

1. IDENTIFICATION

Product Name	Monocalcium phosphate, monohydrate
Other Names	Calcium bis(dihydrogen phosphate), monohydrate; Calcium phosphate monobasic monohydrate; Calcium superphosphate; Calcium tetrahydrogen diphosphate, monohydrate
Uses	Animal feed.
Chemical Family	No Data Available
Chemical Formula	H ₄ CaO ₈ P ₂ .H ₂ O
Chemical Name	Phosphoric acid, calcium salt (2:1), monohydrate
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, 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	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
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	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)		
Hazard Categories	Skin Corrosion/Irritation - Category 2 Serious Eye Damage/Irritation - Category 2A Specific Target Organ Toxicity (Single Exposure) - Category 3		
Pictograms			
Signal Word	Warning		
Hazard Statements	H315	Causes skin irritation.	
	H319	Causes serious eye irritation.	
	H335	May cause respiratory irritation.	
Precautionary Statements	Prevention	P280	Wear protective gloves/eye protection/face protection.
		P261	Avoid breathing dust.
		P271	Use only outdoors or in a well-ventilated area.
	Response	P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
		P337 + P313	If eye irritation persists: Get medical advice/attention.
		P312	Call a POISON CENTER or doctor/physician if you feel unwell.
		P332 + P313	If skin irritation occurs: Get medical advice/attention.
		P362	Take off contaminated clothing and wash before reuse.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	Storage	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
		P405	Store locked up.
	Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

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)
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Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.1E	Substances that are acutely toxic –May be harmful, Aspiration hazard
		6.3A	Substances that are irritating to the skin
		6.4A	Substances that are irritating to the eye

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Monocalcium phosphate, monohydrate	H4CaO8P2.H2O	10031-30-8	<=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. Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Rinse cautiously with 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: Wash with plenty of soap and water. Take off contaminated clothing and wash 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. Call a Poison Centre or doctor/physician if you feel unwell. Apply resuscitation if victim is not breathing. Administer oxygen if breathing is difficult.
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. Avoid getting water inside containers.
Flammability Conditions	Non-combustible; Material itself does not burn.
Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire and Explosion Hazard	No information available.
Hazardous Products of Combustion	Fire or heat will produce irritating and/or toxic fumes, including oxides of Calcium, oxides of Phosphorus.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) in combination with normal firefighting clothing (fire kit).
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. ELIMINATE all ignition sources (no smoking, flares, sparks or flames). Do not touch or walk through spilled material. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Sweep up/shovel material into suitable containers for later disposal (see SECTION 13); if appropriate, moisten first to prevent dusting.
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. Prevent dust cloud.
Decontamination	No information available.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away; Keep upwind.

Personal Precautionary Measures

Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Avoid handling which leads to dust formation. Avoid breathing dust and contact with eyes, skin and clothing. Use personal protective equipment as required (see SECTION 8).
Storage	Store at room temperature in a dry and well-ventilated place. Keep container tightly closed. Hygroscopic - Protect from moisture. Keep away from incompatible materials (strong oxidising agents). Store locked up.
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/m ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ (total); TWA = 3 mg/m ³ (respirable).
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. Adequate ventilation should be provided so that exposure limits are not exceeded.
Personal Protection Equipment	Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended filter type: P1 particle respirator. Use respirators and components tested and approved under appropriate government standards. Eye/face protection: Wear eye protection/face protection. Recommended: Safety glasses with side-shields. Use equipment for eye protection tested and approved under appropriate government standards. Hand protection: Wear protective gloves. Recommended (full/splash contact): Nitrile rubber (Minimum layer thickness: 0.11 mm; Break through time: 480 min). Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the hazardous substance(s) at the specific workplace.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder
Odour	Odourless
Colour	White
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Slightly soluble in water
Specific Gravity	No Data Available

Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
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	No information available.
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 will produce irritating and/or toxic fumes, including oxides of Calcium, oxides of Phosphorus.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Avoid dust generation. Protect from moisture.
Materials to Avoid	Incompatible/reactive with strong oxidising agents.
Hazardous Decomposition Products	Fire or heat will produce irritating and/or toxic fumes, including oxides of Calcium, oxides of Phosphorus.
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Acute toxicity: No adverse effects expected; however, large amounts may cause gastrointestinal disturbance, nausea, headache and vomiting. Skin corrosion/irritation: Causes skin irritation. Eye damage/irritation: Causes serious eye irritation. Respiratory/skin sensitisation: No information available.
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Germ cell mutagenicity: No information available.
Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity: No information available.
STOT - single exposure: Causes respiratory irritation.
STOT - repeated exposure: No information available.
Aspiration toxicity: No information available.

Acute

Ingestion Acute toxicity (Oral):
- LD50, Rat: 17,500 mg/kg

Carcinogen Category None

12. ECOLOGICAL INFORMATION

Ecotoxicity No information available.
Persistence/Degradability No information available.
Mobility No information available.
Environmental Fate Prevent entry into drains and waterways.
Bioaccumulation Potential No information available.
Environmental Impact No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Dispose of contents/container via a licensed professional waste disposal service, in accordance with local/regional/national regulations.

Special Precautions for Land Fill Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name Monocalcium phosphate, monohydrate
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

Land Transport (Malaysia)

ADR Code

Proper Shipping Name Monocalcium phosphate, monohydrate
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

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Monocalcium phosphate, monohydrate
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

Land Transport (United States of America)

US DOT

Proper Shipping Name	Monocalcium phosphate, monohydrate
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

Sea Transport

IMDG Code

Proper Shipping Name	Monocalcium phosphate, monohydrate
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

Air Transport

IATA DGR

Proper Shipping Name	Monocalcium phosphate, monohydrate
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

National Transport Commission (Australia)

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

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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

HSR002521

National/Regional Inventories

Australia (AICS)

Listed

Canada (DSL)

Not Determined

Canada (NDSL)

Not Determined

China (IECSC)

Not Determined

Europe (EINECS)

Not Determined

Europe (REACH)

Not Determined

Japan (ENCS/METI)

Not Determined

Korea (KECI)

Not Determined

Malaysia (EHS Register)

Not Determined

New Zealand (NZIoC)

Listed

Philippines (PICCS)

Not Determined

Switzerland (Giftliste 1)

Not Determined

Switzerland (Inventory of Notified Substances)

Not Determined

Taiwan (NCSR)

Not Determined

USA (TSCA)

Not Determined

16. OTHER INFORMATION

Related Product Codes

MOCAPH1215, MOCAPH1216, MOCAPH1217, MOCAPH1218, MOCAPH1219, MOCAPH7001, MOCAPH7002, MOCAPH8000, MOCAPH8100, MOCAPM1000, MOCAPM1100, MOCAPM1300, MOCAPM1500, MOCAPM2000, MOCAPM2100, MOCAPM3000, MOCAPM3001, MOCAPM3200, MOCAPM3201, MOCAPM3400, MOCAPM3401, MOCAPM3402, MOCAPM3440, MOCAPM3600, MOCAPM3800, MOCAPM5000, MOCAPM5200, MOCAPM8000,

MOCAPM8100

Revision

4

Revision Date

24 Feb 2017

Reason for Issue

SDS updated

Key/Legend

< Less Than

> Greater Than

AICS Australian Inventory of Chemical Substances

atm Atmosphere

CAS Chemical Abstracts Service (Registry Number)

cm² 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 Fahrenheit

g Grams

g/cm³ 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 insoluble in each other.

inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ 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

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ 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 Health 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