

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Potassium chlorate

Creation date	25th January 2021	Version	3.0
Revision date			

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

- 1.1. Product identifier**  
 Substance / mixture Potassium chlorate  
 Chemical name substance  
 potassium chlorate  
 CAS number 3811-04-9  
 Index number 017-004-00-3  
 EC (EINECS) number 223-289-7
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**  
**Substance's intended use**  
 Chemical production, analytical chemistry, laboratory synthesis, industrial applications.  
**Substance uses advised against**  
 The product should not be used in ways other than those referred in Section 1.
- 1.3. Details of the supplier of the safety data sheet**  
**Supplier**  
 Name or trade name Ing. Petr Švec - PENTA s.r.o.  
 Address Radiová 1122/1, Praha 10, 102 00  
 Czech Republic  
 Identification number (CRN) 02096013  
 VAT Reg No CZ02096013  
 Phone +420 226 060 681  
 E-mail info@pentachemicals.eu  
 Web address www.pentachemicals.eu
- Competent person responsible for the safety data sheet**  
 Name Ing. Petr Švec - PENTA s.r.o.  
 E-mail info@pentachemicals.eu
- 1.4. Emergency telephone number**  
 European emergency number: 112

#### SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**  
**Classification of the substance in accordance with Regulation (EC) No 1272/2008**

The substance is classified as dangerous.

Ox. Sol. 1, H271  
 Acute Tox. 4, H302+H332  
 Aquatic Chronic 2, H411

Full text of all classifications and hazard statements is given in the section 16.

**Most serious adverse physico-chemical effects**

May cause fire or explosion; strong oxidiser.

**Most serious adverse effects on human health and the environment**

Harmful if swallowed or if inhaled. Toxic to aquatic life with long lasting effects.

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#### 2.2. Label elements

##### Hazard pictogram



##### Signal word

Danger

##### Hazard statements

H271 May cause fire or explosion; strong oxidiser.  
H411 Toxic to aquatic life with long lasting effects.  
H302+H332 Harmful if swallowed or if inhaled.

##### Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P220 Keep away from clothing and other combustible materials.  
P273 Avoid release to the environment.

#### 2.3. Other hazards

Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

##### Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 017-004-00-3 CAS: 3811-04-9 EC: 223-289-7	<b>substance main component</b> potassium chlorate	≥99	Ox. Sol. 1, H271 Acute Tox. 4, H302+H332 Aquatic Chronic 2, H411	

Full text of all classifications and hazard statements is given in the section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

##### If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

##### If on skin

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists. Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

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**If in eyes**

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes.

**If swallowed**

Rinse out the mouth with water and provide 2-5 dL of water. Provide medical treatment.

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

**If inhaled**

Cough, headache.

**If on skin**

Not expected.

**If in eyes**

Not expected.

**If swallowed**

Irritation, nausea.

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

Symptomatic treatment.

#### SECTION 5: Firefighting measures

**5.1. Extinguishing media**

**Suitable extinguishing media**

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

**Unsuitable extinguishing media**

Water - full jet.

**5.2. Special hazards arising from the substance or mixture**

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

**5.3. Advice for firefighters**

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water. Fight fire remotely due to the risk of explosion. Evacuate area.

#### SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Provide sufficient ventilation. The substance is flammable. May cause fire or explosion; strong oxidiser. Remove all ignition sources. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale dust. Prevent contact with skin and eyes.

**6.2. Environmental precautions**

Do not allow to enter drains. Prevent contamination of the soil and entering surface or ground water.

**6.3. Methods and material for containment and cleaning up**

Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13.

**6.4. Reference to other sections**

See the Section 7, 8 and 13.

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#### SECTION 7: Handling and storage

##### 7.1. Precautions for safe handling

The product should be used only in the areas where it is not in contact with open fire and other ignition sources. Use of antistatic clothes and footwear is recommended. Do not inhale dust. Prevent contact with skin and eyes. No smoking. Do not eat, drink or smoke when using this product. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Take any precaution to avoid mixing with combustibles. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment.

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

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight. Keep container tightly closed.

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

not available

#### SECTION 8: Exposure controls/personal protection

##### 8.1. Control parameters

###### DNEL

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Workers / consumers	Route of exposure	Value	Effect	Determining method
Workers	Inhalation	5.76 mg/m <sup>3</sup>	Systemic chronic effects	
Workers	Dermal	3.5 mg/kg bw/day	Systemic chronic effects	
Consumers	Inhalation	0.3 mg/m <sup>3</sup>	Systemic chronic effects	
Consumers	Dermal	0.13 mg/kg bw/day	Systemic chronic effects	
Consumers	Oral	0.06 mg/kg bw/day	Systemic chronic effects	

###### PNEC

potassium chlorate

Route of exposure	Value	Determining method
Drinking water	1.15 mg/l	
Seawater	1.15 mg/l	
Microorganisms in wastewater treatment plants	115 mg/l	
Soil (agricultural)	3.83 mg/kg of dry substance of soil	

##### 8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

###### Eye/face protection

Safety glasses or protective shield.

###### Skin protection

Hand protection: Protective gloves resistant to the product (nitrile rubber). Contaminated skin should be washed thoroughly. Wear fire/flame resistant/retardant clothing.



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#### Acute toxicity

Harmful if swallowed or if inhaled.

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Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Dermal	LD50	OECD 402	>2000 mg/kg		Rat (Rattus norvegicus)	
Oral	LD50		1870 mg/kg		Rat (Rattus norvegicus)	

#### Skin corrosion/irritation

Based on available data the classification criteria are not met.

#### Serious eye damage/irritation

Based on available data the classification criteria are not met.

#### Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

#### Germ cell mutagenicity

Based on available data the classification criteria are not met.

#### Carcinogenicity

Based on available data the classification criteria are not met.

#### Reproductive toxicity

Based on available data the classification criteria are not met.

#### Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

#### Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

#### Aspiration hazard

Based on available data the classification criteria are not met.

#### 11.2. Information on other hazards

not available

### SECTION 12: Ecological information

#### 12.1. Toxicity

##### Acute toxicity

Toxic to aquatic life with long lasting effects.

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Parameter	Value	Time of exposure	Species	Environment
LC50	1750 mg/kg	96 hour	Fishes (Oncorhynchus mykiss)	

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Parameter	Value	Time of exposure	Species	Environment
EC50	1093 mg/kg	24 hour	Daphnia (Daphnia magna)	

#### 12.2. Persistence and degradability

Data not available.

#### 12.3. Bioaccumulative potential

Not available.

#### 12.4. Mobility in soil

Not available.

#### 12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

#### 12.6. Endocrine disrupting properties

not available

#### 12.7. Other adverse effects

Not available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

#### Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

### SECTION 14: Transport information

#### 14.1. UN number or ID number

UN 1485

#### 14.2. UN proper shipping name

POTASSIUM CHLORATE

#### 14.3. Transport hazard class(es)

5.1 Oxidizing substances

#### 14.4. Packing group

II - substances presenting medium danger

#### 14.5. Environmental hazards

not available

#### 14.6. Special precautions for user

Reference in the Sections 4 to 8.

#### 14.7. Maritime transport in bulk according to IMO instruments

not available

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#### Additional information

Hazard identification No. **50**  
UN number **1485**  
Classification code O2  
Safety signs 5.1+hazardous for the environment



#### Air transport - ICAO/IATA

Packaging instructions passenger 558  
Cargo packaging instructions 562

#### Marine transport - IMDG

EmS (emergency plan) F-H, S-Q

### SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended.

#### 15.2. Chemical safety assessment

not available

##### More information

Restricted explosives precursors shall not be made available to, or introduced, possessed or used by members of the general public (according to the Annex I to the Regulation (EU) 2019/1148 as amended).  
The supplier is obliged to report suspicious transactions, disappearances and thefts to the relevant state authority.

### SECTION 16: Other information

#### A list of standard risk phrases used in the safety data sheet

H271 May cause fire or explosion; strong oxidiser.  
H411 Toxic to aquatic life with long lasting effects.  
H302+H332 Harmful if swallowed or if inhaled.

#### Guidelines for safe handling used in the safety data sheet

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P220 Keep away from clothing and other combustible materials.  
P273 Avoid release to the environment.

#### Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

#### Key to abbreviations and acronyms used in the safety data sheet

ADR European agreement concerning the international carriage of dangerous goods by road  
BCF Bioconcentration Factor  
CAS Chemical Abstracts Service



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CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC50	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC50	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD50	Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEC	Lowest observed adverse effect concentration
LOAEL	Lowest observed adverse effect level
log Kow	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
NOEL	No observed effect level
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative
Acute Tox.	Acute toxicity
Aquatic Chronic	Hazardous to the aquatic environment (chronic)
Ox. Sol.	Oxidising solid

#### Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

#### Recommended restrictions of use

not available

#### Information about data sources used to compile the Safety Data Sheet

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REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.  
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from  
the manufacturer of the substance / mixture, if available - information from registration dossiers.

**More information**

Classification procedure - calculation method.

**Statement**

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.