SAFETY DATA SHEET
MONOPOTASSIUM PHOSPHATE (MKP)
REVISION 4, DATE 05 JUL 2022

1. IDENTIFICATION

Product Name	**Monopotassium phosphate (MKP)**
Other Names	Monopotassium dihydrogen phosphate; PEAK MKP; Potassium acid phosphate; Potassium dihydrogenorthophosphate; Potassium phosphate, monobasic
Uses	Fertiliser; Detergents; Water treatment; Food additives; Feed additives; Fire retarding agent; Processing aid/additive.
Chemical Family	No Data Available
Chemical Formula	KH2PO4
Chemical Name	Phosphoric acid, monopotassium salt
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)	Not Scheduled

Globally Harmonised System

Hazard Classification	NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Signal Word	None

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification	NOT hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Monopotassium phosphate	KH2PO4	7778-77-0	>95 - 100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting unless directed to do so by medical personnel. Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Rinse with warm water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Non-combustible; Material itself does not burn.

Flammability Conditions	
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction. Use fire extinguishing methods suitable to surrounding conditions.
Fire and Explosion Hazard	Decomposes on heating, emitting toxic fumes.
Hazardous Products of Combustion	Fire or heat may produce irritating and/or toxic gases, including Phosphorus oxides (e.g. P2O5).
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid formation of dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	If uncontaminated, sweep up or collect and reuse as product. If contaminated with other materials, collect in suitable containers and dispose of properly (see SECTION 13). *Pick up mechanically. Take up dry.
Containment	Do not touch or walk through spilled material. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	This product is used as fertiliser. However, large spills can kill vegetation. Prevent large quantities from entering waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8). *Use respiratory protective device against the effects of fumes/dust/aerosol.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed when not in use. Protect from humidity and water (hygroscopic). Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m3 (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m3; TWA = 3 mg/m3 (respirable dust). - OSHA PEL (Particulates not otherwise regulated): TWA = 15 mg/m3 (total dust); TWA = 5 mg/m3 (respirable dust).

Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate (P2 filter) respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses. - Hand protection: Handle with gloves. Recommended: Protective gloves, e.g. Nitrile rubber. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Protective work clothing.
Special Hazards Precaustions	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of the workday. Take off contaminated clothing and wash it before storage or reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline or granular powder
Odour	Odourless
Colour	White
pH	4.2 - 4.5 (208 g/l) at 20 °C
Vapour Pressure	4.5 x 10-15 Pa (@ 25 °C)
Relative Vapour Density	No Data Available
Boiling Point	>450 °C
Melting Point	252.6 °C
Freezing Point	No Data Available
Solubility	Soluble in water (208 g/l) 20°C
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	1,150 - 1,200 kg/m3 (at 20 °C)
Corrosion Rate	No Data Available
Decomposition Temperature	>450 °C
Density	2.34 g/cm3
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	This product is hygroscopic.

Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material itself does not burn.
Reactions That Release Gases or Vapours	Fire or heat may produce irritating and/or toxic gases, including Phosphorus oxides (e.g. P2O5).
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under normal conditions of use.
Conditions to Avoid	Avoid formation of dust. To avoid thermal decomposition, do not overheat. Avoid exposure to water (hygroscopic).
Materials to Avoid	Incompatible/reactive with acids, alkalis and strong oxidising agents.
Hazardous Decomposition Products	Fire or heat may produce irritating and/or toxic gases, including Phosphorus oxides (e.g. P2O5).
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information

- Acute toxicity: Based on available data, the classification criteria are not met.
- Skin corrosion/irritation: Based on available data, the classification criteria are not met. Irritation of skin: not irritating (rabbit) [OECD 404].
- Eye damage/irritation: Based on available data, the classification criteria are not met. Irritation of eyes: not irritating (rabbit) [OECD 405, EC B.5].
- Respiratory/skin sensitisation: Based on available data, the classification criteria are not met. Sensitisation: none (mouse) [OECD 429, EC B.42].
- Germ cell mutagenicity: None.
- Carcinogenicity: No data available (no carcinogenicity study needs to be performed as this substance is not genotoxic). Substance is not listed (NTP, IARC).
- Reproductive toxicity: No classification is necessary.
- 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 toxicity: Based on available data, the classification criteria are not met.

Acute

Ingestion

Acute toxicity (Oral):
- LD50, Rat: >2,000 mg/kg [Supplier's SDS].

Carcinogen Category None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Inorganic phosphates are not considered to be toxic to aquatic species. *No reliable study with this product is present.
Persistence/Degradability	The substance is inorganic; therefore no biodegradation tests are applicable. This product dissociates into potassium and phosphate ions, which cannot be further degraded.
Mobility	This substance is highly water soluble and dissociating. Low potential for adsorption (based on substance properties).
Environmental Fate	Generally not hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. *The product should not get in high quantities into waste water because it may act as a plant nutrient and cause eutrophication.
Bioaccumulation Potential	Does not accumulate in organisms. This substance is highly water soluble and dissociating. This product dissociates into potassium and phosphate ions, which are ubiquitous in the environment.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Disposal must be made in accordance with Local Authority requirements. Packaging may be reused or recycled after cleaning.
Special Precautions for Land Fill	Can be reused without reprocessing. Can be disposed of with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	Monopotassium phosphate (MKP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)
ADR Code

Proper Shipping Name	Monopotassium phosphate (MKP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)
NZS5433

Proper Shipping Name	Monopotassium phosphate (MKP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)
US DOT

Proper Shipping Name	Monopotassium phosphate (MKP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport
IMDG Code

Proper Shipping Name	Monopotassium phosphate (MKP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport
IATA DGR

Proper Shipping Name	Monopotassium phosphate (MKP)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Not Hazardous

National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Listed
China (IECSC)	Listed
Europe (EINECS)	231-913-4
Europe (REACh)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (List of Classified Substances)	Not Listed
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Taiwan (TCSI)	Listed
USA (TSCA)	Listed
Mexico (INSQ)	Listed

16. OTHER INFORMATION

Related Product Codes	MOPOPF1000, MOPOPF2000, MOPOPF3000, MOPOPF3001, MOPOPF3002, MOPOPF3010, MOPOPF3030, MOPOPF3040, MOPOPF4000, MOPOPF7000, MOPOPF8000, MOPOTA0250, MOPOTA0890, MOPOTA0895, MOPOTA0999, MOPOTA1000, MOPOTA1001, MOPOTA1002, MOPOTA1003, MOPOTA1004, MOPOTA1005, MOPOTA1007,

MOPOTA1008, MOPOTA1009, MOPOTA1010, MOPOTA1011, MOPOTA1012, MOPOTA1013, MOPOTA1014, MOPOTA1015, MOPOTA1017, MOPOTA1018, MOPOTA1019, MOPOTA1020, MOPOTA1021, MOPOTA1023, MOPOTA1024, MOPOTA1025, MOPOTA1026, MOPOTA1027, MOPOTA1028, MOPOTA1029, MOPOTA1030, MOPOTA1032, MOPOTA1100, MOPOTA1101, MOPOTA1110, MOPOTA1150, MOPOTA1200, MOPOTA1300, MOPOTA1301, MOPOTA1302, MOPOTA1332, MOPOTA1400, MOPOTA1500, MOPOTA1600, MOPOTA1700, MOPOTA1705, MOPOTA1800, MOPOTA1801, MOPOTA1802, MOPOTA1803, MOPOTA1804, MOPOTA1825, MOPOTA2000, MOPOTA2100, MOPOTA2101, MOPOTA2200, MOPOTA2205, MOPOTA2206, MOPOTA2300, MOPOTA2350, MOPOTA2500, MOPOTA2512, MOPOTA2525, MOPOTA2800, MOPOTA2805, MOPOTA2806, MOPOTA2812, MOPOTA2825, MOPOTA3000, MOPOTA3001, MOPOTA3002, MOPOTA3100, MOPOTA3105, MOPOTA3300, MOPOTA3301, MOPOTA3306, MOPOTA3310, MOPOTA3315, MOPOTA3320, MOPOTA3321, MOPOTA3325, MOPOTA3350, MOPOTA3355, MOPOTA3400, MOPOTA3405, MOPOTA3410, MOPOTA3425, MOPOTA3426, MOPOTA3435, MOPOTA3450, MOPOTA3451, MOPOTA3455, MOPOTA3456, MOPOTA3500, MOPOTA3600, MOPOTA4000, MOPOTA4001, MOPOTA4500, MOPOTA4501, MOPOTA4900, MOPOTA4905, MOPOTA4906, MOPOTA4950, MOPOTA4955, MOPOTA4975, MOPOTA5000, MOPOTA5100, MOPOTA5105, MOPOTA5106, MOPOTA5122, MOPOTA5150, MOPOTA5155, MOPOTA5162, MOPOTA5200, MOPOTA5205, MOPOTA5500, MOPOTA6000, MOPOTA6001, MOPOTA6200, MOPOTA6205, MOPOTA6212, MOPOTA6222, MOPOTA6250, MOPOTA6280, MOPOTA6300, MOPOTA6400, MOPOTA6401, MOPOTA6500, MOPOTA6600, MOPOTA6700, MOPOTA6800, MOPOTA6801, MOPOTA6802, MOPOTA6803, MOPOTA6804, MOPOTA6805, MOPOTA6806, MOPOTA6807, MOPOTA6808, MOPOTA6809, MOPOTA6810, MOPOTA6811, MOPOTA7000, MOPOTA7001, MOPOTA7500, MOPOTA7600, MOPOTA7700, MOPOTA7800, MOPOTA8000, MOPOTA8100, MOPOTA8200, MOPOTA8500, MOPOTA8800, MOPOTA8810, MOPOTA8850, MOPOTA8851, MOPOTA9000, MOPOTA9001, MOPOTA9002, MOPOTA9005, MOPOTA9009, MOPOTA9100, MOPOTA9101, MOPOTA9200, MOPOTA9300, MOPOTA9500, MOPOTA9501, MOPOTA9600, MOPOTA9700, MOPOTA9705, MOPOTA9770, MOPOTA9771, MOPOTA9772, MOPOTA9773, MOPOTA9800

Revision 4

Revision Date 05 Jul 2022

Key/Legend

< Less Than
> Greater Than
AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm^2 Square Centimetres
CO2 Carbon Dioxide
COD Chemical Oxygen Demand
deg C (°C) Degrees Celcius
EPA (New Zealand) Environmental Protection Authority of New Zealand
deg F (°F) Degrees Farenheit
g Grams
g/cm^3 Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH2O Inch of Water
K Kelvin
kg Kilogram
kg/m^3 Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m^3 Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m^3 Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight