

## POTASSIUM NITRATE MSDS

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifiers

Product name : Potassium Nitrate  
Product Code – P 2387  
CAS-No. : 7757-79-1

1.2 Relevant identified uses of the substance or mixture and uses advised against  
Identified uses : Laboratory chemicals, Industrial & for professional use only.

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Oxidizing solids (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Contact with combustible material may cause fire.

#### 2.2 Label elements

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

Pictogram

Signal word Warning

Hazard statement(s)

H272 May intensify fire; oxidiser.

Precautionary statement(s)

P220 Keep/Store away from clothing/ combustible materials.

Supplemental Hazard none

Statements

According to European Directive 67/548/EEC as amended

R-phrases(s)

R 8 Contact with combustible material may cause fire.

S-phrases(s) none

2.3 Other hazards - none

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Formula : KNO<sub>3</sub>  
Molecular Weight : 101,10 g/mol

### 4. 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.

If inhaled

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

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

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

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.

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

no data available

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable 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 (NO<sub>x</sub>), Potassium oxides

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

## 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.

### 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 materials 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.

## 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.

### 7.2 Conditions for safe storage, including any incompatibilities

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

hygroscopic

### 7.3 Specific end uses

no data available

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Components with workplace control parameters

### 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.

Personal protective equipment

Eye/face 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.

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).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- a) Appearance Form: crystalline  
Colour: white
- b) Odour no data available
- c) Odour Threshold no data available
- d) pH 5,5 - 8 at 50 g/l at 20 °C
- e) Melting point/freezing Melting point/range: 334 °C - lit.  
point
- f) Initial boiling point and no data available  
boiling range
- g) Flash point no data available
- h) Evaporation rate no data available
- i) Flammability (solid, gas) no data available
- j) Upper/lower no data available  
flammability or  
explosive limits
- k) Vapour pressure no data available
- l) Vapour density no data available
- m) Relative density 2,109 g/cm<sup>3</sup>
- n) Water solubility no data available
- o) Partition coefficient: n- no data available  
octanol/water
- p) Autoignition no data available  
temperature
- q) Decomposition no data available  
temperature
- r) Viscosity no data available
- s) Explosive properties no data available
- t) Oxidizing properties no data available

### 9.2 Other safety information

Bulk density 800 kg/m<sup>3</sup>

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 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

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 3.750 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye 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)

Reproductive toxicity

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  
 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. Specific target organ toxicity - single exposure  
 no data available  
 Specific target organ toxicity - repeated exposure  
 no data available  
 Aspiration hazard  
 no data available  
 Potential health effects  
 Inhalation                      May be harmful if inhaled. May cause respiratory tract irritation.  
 Ingestion                        May be harmful if swallowed.  
 Skin                                May be harmful if absorbed through skin. May cause skin irritation.  
 Eyes                                May cause eye irritation.  
 Signs and Symptoms of Exposure  
 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.  
 Additional Information  
 RTECS: TT3700000

## 12. ECOLOGICAL INFORMATION

12.1 Toxicity  
 Toxicity to fish                      LC50 - Gambusia affinis (Mosquito fish) - 22,5 mg/l - 96 h  
 Toxicity to daphnia and            EC50 - Daphnia magna (Water flea) - 226 mg/l - 72 h  
 other aquatic  
 invertebrates  
 12.2 Persistence and degradability  
 no data available  
 12.3 Bioaccumulative potential  
 no data available  
 12.4 Mobility in soil  
 no data available  
 12.5 Results of PBT and vPvB assessment  
 no data available  
 12.6 Other adverse effects  
 Harmful to aquatic life.

## 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.  
 Contaminated packaging  
 Dispose of as unused product.

## 14. TRANSPORT INFORMATION

14.1 UN number		
ADR/RID: 1486	IMDG: 1486	IATA: 1486
14.2 UN proper shipping name		
ADR/RID:	POTASSIUM NITRATE	
IMDG:	POTASSIUM NITRATE	
IATA:	Potassium nitrate	

14.3 Transport hazard class(es)		
ADR/RID: 5.1	IMDG: 5.1	IATA: 5.1
14.4 Packaging group		
ADR/RID: III	IMDG: III	IATA: III
14.5 Environmental hazards		
ADR/RID: no	IMDG Marine pollutant: no	IATA: no
14.6 Special precautions for user		
no data available		

## 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

15.2 Chemical Safety Assessment

no data available

## 16. OTHER INFORMATION

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text