according to Regulation (EC) No. 1907/2006 (REACH)

Potassium nitrate ≥99 %, Ph. Eur., BP

article number: 4397 date of compilation: 2015-06-19 Version: **3.0 en**

Replaces version of: 2020-06-26

Version: (2)

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

Product identifier 1.1

Identification of the substance Potassium nitrate ≥99 %, Ph. Eur., BP

Article number 4397

Registration number (REACH) 01-2119488224-35-xxxx

EC number 231-818-8 CAS number 7757-79-1

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: Do not use for products which come into contact

with foodstuffs. Do not use for private purposes

(household).

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG Schoemperlenstr, 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de Website: www.carlroth.de

Competent person responsible for the safety data :Department Health, Safety and Environment

sheet:

sicherheit@carlroth.de e-mail (competent person):

1.4 **Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

SECTION 2: Hazards identification

Classification of the substance or mixture 2.1

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
2.14	Oxidising solid	3	Ox. Sol. 3	H272

For full text of abbreviations: see SECTION 16

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2.2 Label elements

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

Signal word Warning

Pictograms

GHS03



Hazard statements

H272 May intensify fire; oxidiser

Precautionary statements

Precautionary statements - prevention

P210 Keep away from open flames and hot surfaces. No smoking

P220 Keep/store away from combustible materials

Labelling of packages where the contents do not exceed 125 ml

Signal word: Warning

Symbol(s)



2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance Potassium nitrate

Molecular formula KNO₃

Molar mass 101,1 g/_{mol}

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SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects, Nausea, Vomiting, Methaemoglobinaemia

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Oxidising property. Non-combustible.

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NOx)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid dust formation. When not in use, keep containers tightly closed.

Measures to prevent fire as well as aerosol and dust generation

Keep away from combustible material.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage. Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

7.3 Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

Environmental values

Relevant	Relevant PNECs and other threshold levels							
End- point	Threshold level	Environmental com- partment	Exposure time					
PNEC	18 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)				

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection





Use safety goggle with side protection.

Skin protection





hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

type of material

NBR (Nitrile rubber)

material thickness

>0.11 mm

breakthrough times of the glove material

>480 minutes (permeation: level 6)

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

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Respiratory protection





Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state solid

Form crystalline
Colour whitish
Odour odourless
Melting point/freezing point 334 °C

Boiling point or initial boiling point and boiling

range

not determined

Flammability non-combustible
Lower and upper explosion limit not determined
Flash point not applicable
Auto-ignition temperature not determined

Decomposition temperature >400 °C

pH (value) 4,5 – 8,5 (in aqueous solution: $50 \, {}^{9}/_{1}$, $20 \, {}^{\circ}$ C)

Kinematic viscosity not relevant

Solubility(ies)

Water solubility $\sim 320 \, {}^{9}/_{1}$ at 20 ${}^{\circ}$ C

Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure not determined

Density $2,1 \text{ g/}_{\text{cm}^3}$ at 20 °C

Relative vapour density information on this property is not available

Bulk density $\sim 800 \, ^{\mathrm{kg}}/_{\mathrm{m}^3}$

Particle characteristics No data available.

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Other safety parameters

Oxidising properties oxidiser

9.2 Other information

Information with regard to physical hazard

classes:

There is no additional information.

Other safety characteristics: There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance. Oxidising property.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Aluminium, Combustible materials, Potassium, Carbon, Magnesium, Metal powder, Peroxides, Phosphorus, Reducing agents, Sulphur, Cyanides, => Explosive properties

10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: >400 °C.

10.5 Incompatible materials

combustible materials

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Acute toxicity							
Exposure route	Endpoint	Value	Species	Method	Source		
oral	oral LD50 >2.000 ^{mg} / _{kg}		rat		ECHA		
dermal	LD50	>5.000 ^{mg} / _{kg}	rat		ECHA		

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

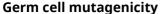
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Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

If swallowed

causes slight to moderate irritation

Data are not available.

• If on skin

Frequently or prolonged contact with skin may cause dermal irritation

Other adverse effects: Headache, Dyspnoea, Blood pressure drop, Spasms, Methaemoglobinaemia, Cyanosis (blue coloured blood)

11.2 Endocrine disrupting properties

Not listed.

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity (acute)						
Endpoint	Value	Species	Source	Exposure time		
LC50	>100 ^{mg} / _l	fish	ECHA	96 h		
EC50	490 ^{mg} / _l	aquatic invertebrates	ECHA	48 h		

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Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Specific target organ toxicity - single exposure

gastrointestinal complaints, diarrhoea, nausea, vomiting

• If in eyes

If inhaled

Other information

Shall not be classified as hazardous to the aquatic environment.

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Agu	atic	toxicity	(chro	nic)
744	ucic	COALCILY	(CIII O	c <i>,</i>

Endpoint	Value	Species	Source	Exposure time
ErC50	>1.700 ^{mg} / _l	algae	ECHA	10 d
EC50	>1.000 ^{mg} / _l	microorganisms	ECHA	180 min

Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

12.2 Process of degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

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SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN UN 1486
IMDG-Code UN 1486
ICAO-TI UN 1486

14.2 UN proper shipping name

ADR/RID/ADN POTASSIUM NITRATE

IMDG-Code POTASSIUM NITRATE

ICAO-TI Potassium nitrate

14.3 Transport hazard class(es)

ADR/RID/ADN 5.1
IMDG-Code 5.1
ICAO-TI 5.1

14.4 Packing group

ADR/RID/ADN III
IMDG-Code III
ICAO-TI III

14.5 Environmental hazards non-environmentally hazardous acc. to the dan-

gerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Proper shipping name POTASSIUM NITRATE

Particulars in the transport document UN1486, POTASSIUM NITRATE, 5.1, III, (E)

Classification code O2
Danger label(s) 5.1



Excepted quantities (EQ) E1
Limited quantities (LQ) 5 kg
Transport category (TC) 3
Tunnel restriction code (TRC) E

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Hazard identification No 50 **Emergency Action Code** 1Z

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name POTASSIUM NITRATE

Particulars in the shipper's declaration UN1486, POTASSIUM NITRATE, 5.1, III

Marine pollutant -

Danger label(s) 5.1



Special provisions (SP) 964, 967

Excepted quantities (EQ) E1
Limited quantities (LQ) 5 kg
EmS F-A, S-Q

Stowage category A

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name Potassium nitrate

Particulars in the shipper's declaration UN1486, Potassium nitrate, 5.1, III

Danger label(s) 5.1



Excepted quantities (EQ) E1

Limited quantities (LQ) 10 kg

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

not listed

 ${\bf List\ of\ substances\ subject\ to\ authorisation\ (REACH,\ Annex\ XIV)/SVHC\ -\ candidate\ list}$

Not listed.

Seveso Directive

2012/	2012/18/EU (Seveso III)							
No	Dangerous substance/hazard categories	Qualifying quantity plication of lower quirer	Notes					
06	potassium nitrate	1.250	5.000	15)				

Notation

15) Crystalline

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Deco-Paint Directive

VOC content	0 % , 0 ^g / _I

Industrial Emissions Directive (IED)

VOC content	0 %
VOC content	0 g/l

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of automore	Name and the formation	CACAL	12-1-12-1	Demonstra
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Potassium nitrate	Substances which contribute to eutrophication (in particular, nitrates and phosphates)		A)	
Potassium nitrate	Substances and preparations, or the breakdown products of such, which have been proved to pos- sess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine- related functions in or via the aquatic environment		A)	
Potassium nitrate	Metals and their compounds		A)	

Legend

A) Indicative list of the main pollutants

Regulation on the marketing and use of explosives precursors

xplosives precursors which are subject to restrictions						
Name of substance	CAS No	Type of registration	Remarks	Limit value	Upper limit value for the purpose of licensing under Article 5(3)	
Potassium nitrate	7757-79-1	Annex II				

Legend

annex II Substances on their own or in mixtures or in substances for which suspicious transactions shall be reported

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Additional statements

If the product is passed on to third parties, in accordance with Article 7 "Notification of the supply chain" of Regulation EU 2019/1148, the information obligation is subject to the entire supply chain and all other provisions mentioned in Article 7 on restricted and regulated raw materials.

Regulation on drug precursors

not listed

Regulation on substances that deplete the ozone layer (ODS)

Regulation concerning the export and import of hazardous chemicals (PIC)

not listed

Regulation on persistent organic pollutants (POP)

not listed

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

Legend

AICS CICR CSCL-ENCS DSL ECSI IECSC Australian Inventory of Chemical Substances

Chemical Inventory and Control Regulation
List of Existing and New Chemical Substances (CSCL-ENCS)
Domestic Substances List (DSL)
EC Substance Inventory (EINECS, ELINCS, NLP)
Inventory of Existing Chemical Substances Produced or Imported in China
National Inventory of Chemical Substances

INSQ KECI Korea Existing Chemicals Inventory
NZIOC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg. REACH registered substances

Taiwan Chemical Substance Inventory

TSCA Toxic Substance Control Act

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15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1		Classification according to Regulation (EC) No 1272/2008 (CLP): change in the listing (table)	yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In- land Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization

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Abbr.	Descriptions of used abbreviations
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)
SVHC	Substance of Very High Concern
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H272	May intensify fire; oxidiser.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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