

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 Version 2 Revision Date 07.03.2019

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name/designation	Potassium chlorate
Product No.	5230
Substance name	Potassium chlorate
CAS No.	3811-04-9
INDEX no.	017-004-00-3
REACH registration No.	A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.

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

Relevant identified uses	For laboratory use and chemical production.
Uses advised against	Not for sale to the general public

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

: Better Equipped,
Wrenbury Business Park,
Wrenbury Road,
Wrenbury,
Nantwich, Cheshire,
CW5 8EB, UK

Telephone +44 (0) 800 9707142
Fax +44 (0) 800 066 4443
E-mail address sales@betterequipped.co.uk

1.4 Emergency telephone

Telephone +44 (0)1270 781238

2. Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No. 1272/2008 [CLP]

hazard classes and hazard categories	Hazard Statements	classification procedure	remark
Oxidising solid, category 1	H271		
Acute toxicity, category 4, oral	H302		
Acute toxicity, category 4, inhalation	H332		
Hazardous to the aquatic environment, chronic, category 2	H411		

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

Hazard symbols:	R-phrases
O	R9
Xn	R20/22
N	R51/53

2.2 Label elements

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



Signal word

Danger

Hazard Statements

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

Precautionary statements

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P273	Avoid release to the environment.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P309+P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

2.2.2 Labelling (67/548/EEC or 1999/45/EC)

Hazard symbols:

O, Xn, N

R-phrases

R9	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-phrases

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

SVHC

No

3. Composition/ Information on ingredients

Molecular formula	ClKO3
Molecular weight (g/mol)	122.55 g/mol
CAS No.	3811-04-9
EC No	223-289-7
INDEX no.	017-004-00-3

First-aid measures

3.1 General information

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

3.2 After inhalation

Call a POISON CENTER or doctor/physician. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

3.3 In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

3.4 After eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

3.5 After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do not induce vomiting. Give nothing to eat or drink.

3.6 Self-protection of the first aider

First aider: Pay attention to self-protection!

3.7 Information to physician:

Symptoms	No data available
Hazards	No data available
Treatment	No data available

4. Firefighting measures

4.1 Suitable extinguishing media

The product itself does not burn. May intensify fire; oxidiser. Co-ordinate fire-fighting measures to the fire surroundings.

4.2 Extinguishing media which must not be used for safety reasons:

No restriction

4.3 Special hazards arising from the substance or mixture

In case of fire may be liberated: Hydrogen chloride (HCl)

4.4 Advice for firefighters

DO NOT fight fire when fire reaches explosives. In case of fire: Wear self-contained breathing apparatus.

4.5 Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use water spray jet to protect personnel and to cool endangered containers.

5. Accidental release measures

5.1 Personal precautions, protective equipment and emergency procedures

Avoid generation of dust. Do not breathe dust. Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

5.2 Environmental precautions

Do not allow to enter into surface water or drains.

5.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Take up carefully when dry. Avoid generation of dust. Clean contaminated objects and areas thoroughly observing environmental regulations. Collect in closed and suitable containers for disposal.

5.4 Additional information

Clear spills immediately.

6. Handling and storage

6.1 Precautions for safe handling

All work processes must always be designed so that the following is as low as possible: Inhalation. skin contact eye contact. If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Keep away from sources of ignition. - No smoking. Usual measures for fire prevention. May cause decomposition by long-term light influence.

- 6.1.1 For non-emergency personnel

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

- 6.1.2 For emergency responders

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Conditions for safe storage, including any incompatibilities

Storage temperature: 15-25°C

Keep container tightly closed in a cool, well-ventilated place.

6.3 Specific end use(s)

No data available

SECTION 7: Handling and storage

7.1 Precautions for safe handling Avoid inhalation of vapour or mist.

7.1.2 Advice on general occupational hygiene:

- No smoking.
- Do not eat or drink.
- Wash hands after use.
- Remove contaminated clothing.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

7.3 Specific end use(s)

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

8. Exposure controls / Personal protection

8.1 Control parameters

Does not contain substances above concentration limits fixing an occupational exposure limit.

8.2 Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

8.3 Personal protective equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

8.3.1 Eye / face protection

Eye glasses with side protection DIN-/EN-Norms: DIN EN 166

8.3.2 Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms: DIN EN 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material	0,12 mm
Breakthrough time (maximum wearing time)	>480 min
Recommended glove articles	VWR 112-

0998 By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material	0,38 mm
Breakthrough time (maximum wearing time)	>480 min
Recommended glove articles	VWR 112-3717 / 112-1381

8.3.3 Protective clothing

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

8.3.4 Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Suitable respiratory protection apparatus:	Filtering Half-face mask (DIN EN 149) Recommendation
Suitable material:	P3
Recommendation	No data available

8.4 Additional information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Solid Colour: white
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	356°C
f)	Initial boiling point and boiling range	400°C (1013 hPa)
g)	Flash point	No data available
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	2.34 g/cm ³ (20°C)
n)	Water solubility	73 g/l (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	not applicable
t)	Oxidizing properties	May cause fire or explosion; strong oxidiser.

9.2 Other information

Bulk density	No data available
refraction index	1.40835 (589 nm, 25°C)
dissociation constant	No data available
Surface tension	No data available
Henry constant	No data available

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

No data available

10.6 Hazardous decomposition products

No data available

10.7 Additional information

No data available

11. Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity

Effective dose LDLo: 1000 mg/kg
species: human

Exposure time remark
source RTECS

Acute dermal toxicity

Effective dose No data available
species: No data available

Exposure time remark
source

Acute inhalation toxicity

Effective dose No data available
species: No data available

Exposure time remark
source

Irritant and corrosive effects

Primary irritation to the skin Exposure time
species: Result

Irritation to eyes Exposure
time species:
Result

Irritation to respiratory tract Exposure time
species: Result

Sensitisation

In case of skin contact not sensitising.
After inhalation not sensitising.

Specific target organ toxicity (single exposure)

Not relevant

Specific target organ toxicity (repeated exposure)

Not relevant

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No indication of human carcinogenicity.

Germ cell mutagenicity/Genotoxicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

Not relevant

11.2 Other adverse effects

No data available

11.3 Additional information

No data available

12. Ecological information

12.1 Ecotoxicity

Acute (short-term) fish toxicity

LC50: No data available
EC50
species: Exposure
time

Chronic (long-term) fish toxicity

LC50: No data available
EC50
species: Exposure
time

Acute (short-term) daphnia toxicity

LC50: No data available
EC50
species: Exposure
time

Chronic (long-term) daphnia toxicity

LC50: No data available
EC50
species: Exposure
time

Acute (short-term) algae toxicity

LC50: No data available
EC50
species: Exposure
time

Chronic (long-term) algae toxicity

LC50: No data available
EC50
species: Exposure
time

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

(o) Partition coefficient: n-octanol/water No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT assessment

No data available

12.6 Other adverse effects

No data available

13. Disposal considerations**13.1 Waste treatment methods****Appropriate disposal / Product**

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: 06 04 99 (wastes not otherwise specified). Unused product may be returned and reused, in addition to disposal.

13.2 Additional information

No data available

14. Transport information**14.1 Land transport (ADR/RID)**

UN-No.	1485
Proper Shipping Name	POTASSIUM CHLORATE
Class(es)	5.1
Classification code:	O2
Packing group	II
Hazard label(s)	5.1

14.2 Sea transport (IMDG)

UN-No.	1485
Proper Shipping Name	POTASSIUM CHLORATE

Class(es) 5.1
Classification code: O2
Packing group II
Marine pollutant Segregation group

14.3 Air transport (ICAO-TI / IATA-DGR)

UN-No. 1485
Proper Shipping Name POTASSIUM CHLORATE
Class(es) 5.1
Classification code: O2
Packing group II

14.4 Additional information

No data available

14.5 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
N/A

15. Regulatory information

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

Water hazard class (WGK) 2

15.2 Chemical Safety Assessment

No data available

16. Other information

16.1 Relevant R-, H- and EUH-phrases (Number and full text)

R9	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.
H271	May cause fire or explosion; strong oxidiser.
H302+H332	Harmful if swallowed or if inhaled.
H411	Toxic to aquatic life with long lasting effects.

16.2 Additional information

Revisions made since previous version of data sheet:

The following sections of this data sheet have been updated:

1.1, 1.2, 4.1, 5.1, 6.1, 7.1, 8.1, 8.2, 11, 12, 13, 14.7, 16

We strongly recommend reading the entire data sheet for this chemical in preparation ahead of use.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.