Material Safety Data Sheet

Potassium chlorate

MSDS# 19300

Section 1 - Chemical Product and Company Identification

MSDS Name:	Potassium chlorate
Catalog Numbers:	AC208860000, AC208860010, AC208860050, AC418190000, AC418190050, AC418195000 AC418195000, P210-500, P212-100, P212-500
Synonyms:	Berthollet's Salt; Salt of Tarter; Chlorate of Potash; Chloric Acid, Potassium Salt.
Company Identification:	Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410
For information in the US, call:	201-796-7100
Emergency Number US:	201-796-7100
CHEMTREC Phone Number, US:	800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#:	3811-04-9
Chemical Name:	Potassium chlorate
%:	99-100
EINECS#:	223-289-7

Hazard Symbols: XN O N



Risk Phrases: 20/22 51/53 9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Strong oxidizer. Contact with other material may cause a fire. May be harmful if swallowed. May cause kidney damage. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause blood abnormalities. May cause severe eye, skin and respiratory tract irritation with possible burns. Explosive when mixed with combustible material. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Target Organs: Blood, kidneys.

Potential Health Effects

Eye:	May cause conjunctivitis. May cause permanent corneal opacification.
Skin:	Contact with skin causes irritation and possible burns, especially if the skin is wet or moist. May cause severe irritation and possible burns.
Ingestion:	May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood. May cause burns to the gastrointestinal tract. May cause nausea, vomiting, and diarrhea, possibly with blood.
Inhalation:	Dust is irritating to the respiratory tract. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.
	Prolonged or repeated skin contact may cause dermatitis. May cause liver and kidney damage. May cause

Chronic: methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood.

Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Some oxidizers may react explosively with hydrocarbons(fuel). Containers may explode when heated.

Extinguishing Media: Contact professional fire-fighters immediately. For small fires, do NOT use dry chemicals, carbon dioxide, halon or foams. USE WATER ONLY. For large fires, flood fire area with water from a distance. Contact with water or steam may produce toxic and flammable vapors.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: ; instability: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Remove all sources of ignition. Do not use combustible materials such as paper towels to clean up spill.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid contact with clothing and other combustible materials. Do not get on skin or in eyes. Avoid ingestion and inhalation.

Storage: Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a cool, dry place. Keep away from reducing agents.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Potassium chlorate	none listed	none listed	none listed

OSHA Vacated PELs: Potassium chlorate: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Personal Protective Equipment

Eyes: 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: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear a chemical apron. Wear appropriate clothing to prevent skin exposure.

Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Section 9 - Physical and Chemical Properties

Physical State:	Solid
Color:	white
Odor:	odorless
pH:	Not available
Vapor Pressure:	Not applicable.
Vapor Density:	Not applicable.
Evaporation Rate:	Not applicable.
Viscosity:	Not applicable.
Boiling Point:	Not applicable.
Freezing/Melting Point:	356 deg C (672.80°F)
Decomposition Temperature:	
Solubility in water:	Not available.
Specific Gravity/Density:	2.52
Molecular Formula:	KClO3
Molecular Weight:	122.5495

Section 10 - Stability and Reactivity

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	Incompatible materials, ignition sources, dust generation, combustible materials, reducing agents.
Incompatibilities with Other Materials	Reducing agents.
Hazardous Decomposition Products	Chlorine, chlorine, oxygen, oxides of potassium.
Hazardous Polymerization	Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 3811-04-9: FO0350000

RTECS:

LD50/LC50: **CAS# 3811-04-9:** Oral, rat: LD50 = 1870 mg/kg;

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Carcinogenicity: Potassium chlorate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other: No information available.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: POTASSIUM CHLORATE
Hazard Class: 5.1

UN Number: UN1485
Packing Group: II
Canada TDG
Shipping Name: POTASSIUM CHLORATE
Hazard Class: 5.1
UN Number: UN1485
Packing Group: II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN O N

Risk Phrases:

R 20/22 Harmful by inhalation and if swallowed.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 9 Explosive when mixed with combustible material.

Safety Phrases:

S 13 Keep away from food, drink and animal feeding stuffs.

S 16 Keep away from sources of ignition - No smoking.

S 27 Take off immediately all contaminated clothing.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 3811-04-9: 2

Canada

CAS# 3811-04-9 is listed on Canada's DSL List

Canadian WHMIS Classifications: D1B, C

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 3811-04-9 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 3811-04-9 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 12/12/1997

Revision #7 Date 7/20/2009
