

1. IDENTIFICATION

Product Name	Disodium Phosphate Dihydrate
Other Names	Dibasic Sodium Phosphate Dihydrate; Disodium Orthophosphate, Dihydrate.; Phosphoric Acid, Disodium Salt, Dihydrate; PHOSPHORIC ACID, DISODIUM SALT, DIHYDRATE.
Uses	No Data Available
Chemical Family	No Data Available
Chemical Formula	Na ₂ HPO ₄ · 2H ₂ O
Chemical Name	Disodium Phosphate Dihydrate
Product Description	White powder solid with no odour.

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	Serious Eye Damage/Irritation - Category 2A		
Pictograms			
Signal Word	Warning		
Hazard Statements	H319	Causes serious eye irritation.	
Precautionary Statements	Prevention	P264	Wash contacted areas thoroughly after handling.
		P280	Wear eye protection/face protection.
	Response	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.

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)

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
		6.3B	Substances that are mildly 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
Disodium phosphate dihydrate	No Data Available	10028-24-7	100.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. If victim is conscious and alert, give 2-3 glasses of water to drink. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.
Eye	Flush eyes with water for at least 15 minutes while holding eyelids open. Remove contact lenses if worn. If eye irritation persists: Get medical advice/attention.
Skin	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Move victim to fresh air. If signs/symptoms continue, get medical attention.

Inhaled

Advice to Doctor

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Ingestion of large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhoea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the faeces with the diarrhoea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity. Treatment should take into consideration both anionic and cation portion of the molecule. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Medical Conditions Aggravated by Exposure

Inhalation may aggravate existing chronic respiratory problems such as asthma or bronchitis.

5. FIRE FIGHTING MEASURES

General Measures

Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.

Flammability Conditions

Product is a non-flammable solid.

Extinguishing Media

Use extinguishing media suitable for surrounding fire.

Fire and Explosion Hazard

Not combustible.

Hazardous Products of Combustion

Oxides of sodium, oxides of phosphorus.

Special Fire Fighting Instructions

Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.

Personal Protective Equipment

Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighter's 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

Avoid accidents, clean up immediately. Slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Use clean, non-sparking tools and equipment. Do not touch or walk through spilled material.

Clean Up Procedures

Sweep or vacuum up and place in an appropriate closed container. Clean up residual material by washing area with water and detergent. Collect washings for disposal.

Containment

Stop leak if safe to do so. Isolate the danger area.

Decontamination

Clean up residual material by washing area with water and detergent. Collect washings for disposal.

Environmental Precautionary Measures

Runoff from fire control or dilution water may cause pollution. Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.

Evacuation Criteria

Evacuate all unnecessary personnel. Keep unauthorized personnel away.

Personal Precautionary Measures

Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling

Avoid direct or prolonged contact with skin and eyes. Avoid breathing dust. Keep containers closed when not in use.

Storage

Product is hygroscopic and tends to cake on storage. Store in an area that is cool, dry and isolated from all toxic and harmful substances. Store in a well-ventilated place. Keep container tightly closed.

This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

Container

Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No exposure standard has been established for this product by the Australian Safety and Compensation Council (ASCC). However, the exposure standard for dust not otherwise specified is 10mg/m ³ (for inspirable dust) and 3mg/m ³ (for respirable dust). These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals, they are not a measure of relative toxicity.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
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	RESPIRATOR: For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced (AS1715/1716). EYES: Safety glasses (AS1336/1337). HANDS: Wear appropriate gloves (AS2161). CLOTHING: Wear long sleeves and/or protective coveralls (AS3765/2210).
Work Hygienic Practices	Do not use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder
Odour	Odourless
Colour	White
pH	9.1 1 wt/wt %
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	Soluble 11 %
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	0.5 to 1.2 g/cm ³
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	178.05 g/mol
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 Data Available
Potential for Dust Explosion	No Data Available
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

Chemical Stability	Product is stable under normal conditions of use, storage and temperature.
Conditions to Avoid	Dusting conditions, extreme heat, extreme humidity.
Materials to Avoid	Strong acids.
Hazardous Decomposition Products	Oxides of sodium. Oxides of phosphorus.
Hazardous Polymerisation	Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Acute Toxicity: Oral LD50 Rat: > 17000 mg/Kg Irritation: Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation</p> <p>Carcinogenic Effects: This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.</p>
EyeIrritant	Causes serious eye irritation.
Ingestion	Ingestion of large quantities may cause irritation, nausea, vomiting, diarrhoea and abdominal cramps.
Inhalation	May cause respiratory irritation.
SkinIrritant	May cause irritation.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	No ecological information available for this product.
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Persistence/Degradability	No specific biodegradation test data located. While the alkalinity of this material is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems.
Mobility	No information available on mobility for this product.
Environmental Fate	Do NOT let product reach waterways, drains and sewers.
Bioaccumulation Potential	No information available on bioaccumulation for this product.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	DISODIUM PHOSPHATE DIHYDRATE
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

Proper Shipping Name	DISODIUM PHOSPHATE DIHYDRATE
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	DISODIUM PHOSPHATE DIHYDRATE
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	DISODIUM PHOSPHATE DIHYDRATE
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 LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	DISODIUM PHOSPHATE DIHYDRATE
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	DISODIUM PHOSPHATE DIHYDRATE
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)
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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	HSR003588
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National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	Listed
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	DISPHF1000, DISPHF1001, DISPHF1002, DISPHF1003, DISPHF1004, DISPHF1005, DISPHF1006, DISPHF1007, DISPHF1008, DISPHF1009, DISPHF1010, DISPHF1600, DISPHF2000, DISPHF4100, DISPHF5700, DISPHF7000, DISPHF7800, DISPHF7900, DISPHF8100, DISPHO2000, DISPHO4100, DISPHO7800
Revision	3
Revision Date	15 Jan 2015
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 Farenheit
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 insoluable 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