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Infosafe No™ 1CHBH

Issue Date :November 2022 RE-ISSUED by CHEMSUPP

# Product Name **POTASSIUM FLUORIDE**

Classified as hazardous

Product Identifier	POTASSIUM FLUORIDE	
Company Name	CHEMSUPPLY AUSTRALIA PTY LTD (ABN 19 008 264 211)	
Address	38 - 50 Bedford Street GILLMAN SA 5013 Australia	
Telephone/Fax Number	Tel: (08) 8440-2000	
Emergency Phone Number	CHEMCALL 1800 127 406 (Australia) / +64-4-917-98	88 (International)
E-mail Address	www.chemsupply.com.au	
Recommended use of the chemical and restrictions on use	Etching glass, insecticide, pesticides, preservat: welding and soldering agents, electrolyte for enar synthesis as a catalyst for various reactions or a organic molecules, manufacture of fluorine, and la	ive, silver soldering flux, mels and glazes, in organic to introduce fluorine into aboratory reagent.
Other Names	Name	Product Code
	POTASSIUM FLUORIDE AR	PA090
Other Information	ChemSupply Australia Pty Ltd does not warrant that for any use or purpose. The user must ascertain the before use or application intended purpose. Prelim before use or application is recommended. Any reli- upon ChemSupply Australia Pty Ltd with respect to advice in relation to the suitability of this prod disclaimed. Except to the extent prohibited at lat any statute as to the merchantable quality of this purpose is hereby excluded. This product is not so provisions of Part V, Division 2 of the Trade Prade liability of ChemSupply Australia Pty Ltd is limit supply of equivalent goods or payment of the cost acquiring equivalent goods.	t this product is suitable he suitability of the product ninary testing of the product ance or purported reliance any skill or judgement or duct of any purpose is w, any condition implied by s product or fitness for any old by description. Where the ctices Act apply, the ted to the replacement of of replacing the goods or

# Section 2 - Hazard(s) Identification

GHS Classification of the Substance/Mixture Signal Word	Acute Toxicity - Dermal: Category 3 Acute Toxicity - Inhalation: Category 3 Acute Toxicity - Oral: Category 3 DANGER
Hazard Statement (s)	H301 Toxic if swallowed. H311 Toxic in contact with skin. H331 Toxic if inhaled.
Pictogram (s)	skull and crossbones
Precautionary Statement – Prevention	P261 Avoid breathing dust. P264 Wash thoroughly after handling. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statement – Response	<pre>P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P311 Call a POISON CENTER or doctor/physician.</pre>



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Product Name	POTASSIUM FLUOR	DE			
		Classifi	ed as hazaro	lous	
	P361 Remove/Take off immediately all contaminated clothing. P363 Wash contaminated clothing before reuse.				
Precautionary Statement – Storage	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.				
Precautionary Statement – Disposal	P501 Dispose of contents/container according to local, state and federal regulations.				
Section 3 - Composition and Information on Ingredients					
Ingredients	Name	CA	s		Proportion
	Potassium fluoride	77	89-23-3		100 %

# Section 4 - First Aid Measures

Section 4 - First P	Au Micasures
Inhalation	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.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Skin	Wash skin with water using soap if available. Contaminated clothing must be removed as soon as possible. It must be relaundered before reuse. Seek immediate medical advice.
Eye	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Seek immediate medical assistance.
First Aid Facilities	Eye wash station, safety shower and normal washroom facilities.
Advice to Doctor	Consult Poisons Information Centre. Potassium fluoride forms hydrofluoric acid upon contact with acid, such as stomach acid. The symptoms that follow the ingestion of soluble fluorides by man are listed in the order of diminishing frequency of occurence: vomiting, abdominal pain, diarrhoea, convulsions, generalised and muscular weakness, collapse, dyspnea, paresis, difficulty in articulation, thirst, weakness of the pulse, disturbed colour vision, loss of consciousness, and motor unrest. Albuminuria is frequently present. Acute toxic nephritis, haemorrhagic gastroenteritis, and more or less definite patholgic damage to other organs are found on examination. The calcium content of the blood is reduced following the ingestion of large amounts of fluorides. Fluoride acts as an inhibitor of certain intracellular enzymes concerned in the anerobic glucolysis of many types of cells, plant as well as mammalian. It interferes with enzymes, particularly those concerned with processes of phosphorylation, are also affected by the fluoride ion.
Protection for First Aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once.

# **Section 5 - Firefighting Measures**

Hazards from Combustion Products	Irritating and highly toxic gases, fumes and vapours of potassium oxide, fluoride and hydrogen fluoride (HF).
Specific Methods	Use dry chemical, alcohol-resistant foam, CO2 or water spray.
Specific Hazards Arising from the Chemical	Material does not burn. Fire or heat will produce irritating, poisonous and/or corrosive gases.
Hazchem Code	2X



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Product Name	POTASSIUM FLUORIDE		
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Precautions in connection with Fire	Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.		
Section 6 - Accidental Release Measures			
Personal Precautions	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.		
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)		
Clean-up Methods - Small Spillages	Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance with local regulations.		
Environmental Precautions	Prevent from entering into drains, ditches, rivers or the sea.		
Section 7 - Handli	ng and Storage		
Precautions for Safe Handling	Avoid ingestion and inhalation of dust. Avoid contact with skin, eyes, and clothing. Minimize dust generation and accumulation. Keep container closed. Use only in a chemical fume hood. Use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Under no circumstances eat, drink or smoke while handling this material. Keep container dry. Never add water to this product. Keep away from incompatibles		

such as acids. May corrode glass. Store in tightly closed containers, in a cool, dry, well-ventilated area away **Conditions for safe** from incompatible substances. Protect from physical damage, direct sunlight storage, including and moisture. Isolate from acids and alkalis. Containers of this material may any incompatibilities be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. For information on the design of the store-room reference should be made to AS/NZS 4452: The storage and handling of toxic substances. Store in an appropriate container. May corrode glass. Aqueous solution corrodes glass and porcelain. Corrosiveness Refer Australian Standard AS/NZS 4452:1997 'The storage and handling of toxic **Storage Regulations** substances'. Store at room temperature (15 to 25  $^\circ\text{C}$  recommended). Storage Temperatures Recommended May be stored in aluminium containers. Materials

Unsuitable Materials Ceramic, glass.

#### Section 8 - Exposure Controls and Personal Protection

Other Exposure Information	A time weighted average (TWA) has been established for Fluorides (as F) (Safe Work Australia) of 2.5 mg/m <sup>3</sup> . The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
Engineering Controls	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.



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Eye and 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.		
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Excellent: Nitrile rubber gloves Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.		
Personal Protective Equipment	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.		
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. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.		
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.		
Section 9 - Physics	al and Chemical Properties		
Form	Solid		
Appearance	White or colourless cubic crystals or crystalline, deliquescent powder.		
Odour	Odourless.		
Melting Point	858 °C		
<b>Boiling Point</b>	1505 °C		
Solubility in Water	Soluble in cold water; very freely soluble in boiling water (92.3 g/100 ml @ 18 °C; 96.4 g/100 ml @ 21 °C).		
Solubility in Organic Solvents	Soluble in hydrogen fluoride, liquid ammonia. Insoluble in alcohol unless water is present.		
Specific Gravity	2.48		
рН	7 - 9 at 50 g/l and 18 °C		
Vapour Pressure	ca. 1.3 hPa at 885 °C: 1 mm Hg at 885 °C.		
Relative Vapour Density (Air=1)	2.0		
Volatile Component	U %vol ( 21 °C		

Partition Coefficient: log Pow: -0.77 (calculated)

value)Non combustible material.FlammabilityNon combustible material.Explosion PropertiesNot explosive.

Molecular Weight58.10Oxidising PropertiesNo oxidizing properties.

Other Information Taste: Sharp saline taste.

# Section 10 - Stability and Reactivity

Chemical Stability	Stable under ordinary conditions of use and storage. Hygroscopic: absorbs moisture or water from the air. Sensitive to moisture.
Possibility of	Absorbs moisture from the air. Reacts with strong acids/acids to form hydrogen
<b>Hazardous Reactions</b>	fluoride, a severe tissue corrosive. Attacks glass and porcelain.
Conditions to Avoid	Dust generation, excess heat, exposure to moisture/moist air, and incompatible materials.
Incompatible Materials	Acids/strong acids (forms toxic hydrogen fluoride), strong oxidising agents, alkalis/strong bases, glass, porcelain, platinum plus bromine trifluoride at

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n-octanol/water (log



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Hazardous Decomposition Products	280 °C; quinine salts and soluble calcium salts. Irritating and highly toxic gases, fumes and vapours of potassium oxide, fluoride and hydrogen fluoride (HF).
Hazardous Polymerization	Will not occur.
Section 11 - Toxic	ological Information
Acute Toxicity - Oral	LD50 (rat): 245 mg/kg.
Ingestion	Toxic if swallowed. May cause severe irritation of the gastrointestinal tract with burns to mouth, throat, stomach and digestive tract, epigastric pain, nausea, dysphagia, salivation, hematemesis, and diarrhoea. These effects may be delayed for several hours. GI symptoms can develop following fluoride ingestions of 3 mg/kg or more. It is easily absorbed through the gastrointestinal tract. In most instances, gastrointestinal signs and symptoms predominate. Other effects include headache, numbness, carpopedal spasm, tremors, shallow respiration, nervousness, Central Nervous System depression, dizziness, loss of coordination, muscle weakness, breathing difficulty, difficulty speaking, motor unrest, agitation, thirst, weak pulse, disturbed colour vision, convulsions and coma, collapse, loss of consciousness, shock, brain and kidney damage. Cardiac dysrhythmias consistent with hyperkalemia may be noted. Fatal cardiac arrest occurred in several patients with renal failure exposed to fluoride during hemodialysis. QT prolongation secondary to hypocalcemia can occur following fluoride toxicity. Respirations are first stimulated then depressed. May produce increase of hepatic enzymes. Hyperkalemia and hypomagnesemia may occur following fluoride toxicity. Hypocalcemia (reduced calcium levels) is likely to develop with acute exposure, and can be fatal. Hyperactive reflexes, painful muscle spasms, weakness and tetanic contractures may be noted due to fluoride induced hypocalcemia. The following applies to soluble inorganic fluorides in general: Caustic. Following massive overdoses, material probably reacts with gastric acid to produce highly corrosive HF which may cause the nausea, vomiting, diarnhoea, abdominal pain, and acute hemorrhagic gastroenteritis. In severe poisonings, hypotension, dysrhythmias, fever and labored breathing may develop. Death usually results from cardiac failure or respiratory muscle paralysis.
Inhalation	May be fatal by inhalation. Causes respiratory tract and mucous membrane irritation with possible burns. Irritation and burning effects may not appear immediately. Symptoms may include burning pain in the nose and throat, coughing, wheezing, choking, sore throat, labored breathing, shortness of breath, pulmonary oedema. May be absorbed through inhalation of dust; symptoms may parallel those from ingestion exposure. Inhalation of large amounts may be fatal as a result of spasm, inflammation, oedema of the larynx and bronchi, chemical pheumonitis and pulmonary oedema. Repeated exposure to dusts may lead to fluorosis and skeletal changes.
Skin	Harmful through skin contact and if absorbed through the skin. Causes severe skin irritation and possible burns to eyes, skin and mucous membranes. Urticaria and pruritus have been reported following dermal exposure to fluoride. May be absorbed through the skin. Effects may not appear immediately.
Eye	Corrosive to eyes. Causes eye irritation, which may be severe, with possible burns. Permanent eye damage may result. Exposure to particulates or solution may cause conjunctivitis, ulceration, and corneal abnormalities. Risk of corneal clouding.
Carcinogenicity	Fluorides (inorganic, used in drinking-water) is evaluated in the IARC Monographs (Vol. 27, Suppl.7; 1987) as Group 3: Not classifiable as to carcinogenicity to humans.
Reproductive Toxicity	May cause adverse reproductive effects. May cause damage to the embryo or foetus. Adverse reproductive effects have occurred in experimental animals. Prenatal fluoride supplementation (2.2 mg NaF or 1 mg fluoride daily) during the last two trimesters of pregnancy has been reported to be safe.
Mutagenicity	May affect genetic material (mutagenic). Mutagenic effects have occurred in

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	experimental animals. Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. Fluoride (CAS # 16984-48-8): DNA inhibition system-mouse: fibroblast 1300 mmol/1 ('Dangerous Properties of Industrial Materials', 7th Ed., by N. Irving Sax and Richard J. Lewis).
Chronic Effects	Chronic exposure causes damage to the mucous membranes, skin, eyes, lens or cornea and may cause damage to the kidneys, the nervous system, heart, gastrointestinal tract, bones, central nervous system (CNS) and teeth. Prolonged or repeated inhalation may cause sores in the inner nose. Prolonged or repeated inhalation, ingestion and exposure to dusts may lead to fluorosis and skeletal changes. Signs and symptoms of fluorosis include general ill health, nausea, vomiting, loss of appetite, diarrhoea, constipation, brittle bones, weight loss, anaemia, calcified ligaments and tendons, joint stiffness, weakness, teeth discolouration, damage to bone marrow and other crippling changes. Can also result in osteosclerosis (an increase of bone density in characteristic patterns).
Section 12 - Ecolo	gical Information
Persistence and Degradability	Methods for the determination of biodegradability are not applicable to inorganic substances.
Environmental Protection	Do not allow to enter waters, waste water, or soil!
Section 13 - Dispo	sal Considerations
Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.
Section 14 - Trans	port Information
Transport Information	Dangerous Goods of Class 6 (Toxic and Infectious Substances) are incompatible in a placard load with any of the following: -Class 1, Class 3, if the Class 3 dangerous goods are nitromethane, Class 8, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids; and are incompatible with food and food packaging in any quantity.
ADG UN Number	1812
ADG Proper Shipping Name	POTASSIUM FLUORIDE
ADG Transport Hazard Class	6.1
ADG Packing Group	III
Hazchem Code	2X
EPG Number	6.1.015
IERG Number	37
Environmental Hazards	Harmful effect due to pH shift. Forms toxic and corrosive mixtures with water even if diluted. The following applies to inorganic fluorides in general: Hazard from drinking water.
Section 15 - Regu	latory Information
Regulatory Information	Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
<b>Poisons Schedule</b>	S6
Section 16 - Any (	Other Relevant Information
Literature References	'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. '.

Data Sheets for Hazardous Chemicals'.

Safe Work Australia, 'National Code of Practice for the Preparation of Safety



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Contact Person/Point	<pre>Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand. Safe Work Australia, 'Hazardous Chemical Information System'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'. Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: 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.</pre>
Empirical Formula	KF
& Structural	
Formula	
	Ena OI M5D5
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