additional Information	:	RTECS: TT3700000 Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer. Liver - Irregularities - Based on Human Evidence Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish	:	LC50 - Gambusia affinis (Mosquito fish) - 22.5 mg/l - 96 h static test LC50 - Poecilia reticulata (guppy) - 1,378 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 - Daphnia magna (Water flea) - 226 mg/l - 72 h

12.2. Persistence and degradability

no data available

12.3. Bioaccumulative potential

Bioaccumulation	:	no data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6. Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	:	Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. 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.

Contaminated Packaging : Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number	:	1486
Class	:	5.1
Packing group	:	III
Proper shipping name	:	Potassium nitrate
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

SECTION 15: Regulatory information

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Potassium nitrate	CAS-No.	Revision Date
	7757-79-1	2007-03-01

SARA 311/312 Hazards

Reactivity Hazard, Acute Health Hazard

Massachusetts Right To Know Components

Potassium nitrate	CAS-No.	Revision Date
	7757-79-1	2007-03-01

Pennsylvania Right To Know Components

Potassium nitrate	CAS-No.	Revision Date
	7757-79-1	2007-03-01

New Jersey Right To Know Components

Potassium nitrate	CAS-No.	Revision Date
	7757-79-1	2007-03-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
H272	:	May intensify fire; oxidizer.
H402	:	Harmful to aquatic life.
H412	:	Harmful to aquatic life with long lasting effects.

HMIS Rating

Health Hazard	:	1
Chronic Health Hazard	:	
Flammability	:	0
Physical Hazard	:	1

NFPA Rating

Health hazard	:	0
Fire Hazard	:	0
Reactivity Hazard	:	1
Special Hazard	:	OX

Further Information

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and Loudwolf Holdings Ltd. assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his/her application.