

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 Version 5.0A Revision Date 16.01.2020

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

#### 1.1 Product identifiers

Product name : Potassium chlorate

Product Number : 52-7521  
Brand : Rapid  
Index-No. : 017-004-00-3  
CAS-No. : 3811-04-9

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Rapid Electronics,  
Severalls Lane,  
Colchester,  
Essex,  
CO4 5JS, United Kingdom

Telephone : +44 (0) 1206 751166  
Fax : +44 (0) 1206 751188  
E-mail address : sales@rapidelec.co.uk

#### 1.4 Emergency telephone number

Emergency Phone # : +44 (0) 1206 751166

### 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 1)  
Acute toxicity, Inhalation (Category 4)  
Acute toxicity, Oral (Category 4)  
Chronic aquatic toxicity (Category 2)

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

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Explosive when mixed with combustible material. Harmful by inhalation and if swallowed.

#### 2.2 Label elements

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

Pictogram




Signal word Danger

Hazard statement(s)

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

Precautionary statement(s)  
P220 Keep/Store away from clothing/ combustible materials.  
P273 Avoid release to the environment.  
Supplemental Hazard Statements none

**According to European Directive 67/548/EEC as amended.**

Hazard symbol(s) 

R-phrase(s)  
R 9 Explosive when mixed with combustible material.  
R20/22 Harmful by inhalation and if swallowed.  
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)  
S13 Keep away from food, drink and animal feedingstuffs.  
S16 Keep away from sources of ignition - No smoking.  
S27 Take off immediately all contaminated clothing.  
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

**2.3 Other hazards - none**

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances**

Formula :  $\text{ClKO}_3$   
Molecular Weight : 122.55 g/mol

Component		Concentration
<b>Potassium chlorate</b>		
CAS-No.	3811-04-9	-
EC-No.	223-289-7	
Index-No.	017-004-00-3	

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**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**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**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**

anemia, 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., Nausea, Vomiting, Diarrhoea, Hemorrhage., Liver, Convulsions

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

no data available

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## 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

Hydrogen chloride gas, 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.

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## 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.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.

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

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

### 7.3 Specific end use(s)

no data available

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace 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.

#### 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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 protection

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 Industrial Hygienist 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

Complete suit protecting against chemicals, 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).

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |   |                                    |
|---|------------------------------------|
| a) Appearance                                   | Form: powder<br>Colour: white      |
| b) Odour  | no data available                  |
| c) Odour Threshold                              | no data available                  |
| d) pH   | 5.0 - 6.5 at 61.3 g/l at 25 °C     |
| e) Melting point/freezing point                 | Melting point/range: 356 °C - lit. |
| f) Initial boiling point and boiling range      | no data available                  |
| g) Flash point                                  | not applicable                     |
| h) Evaporation rate                             | no data available                  |
| i) Flammability (solid, gas)                    | no data available                  |
| j) Upper/lower flammability or explosive limits | no data available                  |
| k) Vapour pressure                              | no data available                  |
| l) Vapour density                               | no data available                  |
| m) Relative density                             | 2.320 g/cm <sup>3</sup>            |
| n) Water solubility                             | ca.61.3 g/l at 20 °C               |

- o) Partition coefficient: n-octanol/water no data available
- p) Auto-ignition temperature no data available
- q) Decomposition temperature no data available
- r) Viscosity no data available
- s) Explosive properties no data available
- t) Oxidizing properties no data available

## 9.2 Other safety information

no data available

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## 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, Alcohols, Organic materials

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 1,870 mg/kg

LD50 Dermal - rabbit - > 2,000 mg/kg

#### Skin corrosion/irritation

Skin - rabbit - Mild skin irritation

#### Serious eye damage/eye irritation

Eyes - rabbit - Mild eye irritation

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

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

**Potential health effects**

**Inhalation**  
**Ingestion**  
**Skin**  
**Eyes**

Harmful if inhaled. May cause respiratory tract irritation.

Harmful if swallowed.

May be harmful if absorbed through skin. May cause skin irritation.

Causes eye irritation.

**Signs and Symptoms of Exposure**

anemia, 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., Nausea, Vomiting, Diarrhoea, Hemorrhage., Liver, Convulsions

**Additional Information**

RTECS: FO0350000

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 1.750 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 1,093 mg/l - 24 h

**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**

Toxic to aquatic life.

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**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.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****14.1 UN number**

ADR/RID: 1485

IMDG: 1485

IATA: 1485

**14.2 UN proper shipping name**

ADR/RID: POTASSIUM CHLORATE

IMDG: POTASSIUM CHLORATE

IATA: Potassium chlorate

**14.3 Transport hazard class(es)**

ADR/RID: 5.1

IMDG: 5.1

IATA: 5.1

**14.4 Packaging group**

ADR/RID: II

IMDG: II

IATA: II

**14.5 Environmental hazards**

ADR/RID: yes

IMDG Marine Pollutant: yes

IATA: no

**14.6 Special precautions for user**

no data available

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**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

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**16. OTHER INFORMATION****Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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