

Safety Data Sheet


according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: May 18, 2021

1 Identification

- **Product identifier**
- **Trade name: Potassium Chlorate**
- **Product code:** PC9100
- **CAS Number:**
3811-04-9
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:**
No relevant information available.
Contact manufacturer/supplier
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
- **Emergency telephone number:**
ChemTel
1-800-255-3924 (North America)
+1 (813)248-0585 (International)

2 Hazard(s) identification

- **Classification of the substance or mixture**
Ox. Sol. 1 H271 May cause fire or explosion; strong oxidizer.
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H332 Harmful if inhaled.
- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**

GHS03 GHS07
- **Signal word:** Danger
- **Hazard statements:**
H271 May cause fire or explosion; strong oxidizer.
H302+H332 Harmful if swallowed or if inhaled.
- **Precautionary statements:**
P210 Keep away from heat.
P220 Keep away from clothing and other combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P261 Avoid breathing fume.

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- P264 Wash thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P283 Wear fire/flammable resistant/retardant clothing.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P330 Rinse mouth.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P306+P360 If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
- P370+P378 In case of fire: Use for extinction: Water.
- P371+P380+P375 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **NFPA ratings (scale 0 - 4)** The substance possesses oxidizing properties.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
3811-04-9 potassium chlorate

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Take affected persons out into the fresh air.
- **After inhalation:**
Supply fresh air.
Seek immediate medical advice.
If experiencing respiratory symptoms: Call a doctor.
- **After skin contact:**
Brush off loose particles from skin.
Immediately rinse with water.
If skin irritation is experienced, consult a doctor.
- **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**
Breathing difficulty
Coughing
Gastric or intestinal disorders when ingested.
- **Danger:**
Harmful if swallowed.

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Harmful if inhaled.

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

Medical supervision for at least 48 hours.

If necessary oxygen respiration treatment.

If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **For safety reasons unsuitable extinguishing agents:** No relevant information available.

· **Special hazards arising from the substance or mixture** May intensify fire; oxidizer.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Take any precaution to avoid mixing with combustibles.

For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

· **Environmental precautions**

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

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

Sweep up and place into an appropriate container.

Take any precaution to avoid mixing with combustibles.

Send for recovery or disposal in suitable receptacles.

· **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· **Handling**

· **Precautions for safe handling:**

Thorough dedusting.

Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

Use only in well ventilated areas.

· **Information about protection against explosions and fires:** May intensify fire; oxidizer.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:** Store in a well-ventilated place. Keep cool.

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- **Information about storage in one common storage facility:**
 - Store away from foodstuffs.
 - Store away from flammable substances.
 - Do not store together with strong acids.
 - Store away from reducing agents.
- **Further information about storage conditions:** Keep containers tightly sealed.
- **Specific end use(s)** No relevant information available.

8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Exposure controls**
- **General protective and hygienic measures:**
 - The usual precautionary measures for handling chemicals should be followed.
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing.
 - Wash hands before breaks and at the end of work.
 - Do not inhale gases / fumes / aerosols.
- **Engineering controls:** Provide adequate ventilation.
- **Breathing equipment:** Suitable respiratory protective device recommended.
- **Protection of hands:**



Protective gloves

- **Material of gloves**
 - Nitrile rubber, NBR
 - Butyl rubber, BR
 - Neoprene gloves
 - Natural rubber, NR
- Sensibilization by the components in the glove materials is possible.
- **Eye protection:**



Safety glasses

- Follow relevant national guidelines concerning the use of protective eyewear.
- **Body protection:** Protective work clothing
- **Limitation and supervision of exposure into the environment**
 - No relevant information available.
- **Risk management measures** No relevant information available.

9 Physical and chemical properties

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· Information on basic physical and chemical properties

· Appearance:

Form: Crystalline

Color: Colorless

· Odor: Characteristic

· Odor threshold: Not determined.

· pH-value: Not applicable.

· Melting point/Melting range: 368 °C (694.4 °F)

· Boiling point/Boiling range: 400 °C (752 °F)

· Flash point: Not applicable.

· Flammability (solid, gaseous): Product is not flammable.

· Auto-ignition temperature: Not determined.

· Decomposition temperature: Not determined.

· Danger of explosion: Product does not present an explosion hazard.
Explosive when mixed with combustible material.

· Explosion limits

Lower: Not determined.

Upper: Not determined.

· Oxidizing properties: Oxidizer

· Vapor pressure at 20 °C (68 °F): 0 hPa

· Density at 20 °C (68 °F): 2.34 g/cm³ (19.53 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not applicable.

· Evaporation rate: Not applicable.

· Solubility in / Miscibility with
Water at 20 °C (68 °F): 70 g/l

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity

Dynamic: Not applicable.

Kinematic: Not applicable.

· Other information: No relevant information available.

10 Stability and reactivity

· **Reactivity:** No relevant information available.

· **Chemical stability:** Stable under normal temperatures and pressures.

· Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

· Possibility of hazardous reactions

Acts as an oxidizing agent on organic materials such as wood, paper and fats.

Reacts with reducing agents.

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Contact with acids releases toxic gases.
Toxic fumes may be released if heated above the decomposition point.

· **Conditions to avoid** No relevant information available.

· **Incompatible materials**

Flammable materials.

Reducing agents.

Strong acids

· **Hazardous decomposition products** Oxygen

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

Harmful if swallowed.

Harmful if inhaled.

· **LD/LC50 values that are relevant for classification:**

ATE (Acute Toxicity Estimate)

Oral	LD50	1870 mg/kg (rat)
Inhalative	LC50/4h	1.5 mg/l

3811-04-9 potassium chlorate

Oral	LD50	1870 mg/kg (rat)
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· **Primary irritant effect:**

· **On the skin:** Based on available data, the classification criteria are not met.

· **On the eye:** Based on available data, the classification criteria are not met.

· **Sensitization:** Based on available data, the classification criteria are not met.

· **IARC (International Agency for Research on Cancer):**

Substance is not listed.

· **NTP (National Toxicology Program):**

Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

Substance is not listed.

· **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):** Harmful if swallowed or if inhaled.

· **Repeated dose toxicity:** No relevant information available.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** Based on available data, the classification criteria are not met.

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Ecotoxic effects:**
- **Remark:** Toxic for fish
- **Additional ecological information**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Other adverse effects** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---------------------------------------|---|
| · UN-Number | |
| · DOT, ADR/RID/ADN, IMDG, IATA | UN1485 |
| · UN proper shipping name | |
| · DOT | Potassium chlorate, aqueous solution |
| · ADR/RID/ADN | POTASSIUM CHLORATE, ENVIRONMENTALLY HAZARDOUS |
| · IMDG, IATA | POTASSIUM CHLORATE |
| · Transport hazard class(es) | |
| · DOT | |
| |  |
| · Class | 5.1 |
| · Label | 5.1 |

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· **ADR/RID/ADN**



· **Class** 5.1 (O2)
 · **Label** 5.1

· **IMDG, IATA**



· **Class** 5.1
 · **Label** 5.1

· **Packing group**

· **DOT, ADR/RID/ADN, IMDG, IATA** II

· **Environmental hazards**

· **Marine pollutant:**



Yes

· **Special precautions for user** Warning: Oxidizing substances
 · **Hazard identification number (Kemler code):** 50
 · **EMS Number:** F-H,S-Q
 · **Segregation groups** Chlorates

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 · **United States (USA)**
 · **SARA**

· **Section 302 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed or exempt.

· **Proposition 65 (California)**

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· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity for females:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **EPA (Environmental Protection Agency):**

Substance is not listed.

· **IARC (International Agency for Research on Cancer):**

Substance is not listed.

· **Canadian Domestic Substances List (DSL):**

All ingredients listed on DSL or NDSL.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

OSHA: Occupational Safety & Health Administration

Ox. Sol. 1: Oxidizing solids – Category 1

Acute Tox. 4: Acute toxicity – Category 4

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers