Safety Data Sheet POTASSIUM FERROCYANIDE Trihydrate

SDS no. X70MSYQW • Version 1.0 • Date of issue: 2025-11-08

SECTION 1: Identification

GHS Product identifier

Product name	POTASSIUM FERROCYANIDE Trihydrate

Other means of identification

Product	Product Code
Potassium Ferrocyanide Trihydrate TG (Potassium hexa-cyanoferrate(II) trihydrate)	PT039
Potassium Ferrocyanide Trihydrate LR (Potassium hexa-cyanoferrate(II) trihydrate)	PL039
Potassium Ferrocyanide Trihydrate AR (Potassium hexa-cyanoferrate(II) trihydrate)	PA039

Recommended use of the chemical and restrictions on use

Tempering steel, dyeing, explosives, process engraving and lithography, in food industry, analytical chemistry 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

Not classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as non-Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

Not a hazardous substance or mixture.

GHS label elements, including precautionary statements

Not a hazardous substance or mixture.

Other hazards which do not result in classification

Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight	422.39

Component	Identification	Weight %	Classifications
Potassium ferricyanide trihydrate	CAS no.: 14459-95-1	<= 100 %	CLASSIFICATIONS: No data available. HAZARDS: No data available.

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	Advice to Doctor: Consider the effects of potassium salts upon the heart. 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. Get medical aid if cough or other symptoms appear.
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If persistent irritation occurs, obtain medical attention.
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
Small fire: Use dry chemical, CO2, water spray or foam.
Large fire: Use water spray, fog or foam.

Specific hazards arising from the chemical
Hazards from Combustion Products: Highly toxic fumes of cyanides, hydrogen cyanide, nitrogen oxides, carbon monoxide and carbon dioxide.

Material does not burn. Runoff may pollute waterways. Fire or heat may produce irritating, poisonous and/or corrosive fumes.

Special protective actions for fire-fighters
Wear SCBA and structural firefighter's uniform.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid dust formation and avoid breathing dust. Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms. Evacuate the area of all non-essential personnel.
Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up
Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling
Use personal protective equipment as required. Keep container closed when not in use. Never return spills in original containers for re-use. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities
Keep containers closed at all times. Store at room temperature (15 - 25 °C).
Keep container tightly closed in a dry, well-ventilated place away from direct sunlight.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls
Use in a fume cupboard if fumes of cyanides are to be released, such as upon mixing with hot concentrated acids or acid fumes, heating to decomposition, or strong irradiation with acid, basic or neutral solutions.

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	Lemon yellow crystals or powder.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	Becomes anhydrous @ 70 °C.
Boiling point or initial boiling point and boiling range	Decomposes
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	8 - 10 (211 g/l, H2O, 25 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: 211 g/L @ 20 °C
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.853 @ 17 °C
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
Other Information: Taste: Mild saline taste.

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
Violent reaction with cupric nitrate. Mixtures with CrO3 or sodium nitrite explode on heating. Contact with acids liberates hydrogen cyanide (HCN). Contact with ammonia may be explosive.

Conditions to avoid
Avoid temperatures above 60°C, sources of heat, direct sunlight.

Incompatible materials
Acids, cupric nitrate, at high temperature with chromium trioxide and sodium nitrite, hydrochloric acids, nitrites, and oxidizing agents.

Hazardous decomposition products
Highly toxic fumes of cyanides, hydrogen cyanide, nitrogen oxides, carbon monoxide and carbon dioxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Acute Toxicity - Oral: LD50 (rat): 3613 mg/kg (anhydrous substance), (IUCLID).
Ingestion: May cause irritation of the throat, general stomach upset and vomiting.
Inhalation: May cause irritation to respiratory tract. Symptoms may include coughing and shortness of breath.

Skin corrosion/irritation
May cause irritation, itching, scaling, reddening, or, occasionally, blistering.

Serious eye damage/irritation
May cause eye irritation.

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: Due to the effect of potassium salts upon the heart, accidental ingestion of large amounts by persons suffering from a heart condition should be considered dangerous and immediate medical assistance sought.

SECTION 12: Ecological information

Toxicity
Information on Ecological Effects: Will likely be mobile in the environment due to its water solubility.

Acute Toxicity - Fish: Poecilia reticulata LC50: 19 mg/l/96 h. (IUCLID)

Acute Toxicity - Daphnia: Daphnia magna EC50: 32 mg/l/96 h (anhydrous substance).(IUCLID)

Acute Toxicity - Algae: IC10 Desmodesmus subspicatus (green algae): 0.2mg/l; 4 d (IUCLID).

Acute Toxicity - Bacteria: Pseudomonas fluorescens EC10: >1000 mg/l/24 h (anhydrous substance).(IUCLID)

Persistence and degradability
May persist based on information available.

Other adverse effects

Other Information: May cause long-term adverse effects in the environment.

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)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

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

Australia SUSMP
Poison Schedule: NS

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.

Preparation information
All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However,since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. ChemSupply Australia Pty Ltd accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

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)