

## SAFETY DATA SHEET

Preparation Date: 11/18/2016

Revision Date: 11/18/2016

Revision Number: G1

### 1. IDENTIFICATION

**Product identifier**

**Product code:** P1494  
**Product Name:** POTASSIUM CHLORATE, PURIFIED

**Other means of identification**

**Synonyms:** Chlorate of potash  
 Chlorate de potassium (French)  
 Berthollet salt  
 Berthollet's salt  
 Potassio (chlorato di) (Italian)  
 Chloric acid, potassium salt  
 Potassium (chlorate de) (French)  
 Potassium oxymuriate  
 Salt of tarter  
 Oxymuriate of potash

**CAS #:** 3811-04-9  
**RTECS #** FO0350000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Textile printing. Bleaching agent.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000.

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity (single exposure)	Category 3
Oxidizing solids	Category 1

**Label elements**

**Danger**

**Hazard statements**

Harmful if swallowed  
Causes eye irritation  
May cause respiratory irritation  
May cause fire or explosion; strong oxidizer



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Causes mild skin irritation

**Precautionary Statements - Prevention**

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

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. IN CASE OF FIRE: Use water to extinguish. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon may provide limited control.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %
Potassium Chlorate	3811-04-9	100

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

**Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and

shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention. If symptoms persist, call a physician.

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:** Harmful if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Harmful if swallowed. Mild skin irritation. Causes eye irritation. May cause corneal opacity. May cause conjunctivitis. Nose and throat irritation. May cause coughing and shortness of breath. May cause pulmonary edema. May cause chemical pneumonitis. May cause methemoglobinemia and cyanosis. May cause abdominal pain, nausea, vomiting, diarrhea. Central nervous system effects. Staggering gait. Dizziness. Fainting. Convulsions. Coma. May cause cardiovascular effects. May cause liver injury and hemolytic anemia. Renal failure. It may cause dermatitis. Chronic exposure may affect liver, kidneys/urinary system, and blood.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Water. CO2 may be of no value in extinguishing fires involving oxidizers and may only provide limited control.

**Unsuitable Extinguishing Media:** Dry chemical. Foam. Halons.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Hydrogen chloride. Potassium oxides. Chlorine.

**Specific hazards:** Oxidizer. Keep away from combustible materials (wood, paper, oil, clothing, etc.)  
The product is not flammable, but it may cause fire when in contact with other material  
Contact with combustible or organic materials may cause fire  
Will accelerate burning when involved in a fire  
Container explosion may occur under fire conditions or when heated  
It is a strong oxidizer, reacting with organic materials (wood, paper, oils, clothing, etc.).  
Paper impregnated with sodium chlorate can be ignited by static sparks.  
May react explosively with hydrocarbons (fuels).  
Mixtures with ammonium salts, powdered metals, phosphorus, silicon, sulfur, or sulfides are readily ignited.  
and  
potentially explosive.

Mixtures with fibrous or absorbent organic materials (charcoal, flour, shellac, sawdust, sugar) are hazardous and can be caused to explode by static friction or shock. It may react explosively with alkenes + potassium osmate, aluminum + rubber, grease, leather, sulfides, cyanides, cyanoborane oligomer, organic matter, paint + polyethylene, sodium phosphinate. Mixtures with finely divided combustible materials can react explosively.

### **Special Protective Actions for Firefighters**

#### **Specific Methods:**

Water mist may be used to cool closed containers. For large fires, flood fire area with water from a distance. Apply water from as far a distance as possible. Cool affected containers with flooding quantities of water. DO NOT use combustible materials such as sawdust. Do not get water inside containers.

#### **Special Protective Equipment for Firefighters:**

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

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures**

#### **Personal Precautions:**

Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid dust formation. DO NOT use combustible materials such as sawdust. Remove all sources of ignition.

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent from entering into soil, ditches, sewers, waterways, and/or ground water. Prevent product from entering drains. Do not let this chemical enter the environment.

### **Methods and material for containment and cleaning up**

#### **Methods for containment**

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

#### **Methods for cleaning up**

Clean contaminated surface thoroughly. Sweep up and shovel. Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Do not use combustible materials such as paper towels, sawdust, clothing, etc. to clean up spill.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Use only in well-ventilated areas. Do not ingest. Do not breathe dust. Keep away from heat and sources of ignition. When using do not smoke. Keep away from combustible material. Handle in accordance with good industrial hygiene and safety practice.

## Conditions for safe storage, including any incompatibilities

### **Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Do not store near combustible materials. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

### **Incompatible Materials:**

Reducing agents  
Combustible materials  
Powdered metals  
Organic materials  
Strong acids  
Sulfur  
sulfides  
ammonium compounds  
Ammonium salts  
Ammonium sulfate  
Cyanides

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
Potassium Chlorate	3811-04-9	None	None	None	None

##### **Canada**

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Potassium Chlorate	3811-04-9	None	None	None	None

##### **Australia and Mexico**

Components	CAS-No.	Australia	Mexico
Potassium Chlorate	3811-04-9	None	None

### Appropriate engineering controls

#### **Engineering measures to reduce exposure:**

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### **Personal Protective Equipment**

##### **Eye protection:**

Goggles or Safety glasses with side-shields



charcoal + potassium nitrate + sulfur, charcoal + sulfur, cyanides, cyanoguanidine, hydrocarbons, manganese dioxide + traces of organic matter, manganese dioxide + potassium hydroxide, metal + wood, metal phosphides, ... metal phosphinates, ... finely divided metals, ... metal phosphides, ... metal thiocyanates, ... nitric acid + organic materials, powdered nonmetals, ... reducing agents, ... sugars, ... sulfur, sulfur + metal derivatives, ... sulfuric acid, sodium amide, tannic acid

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Avoid dust formation. Contact with combustible materials (wood, paper, oil, clothing, etc.). Heat, flames and sparks. Incompatible materials. Contact with finely divided (powdered) metals.

**Incompatible Materials:**

- Reducing agents
- Combustible materials
- Powdered metals
- Organic materials
- Strong acids
- Sulfur
- sulfides
- ammonium compounds
- Ammonium salts
- Ammonium sulfate
- Cyanides

**Hazardous decomposition products:** Hydrogen chloride. Chlorine. Potassium oxides. Decomposes on heating above 400 deg. C, on contact with strong acids producing toxic fumes including chlorine dioxide and chlorine.

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### **Principal Routes of Exposure:**

Ingestion. Inhalation.

### Acute Toxicity

### **Component Information**

Potassium Chlorate
CAS-No.   3811-04-9

**LD50/oral/rat** = 1870 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = >2000 mg/kg Dermal LD50Rabbit  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

## Product Information

### LD50/oral/rat =

VALUE- Acute Tox Oral = 1870 mg/kg

### LD50/oral/mouse =

Value - Acute Tox Oral = No information available

### LD50/dermal/rabbit

VALUE-Acute Tox Dermal = > 2000 mg/kg

### LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

### LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

### LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

## Symptoms

### Skin Contact:

Mild skin irritation.

### Eye Contact:

Causes eye irritation. May cause conjunctivitis. May cause corneal opacity.

### Inhalation

Irritating to respiratory system. Symptoms may include coughing and shortness of breath. May cause methemoglobinemia (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin). Methemoglobinemia can lead to cyanosis (bluish skin and lips due to deficient oxygenation of the blood).

### Ingestion

Causes digestive (gastrointestinal) tract irritation. May cause abdominal pain, nausea, vomiting, diarrhea. May affect liver. May affect urinary system (kidneys). May cause methemoglobinemia, (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin). Signs and symptoms of methemoglobinemia include shortness of breath, cyanosis (a bluish discoloration of the skin, lips, mucous membranes), mental status changes such as headache, mental impairment, fatigue, muscular weakness, exercise intolerance, lightheadness, dizziness, incoordination, seizures, and loss of consciousness. Arterial blood with elevated methemoglobin levels has a characteristic chocolate-brown color as compared to normal bright red oxygen containing arterial blood. Severe methemoglobinemia is characterized by bradycardia or tachycardia (slow or fast heart beat), dysrhythmias, seizures, coma and death. May affect the cardiovascular system (hypotension). May cause hemolytic anemia. May affect respiration (hypoxia). May affect respiration (dyspnea - difficulty breathing and shortness of breath). May affect behavior/central nervous system (muscle weakness, convulsions).

### Aspiration hazard

No information available.

## Delayed and immediate effects as well as chronic effects from short and long-term exposure

### Chronic Toxicity

Prolonged or repeated skin contact can cause dermatitis, and skin lesions.

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Repeated exposure may cause bronchitis to develop with cough, phlegm, and /or shortness of breath. Prolonged or repeated ingestion may affect the liver, and kidneys. Prolonged or repeated inhalation or ingestion may affect behavior/central nervous system (central nervous system effects) (see acute ingestion and inhalation). Prolonged or repeated exposure may cause methemoglobinemia with cyanosis, anemia.

**Sensitization:** No information available.

**Mutagenic Effects:** Mutations in microorganisms  
Experiments with bacteria and/or yeast have shown mutagenic effects

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Potassium Chlorate	3811-04-9	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organs:** Liver. Kidneys. Blood. Methemoglobin formation.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*Potassium Chlorate - 3811-04-9*

**Freshwater Fish Species Data:** 1750 mg/L LC50 Oncorhynchus mykiss 96 h 1  
13500 mg/L LC50 Pimephales promelas 96 h 1

**Water Flea Data:** 1093 mg/L EC50 Daphnia magna 24 h

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Disposal Methods

##### Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

##### Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Potassium Chlorate	3811-04-9	None	None	None	None

### 14. TRANSPORT INFORMATION

#### DOT

**UN-No:** UN1485  
**Proper Shipping Name:** Potassium chlorate  
**Hazard Class:** 5.1  
**Subsidiary Class** No information available  
**Packing group:** II  
**Emergency Response Guide Number** 140  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** A9, IB8, IP2, IP4, N34, T3, TP33  
**Symbol(s):** No information available  
**Description:** UN1485, Potassium chlorate, 5.1, II

#### TDG (Canada)

**UN-No:** UN1485  
**Proper Shipping Name:** Potassium chlorate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant** No Information available  
**Description:** UN1485, Potassium chlorate, 5.1, II

#### ADR

**UN-No:** UN1485  
**Proper Shipping Name:** Potassium chlorate  
**Hazard Class:** 5.1  
**Packing Group:** II  
**Subsidiary Risk:** No information available  
**Description:** UN1485, Potassium chlorate, 5.1, II, ENVIRONMENTALLY HAZARDOUS

#### IMO / IMDG

**UN-No:** UN1485  
**Proper Shipping Name:** Potassium chlorate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant** No information available  
**EMS:** F-H  
**Description** UN1485, Potassium chlorate, 5.1, II, Marine pollutant

#### RID

**UN-No:** UN1485  
**Proper Shipping Name:** Potassium chlorate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** UN1485, Potassium chlorate, 5.1, II, ENVIRONMENTALLY HAZARDOUS

**ICAO**

**UN-No:** UN1485  
**Proper Shipping Name:** Potassium chlorate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** UN1485, Potassium chlorate, 5.1, II

**IATA**

**UN-No:** UN1485  
**Proper Shipping Name:** Potassium chlorate  
**Hazard Class:** 5.1  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**ERG Code:** 5L  
**Special Provisions** No information available  
**Description:** UN1485, Potassium chlorate, 5.1, II

**15. REGULATORY INFORMATION**

**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Potassium Chlorate	3811-04-9	Present	Present KE-29085	Present	Present (1)-229	Present	Present	Present 223-289-7

**U.S. Regulations**

*Potassium Chlorate*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** 1560  
**Pennsylvania RTK:** Present

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Potassium Chlorate	3811-04-9	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis

Potassium Chlorate	3811-04-9	None	None	None	None	None
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## U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Potassium Chlorate	3811-04-9	Not Applicable	Not Applicable

## Canada

**WHMIS hazard class:**  
Non-controlled

**Components**  
Potassium Chlorate

**WHIMHAZ**  
C

### Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

## Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Potassium Chlorate	3811-04-9	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Potassium Chlorate	3811-04-9	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Potassium Chlorate	3811-04-9	Not listed

## EU Classification

### R-phrase(s)

not determined (not applicable)

### S -phrase(s)

none

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Potassium Chlorate	3811-04-9	Xn; R20/22 N; R51-53 O; R9	No information	S2 S13 S16 S27 S61

The product is classified in accordance with Annex VI to Directive 67/548/EEC

### Indication of danger:

None.

## 16. OTHER INFORMATION

**Preparation Date:** 11/18/2016  
**Revision Date:** 11/18/2016  
**Prepared by:** Sonia Owen

### Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product

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is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**