SAFETY DATA SHEET
PHOSPHONATES (DTPMPA.7NA)
REVISION 3, DATE 10 NOV 2022

1. IDENTIFICATION

Product Name	**Phosphonates (DTPMPA.7Na)**
Other Names	AQUACID 1067EX; CUBLEN D 3217 S; Na7DETPMP; Sodium salts of [[(phosphonomethyl)imino]bis[ethane-2,1-diylnitrilobis (methylene)]]tetrakisphosphonic acid (5-7 Na:1)
Uses	Additive for cleaning/washing agents, personal care products, bleach stabilisation, industrial water treatment, metal surface treatment, oilfield water systems, coatings and paints, paper industry, textile industry, water desalination systems and ceramics as scale inhibitor, complexing agent.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Diethylenetriamine penta(methylenephosphoric acid), sodium 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)

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

HSNO Classifications	Environmental Hazards	**9.1C**	Substances that are harmful in the aquatic environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Phosphonic acid, [[(phosphonomethyl)imino]bis[(2,1-ethanediylnitrilo)bis(methylene)]]tetrakis-, sodium salt	Unspecified	22042-96-2	31 - 33 %
Sodium chloride	NaCl	7647-14-5	<8 %
Sodium phosphite, dibasic	Unspecified	13708-85-5	<4 %
Water	H2O	7732-18-5	Balance %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed IF SWALLOWED: Rinse mouth. Do not induce vomiting. Get immediate medical advice/attention. 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 10 - 15 minutes. If eye irritation persists, get medical advice/attention.

Skin IF ON SKIN: Remove and isolate contaminated clothing and shoes. Immediately flush skin with running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.

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. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.

Advice to Doctor Treat symptomatically.

No information available.

Medical Conditions Aggravated by Exposure	

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.
Flammability Conditions	Non-combustible; However, after evaporation of the aqueous component, residual material can burn if ignited.
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction.
Fire and Explosion Hazard	Containers may explode when heated.
Hazardous Products of Combustion	Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, Phosphorus oxides, Nitrogen oxides and Hydrogen chloride (HCl). *Above 200°C releases Phosphine; The Phosphine will burn on to Phosphorus pentoxide unless there is insufficient fresh air.
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 breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Recover as much of the product as possible or pick up with sand or other non-combustible absorbent material and place into containers for later disposal (see SECTION 8).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	Neutralise with Calcium hydroxide, Sodium bicarbonate. Wash non-recoverable remainder with large amounts of water. Avoid direct discharge into drains.
Environmental Precautionary Measures	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Evacuation Criteria	Spill or leak area should be isolated immediately. Evacuate the spill area safely. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours 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. Store above freezing point. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from food/feedstuffs and incompatible materials (see SECTION 10). Ensure there is a suitable retention system - Take all necessary precautions to avoid accidental release to the environment due to the rupture of containers or transfer systems.

Container	Keep in the original container. Do not store in metal containers, such as carbon steel, aluminium, etc. *Emptied containers retain vapour and product residues. Observe all recommended safety precautions until container is cleaned, reconditioned or destroyed. The reuse of this container for non-industrial purposes is prohibited.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
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: Use approved respiratory protective equipment when airborne exposure is excessive. Recommended: Organic vapour/particulate respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Face shield and/or chemical goggles. - Hand protection: Handle with gloves. Recommended: Chemical-resistant gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Lightweight protective clothing.
Special Hazards Precaustions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when handling this product. Always wash thoroughly after handling. Use clean and correctly maintained PPE. Take off contaminated clothing and wash it before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	Characteristic
Colour	Amber
pH	6 - 8 (1% soln. 25°C)
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	>100 °C
Melting Point	No Data Available
Freezing Point	-14 °C
Solubility	Soluble in water
Specific Gravity	1.28 - 1.32
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	-3.4 (25°C)
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	Not applicable.
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; However, after evaporation of the aqueous component, residual material can burn if ignited.
Reactions That Release Gases or Vapours	Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, Phosphorus oxides, Nitrogen oxides and Hydrogen chloride (HCl). *Above 200°C releases Phosphine; The Phosphine will burn on to Phosphorus pentoxide unless there is insufficient fresh air.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Reacts vigorously with acids, metals and oxidising agents.
Chemical Stability	Stable under normal conditions of storage and transport.
Conditions to Avoid	Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with acids, metals and oxidising agents.
Hazardous Decomposition Products	Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon oxides, Phosphorus oxides, Nitrogen oxides and Hydrogen chloride (HCl). *Above 200°C releases Phosphine; The Phosphine will burn on to Phosphorus pentoxide unless there is insufficient fresh air.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	- Acute toxicity: No toxic effects if swallowed. No toxic effects if absorbed. - Skin corrosion/irritation: Not irritating on skin. Non-irritant (Rabbit, 4 h). - Eye damage/irritation: May cause slight irritation. Slight irritation (Rabbit, 72 h); very mild symptoms resolved within 24 hours. - Respiratory/skin sensitisation: Not sensitizing (GPMT) [Read cross data on acid form of test substance]. - Germ cell mutagenicity: Negative (In-vitro, In-vivo). - Carcinogenicity: Not carcinogenic. - Reproductive toxicity: No signs of effect on fertility.

- STOT (single exposure): No classification required.
- STOT (repeated exposure): No classification required.
- Aspiration toxicity: No significant adverse effects are expected to develop if small amounts (less than a mouthful) are swallowed.

Acute

Ingestion

Acute toxicity (Oral):
- LD50, Rat: >5,838 mg/kg [Supplier's SDS].
*Symptoms: Decreased respiration rate, diarrhoea, ataxia and convulsions.

Other

Acute toxicity (Dermal):
- LD50, Rat: >5,838 mg/kg [Supplier's SDS].
*Symptoms: No deaths or significant toxicity were seen.

Chronic

Ingestion

Repeated dose toxicity (Oral):
- NOAEL, Rat (90 days): 82.5 mg/kg bw/day (male); 92.3 mg/kg bw/day (female) [OECD 408].

Reproduction

Reproductive toxicity:
- NOAEL, Rat: 1,000 mg/kg bw/day (fetotoxicity); 2,000 mg/kg bw/day (teratogenicity).

Carcinogen Category

None

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic toxicity:
- LC50, Fish (Oncorhynchus mykiss (Rainbow Trout)): 1,200 mg/l (96 h).
- EC50, Crustacea (Acartia tonsa (Copepod)): 158 mg/l (48 h).
- EC50, Algae/aquatic plants (Skeletonema costatum): 36 mg/l (72 h).
*Algal growth inhibition is due to ability of this product to complex materials, not to toxicity, per se.

Persistence/Degradability

Not readily biodegradable.
- Degree of removal: 7% [OECD 301D (Closed bottle test)].

Mobility

Mobility in soil:
- Koc: 9,748
- log Koc: 3.99 [Read-across data on acid form of substance].

Environmental Fate

Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Bioaccumulation Potential

Not expected to bioaccumulate.
- BCF: <94 (Species: Cyprinus carpio).

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS

General Information

The generation of waste should be avoided or minimised wherever possible. All local and national regulations should be followed. For large quantities, send to special waste disposal system and burn in proper incinerator. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special Precautions for Land Fill

This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	Phosphonates (DTPMPA.7Na)
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	Phosphonates (DTPMPA.7Na)
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	Phosphonates (DTPMPA.7Na)
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	Phosphonates (DTPMPA.7Na)
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	Phosphonates (DTPMPA.7Na)
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	Phosphonates (DTPMPA.7Na)
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	HSR007256

National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Listed

Canada (NDSL)	Not Listed
China (IECSC)	Listed
Europe (EINECS)	244-751-4
Europe (REACh)	01-2119514449-36-
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Taiwan (TCSI)	Listed
USA (TSCA)	Listed
Mexico (INSQ)	Not Determined

16. OTHER INFORMATION

Related Product Codes	PHOSPD5520, PHOSPD5521, PHOSPD6000
Revision	3
Revision Date	10 Nov 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