

SAFETY DATA SHEET

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

1.1 Product identifiers

| | |
|--------------|---|
| Product name | Potassium Chlorate |
| CAS number | 3811-04-9 |
| Synonyms | Berthollet's Salt; Chlorate of Potash; Salt of Tarter |

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

| | |
|-----------------|-----------------------|
| Identified uses | Laboratory chemicals. |
|-----------------|-----------------------|

1.3 Details of the supplier of the safety data sheet

| | |
|-----------|--|
| Company | Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A. |
| Telephone | 512-668-9918 |
| Fax | 512-886-4008 |

1.4 Emergency telephone

| | | |
|-------------------|------------------------------|----------|
| Emergency Phone # | US & Canada: 1-800-535-5053 | INFOTRAC |
| | International 1-352-323-3500 | INFOTRAC |

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

| | |
|---------------------------|------------|
| Oxidizing Solids | Category 1 |
| Acute Oral Toxicity | Category 4 |
| Acute Inhalation Toxicity | Category 4 |

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statements

May cause fire or explosion; strong oxidizer.
Harmful if swallowed or if inhaled.

Precautionary statements

Prevention: Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep/Store away from clothing/ other combustible materials. Take any precaution to avoid mixing with combustibles. Wear protective gloves/protective clothing/eye protection/face protection. Wear fire/ flame resistant/retardant clothing.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

Fire: In case of fire, use CO₂, dry chemical, or foam for extinction. In case of major fire and large quantities, evacuate area. Fight fire remotely due to the risk of explosion.

Disposal: Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Components

| Chemical name | Common name and synonyms | CAS number | Concentration |
|--------------------|---|------------|---------------|
| Potassium chlorate | Berthollet's Salt; Chlorate of Potash; Salt of Tarter | 3811-04-9 | >95% |

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

| | |
|--------------------------------|---|
| If inhaled | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. |
| In case of skin contact | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| In case of eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| If swallowed | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |

4.2 Most important symptoms and effects, both acute and delayed

None reasonably foreseeable.

4.3 Indication of any immediate medical attention and special treatment needed

If symptoms persist, call a physician. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water spray, Carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Oxidizer: Contact with combustible/organic material may cause fire. Containers may explode when heated. May ignite combustibles (wood paper, oil, clothing, etc.).

Hazardous Combustion Products: Chlorine. Oxygen. Hydrogen chloride gas.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No data available.

Lower No data available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

| Health | Flammability | Instability | Physical hazards |
|--------|--------------|-------------|------------------|
| 2 | 0 | 3 | OX |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

6.2 Environmental precautions

Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Wear personal protective equipment/face protection. Avoid dust formation. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep in a dry, cool, and well-ventilated place. Keep container tightly closed. Do not store near combustible materials.

Incompatibilities

Acids. Alcohols. Strong reducing agents. Hydrocarbons. Organic materials. Finely powdered metals. Combustible material.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2 Exposure controls

Appropriate engineering controls

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|----------------|--------------|
| Physical State | Solid powder |
| Appearance | White |
| Odor | Odorless |

| | |
|---|---------------------------------|
| Odor Threshold | No information available |
| pH | 5-6 (73 g/l aq. sol) |
| Melting Point/Range | 356 - 368 °C / 672.8 - 694.4 °F |
| Boiling Point/Range | No information available |
| Evaporation Rate | Not applicable |
| Flammability (solid) | No information available |
| Flammability or explosive limit | No data available |
| Upper | |
| Lower | |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Density | No information available |
| Solubility | Soluble |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temp | No information available |
| Decomposition Temp | 400 °C |
| Viscosity | Not applicable |
| Molecular Formula | Cl K O3 |
| Molecular Weight | 122.55 g/mol |
| VOC Content(%) | No information available |
| Oxidizing properties | Oxidizer |

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Oxidizer.

10.2 Chemical stability

Contact with combustible/organic material may cause fire. Risk of explosion by shock, friction, fire, or other sources of ignition.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Excess heat. Incompatible products. Combustible material.

10.5 Incompatible materials

Acids, Alcohols, Strong reducing agents, Hydrocarbons, Organic materials, Finely powdered metals, Combustible material.

10.6 Hazardous decomposition products

Chlorine, Oxygen, Hydrogen chloride gas.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--------------------|------------------|--------------------|---------------------|
| Potassium chlorate | 1870 mg/kg (Rat) | > 2000 mg/kg (Rat) | > 5.1 mg/L (Rat) 4h |

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

| Component | CAS | IARC | NTP | ACGIH | OSHA | Mexico |
|--------------------|-----------|------------|------------|------------|------------|------------|
| Potassium chlorate | 3811-04-9 | Not listed | Not listed | Not listed | Not listed | Not listed |

Specific target organ toxicity - single exposure

None known.

Specific target organ toxicity - repeated exposure

None known.

Reproductive toxicity

No information available.

Chronic effects

No information available.

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

| Product | | Species | Test Results |
|--------------------|------|---------------------|-----------------|
| Potassium chlorate | LC50 | Oncorhynchus mykiss | 1750 mg/L, 96h |
| | LC50 | Pimephales promelas | 13500 mg/L, 96h |

12.2 Persistence and degradability

Soluble in water. Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

| | |
|----------------------|--------------------|
| UN-no | UN1485 |
| Proper Shipping Name | POTASSIUM CHLORATE |
| Hazard Class | 5.1 |
| Packing Group | II |

IMDG

| | |
|----------------------|--------------------|
| UN-no | UN1485 |
| Proper Shipping Name | POTASSIUM CHLORATE |
| Hazard Class | 5.1 |
| Packing Group | II |

IATA

| | |
|----------------------|--------------------|
| UN-no | UN1485 |
| Proper Shipping Name | POTASSIUM CHLORATE |

Hazard Class 5.1
Packing Group II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous
See Section 2 for more information.

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act
Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
Not listed.

US state regulations

US. Massachusetts RTK - Substance List
Listed, Potassium chlorate (CAS #3811-04-9).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Potassium chlorate (CAS #3811-04-9).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Potassium chlorate (CAS #3811-04-9).

California Proposition 65

Not listed.

SECTION 16: Other information

Issue date: 04/24/2019

Revision 1: 02/24/2025

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.