

## Safety Data Sheet **POTASSIUM FERRICYANIDE**

SDS no. V9A3P11G • Version 1.0 • Date of issue: 2025-05-12

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### SECTION 1: Identification

#### GHS Product identifier

Product name POTASSIUM FERRICYANIDE

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

Tempering steel, etching liquid, production of pigments, electroplating, sensitive coatings on blueprint paper, fertilizer compositions 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](http://www.chemsupply.com.au)

#### Emergency phone number

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

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### SECTION 2: Hazard identification

#### Classification of the substance or mixture

#### GHS classification in accordance with: UN GHS revision 7

- Serious eye damage/eye irritation, Cat. 2A
- Hazardous to the aquatic environment, long-term (chronic), Cat. 2

#### GHS label elements, including precautionary statements

#### Pictograms



#### Signal word

**Warning**

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### Hazard statement(s)

H319 Causes serious eye irritation  
H411 Toxic to aquatic life with long lasting effects

### Precautionary statement(s)

P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P273 Avoid release to the environment.  
P391 Collect spillage.  
P501 Dispose of contents/container to an approved waste disposal facility

### Other hazards which do not result in classification

AUH031 Contact with acids liberates toxic gas

## SECTION 3: Composition/information on ingredients

### Mixtures

Molecular weight: 329.25

### Components

Component	CAS no.	Concentration
Potassium ferricyanide (EC no.: 237-323-3)	13746-66-2	<= 100 % (weight)
CLASSIFICATIONS: Hazardous to the aquatic environment, long-term (chronic), Cat. 2; Serious eye damage/eye irritation, Cat. 2A. HAZARDS: H319 - Causes serious eye irritation; H411 - Toxic to aquatic life with long lasting effects.		

## 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.

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**SECTION 5: Fire-fighting measures**

**Suitable extinguishing media**

Use extinguishing media appropriate for surrounding fire.

**Specific hazards arising from the chemical**

Hazards from Combustion Products: May liberate toxic fumes in the fire including carbon oxides and nitrogen oxides.

Material does not burn. Fire or heat will produce toxic fumes of cyanides. Runoff may pollute waterways.

**Special protective actions for fire-fighters**

Use suitable protective equipment for surrounding fire.

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**SECTION 6: Accidental release measures**

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

Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.

**Methods and materials for containment and cleaning up**

Collect material and place it into loosely-covered plastic containers for later disposal and wash the area with excess water.

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**SECTION 7: Handling and storage**

**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

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

Store in a cool, dry place. Keep containers closed at all times.

Moisture sensitive. Hygroscopic.

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**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**

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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 an 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.

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## SECTION 9: Physical and chemical properties

### Basic physical and chemical properties

Physical state	Solid
Appearance	Bright red, lustrous crystals or powder.
Color	No data available.
Odor	Odourless
Odor threshold	No data available.
Melting point/freezing point	No data available.
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.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	6.0 - 9 (329 g/l, H <sub>2</sub> O, 25 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Very soluble >300 g/L @ 20°C Solubility in Organic Solvents: Slightly soluble in alcohol. Soluble in acetone.
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: 1.85 @ 25 °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)

No data available.

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## SECTION 10: Stability and reactivity

### Reactivity

Stable under normal conditions of storage and handling.

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### Chemical stability

Stable under recommended storage conditions.

Hygroscopic. Light sensitive.

### Possibility of hazardous reactions

Contact with acids liberates hydrogen cyanide (HCN). May explode in the presence of ammonia and in high temperature reactions with chromium trioxide, cupric nitrate or sodium nitrite. Decomposes on strong heating to evolve highly toxic fumes, but the compound itself has low toxicity.

Hazardous Polymerization: Will not occur.

### Conditions to avoid

Avoid heating, sensitive to light and incompatibles.

### Incompatible materials

Strong acids, strong oxidising agents, ammonia, cyanides, chromium trioxide with heat, cupric nitrate, sodium nitrite plus heat, and acid fumes.

### Hazardous decomposition products

Highly toxic fumes of cyanides when in contact with acids or heat.

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

Acute Toxicity - Oral: LD50 (mouse): 2970 mg/kg.

LDL (Rat): 1600 mg/kg.

Ingestion: May cause irritation of the throat, general stomach upset, vomiting and gastrointestinal symptoms which may lead to weakness, mental confusion, hypotension, paralysis and possible circulatory disturbances, including cardiac arrhythmias, heart block and cardiac arrest. Hydrogen cyanide (high toxicity) can be liberated in the stomach as a result of contact with gastric acidity.

Inhalation: May cause respiratory tract irritation with coughing and shortness of breath.

#### Skin corrosion/irritation

May cause skin irritation with redness and pain.

#### Serious eye damage/irritation

May cause mechanical irritation with redness and pain.

#### 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**

Health Hazard: The following applies to cyanogen compounds/nitriles in general: Exercise utmost caution! Release of hydrocyanic acid is possible - may block cellular respiration. Cardiovascular disorders, dyspnoea, unconsciousness can occur. This substance should be handled with particular care.

Chronic Effects: Prolonged or repeated inhalation may affect blood and urinary system. 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.

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**SECTION 12: Ecological information**

**Toxicity**

Other Precautions: Do not allow to enter waters, waste water, or soil!

Acute Toxicity - Fish: LC50 (Onchorhynchus mykiss - Rainbow trout): 869 mg/l/96 h.

Acute Toxicity - Daphnia: EC50 (Daphnia magna): 549 mg/l/48 h.

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**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.

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**SECTION 14: Transport information**

**ADG (Road and Rail)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**SECTION 15: Regulatory information**

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

**Australia SUSMP**

Poison Schedule: NS

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## **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**

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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 for 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 Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), [hcis.safeworkaustralia.gov.au](https://hcis.safeworkaustralia.gov.au)

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)