

Material Safety Data Sheet

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Version 1.3

According to 91/155/EEC

1 - Product and Company Information

Product Name	POTASSIUM CHLORATE, 99.99+%
Product Number	455814
Company	Sigma-Aldrich Pte Ltd #08-01 Citilink Warehouse Singapore 118529 Singapore
Technical Phone #	65 271 1089
Fax	65 271 1571

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
POTASSIUM CHLORATE	3811-04-9	223-289-7	017-004-00-3
Formula	KClO ₃		
Molecular Weight	122.55 AMU		
Synonyms	Anforstan * Berthollet salt * Berthollet's salt * Chlorate de potassium (French) * Chlorate of potash * Fekabit * Oxymuriate of potash * Potassio (chlorato di) (Italian) * Potassium chlorate * Potassium (chlorate de) (French) * Potassium oxymuriate * Potcrate * Salt of tarter		

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Explosive when mixed with combustible material. Harmful by
inhalation and if swallowed.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult,
call a physician.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for
at least 15 minutes. Remove contaminated clothing and shoes.
Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of
water for at least 15 minutes. Assure adequate flushing by
separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is
conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

Explosion Hazards: May explode when heated.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance

Color: White

Form: Fine crystals

Property

Value

At Temperature or Pressure

pH	5 - 6.5
BP/BP Range	N/A
MP/MP Range	356 °C
Flash Point	N/A
Flammability	N/A
Autoignition Temp	N/A
Oxidizing Properties	N/A
Explosive Properties	N/A
Explosion Limits	N/A
Vapor Pressure	N/A
SG/Density	2.32 g/cm3
Partition Coefficient	N/A
Viscosity	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	Solubility in Water:0.5 M in H2O, 20°C complete, colorless

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong reducing agents, Finely powdered metals, Strong acids, Alcohols, Organic materials.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Oxygen.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: FO0350000

ACUTE TOXICITY

LD50

Oral

Rat

1870 mg/kg

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. Symptoms of overexposure to potassium chlorate include nausea, vomiting, abdominal pain, diarrhea, anemia (hemolytic) and hemorrhage. Methemoglobin formation results from catalytic oxidation of the blood. Anuria, damage to the liver, convulsions due to central nervous system effects, and coma may also occur. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Harmful if inhaled.
Ingestion: Harmful if swallowed.

TARGET ORGAN INFORMATION

Blood. Liver. Kidneys.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 1485
Class: 5.1
PG: II
Proper Shipping Name: Potassium chlorate

IMDG

UN#: 1485
Class: 5.1
PG: II
Proper Shipping Name: Potassium chlorate
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1485
Class: 5.1
PG: II
Proper Shipping Name: Potassium chlorate
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 017-004-00-3

INDICATION OF DANGER: O Xn

Oxidizing. Harmful.

R-PHRASES: 9 20/22

Explosive when mixed with combustible material. Harmful by inhalation and if swallowed.

S-PHRASES: 13 16 27

Keep away from food, drink, and animal feedingstuffs. Keep away from sources of ignition - no smoking. Take off immediately all contaminated clothing.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2

SWITZERLAND

SWISS POISON CLASS: 3

16 - Other Information

WARRANTY

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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