

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 30.07.2018

Version 9.14

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**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No. 105063

Product name Potassium nitrate for analysis EMSURE® ISO, Reag. Ph Eur

REACH Registration Number 01-2119488224-35-XXXX

CAS-No. 7757-79-1

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

Identified uses Reagent for analysis  
For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

**1.3 Details of the supplier of the safety data sheet**

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone: +49 6151 72-0

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

**1.4 Emergency telephone number** Please contact the regional company representation in your country.

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**SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Oxidizing solid, Category 3, H272

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

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## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

#### *Hazard pictograms*



#### *Signal word*

Warning

#### *Hazard statements*

H272 May intensify fire; oxidizer.

### Reduced labelling (≤125 ml)

#### *Hazard pictograms*



#### *Signal word*

Warning

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## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	KNO <sub>3</sub>	KNO <sub>3</sub> (Hill)
EC-No.	231-818-8	
Molar mass	101,10 g/mol	

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Remarks No disclosure requirement according to Regulation (EC) No. 1907/2006.

## 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

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

The following applies to nitrites/nitrates in general: methaemoglobinaemia after the uptake of large quantities.

irritant effects, Diarrhoea, Nausea, Vomiting

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

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Not combustible.

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Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

nitrous gases, nitrogen oxides

## 5.3 Advice for firefighters

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

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### *Advice on safe handling*

Observe label precautions.

### *Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

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

### *Storage conditions*

Tightly closed. Do not store near combustible materials.

Recommended storage temperature see product label.

## **7.3 Specific end use(s)**

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

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## **SECTION 8. Exposure controls/personal protection**

### **8.1 Control parameters**

### **8.2 Exposure controls**

#### **Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### **Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material: Nitrile rubber

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Glove thickness: 0,11 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0,11 mm  
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### *Other protective equipment*

protective clothing

### *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### **Environmental exposure controls**

Do not let product enter drains.

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## **SECTION 9. Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Form crystalline

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Colour	white
Odour	odourless
Odour Threshold	Not applicable
pH	5,0 - 7,5 at 50 g/l 20 °C
Melting point	334 °C
Boiling point/boiling range	Not applicable
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	No information available.
Relative density	No information available.
Water solubility	320 g/l at 20 °C

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Partition coefficient: n-octanol/water No information available.

Auto-ignition temperature No information available.

Decomposition temperature > 400 °C

Viscosity, dynamic No information available.

Explosive properties Not classified as explosive.

Oxidizing properties May intensify fire; oxidizer.

The substance or mixture is classified as oxidizing with the category 3.

## 9.2 Other data

Ignition temperature Not applicable

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

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Cyanides, Sulphides, combustible substances, Fluorine, Potassium, acetates, oxidisable substances, phosphides, Organic Substances, Peroxides, Aluminium, antimony, charcoal, Titanium, Zinc, Powdered metals, arsenic, Boron, Germanium, nitrides, magnesium, sodium thiosulphate, phosphorus, strong reducing agents, sulfur, sugars

Generates dangerous gases or fumes in contact with:



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Acids

Possible formation of:

nitrogen dioxide

Risk of ignition or formation of inflammable gases or vapours with:

calcium silicide

## 10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

## 10.5 Incompatible materials

no information available

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

*Acute oral toxicity*

LD50 Rat: 3.015 mg/kg

(IUCLID)

Symptoms: Irritation of mucous membranes, Nausea, Vomiting, Diarrhoea

*Acute inhalation toxicity*

This information is not available.

*Acute dermal toxicity*

This information is not available.

*Skin irritation*

This information is not available.

*Eye irritation*

slight irritation

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## *Sensitisation*

This information is not available.

## *Germ cell mutagenicity*

### *Genotoxicity in vitro*

Ames test

Result: negative

(IUCLID)

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## **11.2 Further information**

After absorption of large quantities:

Methaemoglobinaemia with headache, cardiac arrhythmia, drop in blood pressure, dyspnoea, and spasms, key symptom: cyanosis (blue colouration of the blood).

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12. Ecological information**

### **12.1 Toxicity**

#### *Toxicity to fish*

LC50 *Poecilia reticulata* (guppy): 191 mg/l; 96 h  
(ECOTOX Database)

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*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 490 mg/l; 48 h  
(IUCLID)

## 12.2 Persistence and degradability

No information available.

## 12.3 Bioaccumulative potential

No information available.

## 12.4 Mobility in soil

No information 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

*Additional ecological information*

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

**Land transport (ADR/RID)**

14.1 UN number	UN 1486
14.2 Proper shipping name	POTASSIUM NITRATE
14.3 Class	5.1
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

**Inland waterway transport (ADN)**

Not relevant

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## Air transport (IATA)

14.1 UN number UN 1486  
14.2 Proper shipping name POTASSIUM NITRATE  
14.3 Class 5.1  
14.4 Packing group III  
14.5 Environmentally hazardous --  
14.6 Special precautions for user no

## Sea transport (IMDG)

14.1 UN number UN 1486  
14.2 Proper shipping name POTASSIUM NITRATE  
14.3 Class 5.1  
14.4 Packing group III  
14.5 Environmentally hazardous --  
14.6 Special precautions for user yes  
EmS F-A S-Q

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard SEVESO III  
Legislation OXIDIZING LIQUIDS AND SOLIDS  
P8  
Quantity 1: 50 t  
Quantity 2: 200 t  
  
Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1\%$  (w/w).

#### *National legislation*

Storage class 5.1B

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

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

H272 May intensify fire; oxidizer.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*

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Warning

*Hazard statements*

H272 May intensify fire; oxidizer.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

**Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*