

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
1.1 Product identifiers

Product name: **POTASSIUM CHLORATE**

CAS-No.: **3811-04-9**

Product Number: **A70269**

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 : Philip Harris Ltd., 2 Gregory Street, Hyde, Cheshire, SK14 4HR,

UNITED KINGDOM

Telephone: +44 (0)845 1200 506 Fax: +44 (0)161 367 2140

Email: enquiries@philipharris.co.uk

1.4 Emergency telephone number

Emergency Phone #: **+44 (0)845 1200 506**

2. HAZARDS IDENTIFICATION
2.1 Classification of the substance or mixture

According to Regulation (EC) No1272/2008; Oxidizing solids (Category 1), Acute toxicity, Inhalation (Category 4), Acute toxicity, Oral (Category 4), Chronic aquatic toxicity (Category 2)

According to European Directive 67/548/EEC as amended: 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

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.

Hazard symbol(s):



N Dangerous for the environment

R-phrases(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-phrases(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 – no data available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Potassium chlorate

Formula:	KClO ₃
Molecular Weight:	122.55
CAS-No.:	3811-04-9
EC-No.:	223-289-7
Index-No.:	017-004-00-3

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.

In case of skin contact: Wash off with soap and plenty of water.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed: no data available

4.3 Indication of immediate medical attention and special treatment needed: no data available

5. FIRE-FIGHTING 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: no data available

5.3 Precautions for fire-fighters: Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information: Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, 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.

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. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

7.3 Specific end uses: no data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 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.

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).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance: **Form:** Crystalline **Colour:** White
- b) Odour: no data available
- c) Odour Threshold: no data available
- d) pH: pH 5.0 - 6.5 at 61.3 g/l at 25 °C
- e) Melting/freezing point: 356 °C Melting point/range: no data available
- f) Initial boiling point and boiling range: no data available
- 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: 2.320 g/cm³
- n) Water solubility: ca. 61.3 g/l at 20 °C
- o) Partition coefficient: n-octanol/water: no data available
- p) Autoignition 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

10. STABILITY AND REACTIVITY

10.1 Reactivity: no data available

10.2 Chemical stability: Stable under recommended storage conditions.

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: formed under fire conditions. - Hydrogen chloride gas, Potassium oxides

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 Harmful if inhaled. May cause respiratory tract irritation.

Ingestion Harmful if swallowed.

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

Eyes Causes eye irritation.

Signs and Symptoms of Exposure: Anaemia, 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, Haemorrhage., Liver, Convulsions

Additional Information: RTECS: FO0350000

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.

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. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

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: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for users: EMS-No: F-H, S-Q

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

16. OTHER INFORMATION

Acute Tox. Acute toxicity

Aquatic Chronic Chronic aquatic toxicity

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.

Ox. Sol. Oxidizing solids

N Dangerous for the environment

O Oxidising

Xn Harmful

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.