



# SAFETY DATA SHEET PHOSPHONATES (DTPMPA.7NA) REVISION 3, DATE 10 NOV 22

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Phosphonates (DTPMPA.7Na)</b>
<b>Other Names</b>	AQUACID 1067EX; CUBLEN D 3217 S; Na7DETPMP; Sodium salts of [[[phosphonomethyl]imino]bis[ethane-2,1-diyl]nitrilobis(methylene)]]tetrakisphosphonic acid (5-7 Na:1)
<b>Uses</b>	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.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	Unspecified
<b>Chemical Name</b>	Diethylenetriamine penta(methylenephosphoric acid), sodium salt
<b>Product Description</b>	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	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

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 &amp; 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 &amp; 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

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	Non-combustible; However, after evaporation of the aqueous component, residual material can burn if ignited.
<b>Extinguishing Media</b>	If material is involved in a fire, use dry chemical, Carbon dioxide (CO <sub>2</sub> ), foam or water spray for extinction.
<b>Fire and Explosion Hazard</b>	Containers may explode when heated.
<b>Hazardous Products of Combustion</b>	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.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may cause pollution.
<b>Personal Protective Equipment</b>	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

### 6. ACCIDENTAL RELEASE MEASURES

<b>General Response Procedure</b>	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	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).
<b>Containment</b>	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
<b>Decontamination</b>	Neutralise with Calcium hydroxide, Sodium bicarbonate. Wash non-recoverable remainder with large amounts of water. Avoid direct discharge into drains.
<b>Environmental Precautionary Measures</b>	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Evacuate the spill area safely. Keep unauthorised personnel away.
<b>Personal Precautionary Measures</b>	Use personal protective equipment as required (see SECTION 8).

### 7. HANDLING AND STORAGE

<b>Handling</b>	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 breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8).
<b>Storage</b>	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**

<b>General</b>	The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	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.
<b>Personal Protection Equipment</b>	<ul style="list-style-type: none"> <li>- Respiratory protection: Use approved respiratory protective equipment when airborne exposure is excessive. Recommended: Organic vapour/particulate respirator (refer to AS/NZS 1715 &amp; 1716).</li> <li>- Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Face shield and/or chemical goggles.</li> <li>- Hand protection: Handle with gloves. Recommended: Chemical-resistant gloves.</li> <li>- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Lightweight protective clothing.</li> </ul>
<b>Special Hazards Precautions</b>	No information available.
<b>Work Hygienic Practices</b>	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**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear liquid
<b>Odour</b>	Characteristic
<b>Colour</b>	Amber
<b>pH</b>	6 - 8 (1% soln. 25°C)
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	>100 °C
<b>Melting Point</b>	No Data Available
<b>Freezing Point</b>	-14 °C
<b>Solubility</b>	Soluble in water
<b>Specific Gravity</b>	1.28 - 1.32
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	No Data Available
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available

<b>Net Propellant Weight</b>	No Data Available
<b>Octanol Water Coefficient</b>	-3.4 (25°C)
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	Not applicable.
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Non-combustible; However, after evaporation of the aqueous component, residual material can burn if ignited.
<b>Reactions That Release Gases or Vapours</b>	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.
<b>Release of Invisible Flammable Vapours and Gases</b>	No information available.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	Reacts vigorously with acids, metals and oxidising agents.
<b>Chemical Stability</b>	Stable under normal conditions of storage and transport.
<b>Conditions to Avoid</b>	Keep away from heat and sources of ignition.
<b>Materials to Avoid</b>	Incompatible/reactive with acids, metals and oxidising agents.
<b>Hazardous Decomposition Products</b>	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.
<b>Hazardous Polymerisation</b>	No information available.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"> <li>- Acute toxicity: No toxic effects if swallowed. No toxic effects if absorbed.</li> <li>- Skin corrosion/irritation: Not irritating on skin. Non-irritant (Rabbit, 4 h).</li> <li>- Eye damage/irritation: May cause slight irritation. Slight irritation (Rabbit, 72 h); very mild symptoms resolved within 24 hours.</li> <li>- Respiratory/skin sensitisation: Not sensitizing (GPMT) [Read cross data on acid form of test substance].</li> <li>- Germ cell mutagenicity: Negative (In-vitro, In-vivo).</li> <li>- Carcinogenicity: Not carcinogenic.</li> <li>- Reproductive toxicity: No signs of effect on fertility.</li> </ul>
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- 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

<b>Proper Shipping Name</b>	Phosphonates (DTPMPA.7Na)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (Malaysia)**

ADR Code

<b>Proper Shipping Name</b>	Phosphonates (DTPMPA.7Na)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (New Zealand)**

NZS5433

<b>Proper Shipping Name</b>	Phosphonates (DTPMPA.7Na)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Land Transport (United States of America)**

US DOT

<b>Proper Shipping Name</b>	Phosphonates (DTPMPA.7Na)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

**Sea Transport**

IMDG Code

<b>Proper Shipping Name</b>	Phosphonates (DTPMPA.7Na)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>EMS</b>	No Data Available
<b>Marine Pollutant</b>	No
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for SEA transport.

**Air Transport**

IATA DGR

<b>Proper Shipping Name</b>	Phosphonates (DTPMPA.7Na)
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	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)

<b>Dangerous Goods Classification</b>	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**

<b>General Information</b>	No Data Available
<b>Poisons Schedule (Aust)</b>	Not Scheduled

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>Approval Code</b>	HSR007256
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**National/Regional Inventories**

<b>Australia (AIIC)</b>	Listed
<b>Canada (DSL)</b>	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 (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)	Listed
USA (TSCA)	Listed

## 16. OTHER INFORMATION

Related Product Codes	PHOSPD5520, PHOSPD6000
Revision	3
Revision Date	10 Nov 2022
Key/Legend	<p>&lt; Less Than &gt; Greater Than</p> <p><b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand  <b>deg C (°C)</b> Degrees Celcius  <b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand  <b>deg F (°F)</b> Degrees Farenheit  <b>g</b> Grams  <b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre  <b>g/l</b> Grams per Litre  <b>HSNO</b> Hazardous Substance and New Organism  <b>IDLH</b> Immediately Dangerous to Life and Health  <b>immiscible</b> Liquids are insoluable in each other.  <b>inHg</b> Inch of Mercury  <b>inH<sub>2</sub>O</b> Inch of Water  <b>K</b> Kelvin  <b>kg</b> Kilogram  <b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre  <b>lb</b> Pound  <b>LC50</b> 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.  <b>LD50</b> 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.  <b>ltr or L</b> Litre</p>

**m<sup>3</sup>** Cubic Metre

**mbar** Millibar

**mg** Milligram

**mg/24H** Milligrams per 24 Hours

**mg/kg** Milligrams per Kilogram

**mg/m<sup>3</sup>** Milligrams per Cubic Metre

**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

**mm** Millimetre

**mmH<sub>2</sub>O** 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