Safety Data Sheet POTASSIUM CHLORATE

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SECTION 1: Identification

GHS Product identifier

Product name	POTASSIUM CHLORATE

Other means of identification

Product	Product Code
Potassium Chlorate AR	PA055
Potassium Chlorate LR	PL055
Potassium Chlorate PT	PT055

Recommended use of the chemical and restrictions on use

Oxidising agent, explosives, matches, source of oxygen, textile printing, pyrotechnics, percussion caps, disinfectant, bleaching and laboratory reagent.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Dangerous goods of Class 5.1 (Oxidizing Agent) are incompatible in a placard load with any of the following:
Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and Combustible liquids.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, inhalation, Cat. 4
- Acute toxicity, oral, Cat. 4
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2
- Oxidizing solids, Cat. 1

GHS label elements, including precautionary statements

Pictograms

Signal word	**Danger**

Hazard statement(s)

H271	May cause fire or explosion; strong oxidizer
H302	Harmful if swallowed
H332	Harmful if inhaled
H411	Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220	Keep away from clothing and other combustible materials.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P283	Wear fire resistant or flame retardant clothing.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physcian if you feel unwell,
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.
P312	Call a POISON CENTER/doctor/physcian if you feel unwell.
P370+P378	In case of fire: Use agents recommended in Section 5 of SDS for extinction
P371+P380+P375	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P391	Collect spillage.
P420	Store separately.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight	122.55

Component	Identification	Weight %
Potassium chlorate	CAS no.: 3811-04-9 EC no.: 223-289-7 Index no.: 017-004-00-3	100 %

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give

	oxygen. Consult a physician.
In case of skin contact	Wash affected areas with copious quantities of water. Remove contaminated clothing and wash before re-use. Seek medical advice if effects persist.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. In all cases of eye contamination it is a sensible precaution to seek medical advice.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary
For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Unsuitable Extinguishing Media: Do not use dry chemicals, CO2 or foam.

Small fire:
USE FLOODING QUANTITIES OF WATER. Do not use dry chemicals, CO2 or foam. If safe to do so, move undamaged containers from fire area. Do not move cargo if cargo has been exposed to heat.
Large fire:
Flood fire area with water from a protected position. Cool containers with flooding quantities of water until well after fire is out – If impossible, withdraw from area and let fire burn. Avoid getting water inside containers: a violent reaction may occur. Dam fire control water for later disposal.

Specific hazards arising from the chemical
Hazards from Combustion Products: Oxygen is released at >400 °C., Chlorine.

Will accelerate burning when involved in a fire. May explode from heating, shock, friction or contamination. Chlorate salts may react dangerously with hydrocarbons (fuels), organic matter, other contaminants or when hot, molten and confined; to form a mass explosive of Division 1.1. In this condition it should be treated as an explosive and the explosive public safety evacuation distances apply. May ignite combustibles (wood, paper, clothing, and so on). Fire may produce irritating, toxic, and/or corrosive gases. Containers may explode when heated. Runoff may create fire or explosion hazard. May decompose explosively when heated or involved in a fire.

Special protective actions for fire-fighters
Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Spill or leak area should be isolated immediately for at least 25 m in all directions. Keep unauthorized personnel away. Keep upwind and to higher ground.

Methods and materials for containment and cleaning up
Do not contaminate. Keep combustibles (wood, paper, clothing, oil, and so on) away from spilled materials. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to know down vapours or divert vapour clouds. Prevent entry into waterways, drains or confined areas. Prevent exposure to heat.
DRY SPILL
Use clean non-sparking tools to transfer material to clean, dry plastic container and cover loosely. Move container from spill area.

SECTION 7: Handling and storage

Precautions for safe handling
Avoid substance contact and generation and inhalation of dust. Wash hands and face thoroughly after working with material.

Conditions for safe storage, including any incompatibilities
Store away from combustible materials. Store away from acids. Keep containers securely sealed and protected against physical damage. Keep container tightly closed in a dry, well-ventilated place away from direct sunlight and other sources of heat or ignition. Store at room temperature (15 - 25 °C).

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection
Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Body protection
Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection
If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/ NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	Transparent, colourless crystals or white powder.
Color	Colourless to white
Odor	Odourless.
Odor threshold	
Melting point/freezing point	356 °C

Boiling point or initial boiling point and boiling range	No data available.
Flammability	No data available.
Lower and upper explosion limit/ flammability limit	No data available.
Flash point	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	400 °C - giving off oxygen gas
pH	5.0 - 6.5 (73 g/l, H2O, 20 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble (73 g/L @ 20 °C) Solubility in Organic Solvents: Almost insoluble in ethanol.
Partition coefficient n-octanol/ water (log value)	No data available.
Vapor pressure	No data available.
Density and/or relative density	Specific Gravity: 2.337
Relative vapor density	No data available.
Particle characteristics	No data available.

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions of storage and handling.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
May form explosive mixtures with ammonium compounds, combustible material (e.g. sulfur, sugar) or finely powdered metals. Mixtures with combustible material are sensitive to friction and are liable to ignite or explode on contact with sulfuric acid or in a fire.

Hazardous Polymerization: Will not occur.

Conditions to avoid
Sensitive to sock and friction.

Incompatible materials
Reducing agents, acids, ammonium compounds, sulfides, hydrocarbons, phosphorus, hydrides, fluorine, organic combustible substances, alkali metals, cyanides, alkali amides, sulfur, alcohols and metals in powder form.

Hazardous decomposition products
Hydrogen chloride gas, chlorine, chlorine oxides, oxygen.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Acute Toxicity - Oral: LD50 (rat): 1870 mg/kg.

Ingestion: Harmful if swallowed. Absorption of this product into the body leads to the formation of methaemoglobin 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, anaemia (hemolytic), hemorrhage, collapse, spasms, respiratory arrest and death. Anuria, damage to the liver, convulsions due to central nervous system effects and coma may also occur.

Inhalation: Harmful by inhalation. Absorption of this product into the body leads to the formation of methemoglobin which, in sufficient concentration, causes cyanosis.

Skin corrosion/irritation
Not classified based on available information.

Serious eye damage/irritation
Not classified based on available information.

Respiratory or skin sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

Specific target organ toxicity (STOT) - single exposure
Not classified based on available information.

Specific target organ toxicity (STOT) - repeated exposure
Not classified based on available information.

Aspiration hazard
Not classified based on available information.

Additional information
Chronic Effects: Overexposure may cause kidney injury.

SECTION 12: Ecological information

Toxicity
Ecological Information: Toxic to aquatic life with long lasting effects.

Acute Toxicity - Algae: Static test EC50 - Nitzschia closterium - 2.8 mg/l - 72 h

Persistence and degradability
Methods for the determination of biodegradability are not applicable to inorganic substances.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)
UN Number: 1485
Class: 5.1
Packing Group: II
Proper Shipping Name: POTASSIUM CHLORATE

Hazchem emergency action code (EAC)
1YE

IMDG
UN Number: 1485
Class: 5.1
Packing Group: II
EMS Number:
Proper Shipping Name: POTASSIUM CHLORATE

IATA
UN Number: 1485
Class: 5.1
Packing Group: II
Proper Shipping Name: POTASSIUM CHLORATE

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP
Poison Schedule: S5

SECTION 16: Other information

Further information/disclaimer
ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airbourne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)