



## **PRICE CHEMICALS PTY LIMITED**

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# **MATERIAL SAFETY DATA SHEET**

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**Hazardous according to criteria of Worksafe Australia**

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**Date of Issue : 1<sup>st</sup> January 2005**

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## **1. IDENTIFICATION**

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### **General**

Product Name : PHOSPHORIC ACID

Other Names : ORTHOPHOSPHORIC ACID

UN No. : 1805

Dangerous Goods Class : 8

Subsidiary Risk : None Allocated

Hazchem Code : 2R

Pack Group : III

EPG : 37

Poisons Schedule : 6

Uses :

Fertilizers, soaps and detergents, inorganic phosphates, pickling and rust- proofing metals, pharmaceuticals, sugar refining, gelatin manufacture, water treatment, animal feeds, electro-polishing, petrol additive, conversion coatings for metals, catalyst for ethanol manufacture, lakes for cotton drying, yeasts, soil stabiliser, waxes and polishes, binder for ceramics, activated carbon, in foods and carbonated beverages as acidulant and sequestrant, laboratory reagent.

## 1.1 Physical Description / Properties

Appearance : Colourless transparent syrupy liquid, odourless.

Formula : H<sub>3</sub>PO<sub>4</sub>

Boiling Point : 158 deg C

Melting Point : 21 deg C

Vapour Pressure : N/A

Specific Gravity : 1.69 (water = 1)

Flash Point : N/A

pH :

Solubility in water : Sol. g/l (25 deg C)

Flammability Limits (as percentage volume in air)

Lower Explosion Limit : N/A

Upper Explosion Limit : N/A

## 1.2 Other Properties

Viscosity @ 30 deg C : 75% - 7cP : 81.5% - 25cP : 85% - 32cP

## 1.3 Ingredients

Chemical Entity	CAS No.	Proportions (%)
PHOSPHORIC ACID	[ 7664-38-2]	75 - 85
WATER	[ 7732-18-5]	15 - 25

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## 2. HEALTH HAZARD INFORMATION

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### 2.1 Health Effects - Acute

#### Swallowed

Causes burns to the mouth, throat and stomach. Can cause nausea, difficulty in breathing, shock, acidosis, convulsions and collapse.

#### Eye

Causes irritation or burns. No permanent damage is expected if treated immediately.

### **Skin**

Causes irritation or burns, dryness and cracking. Dermatitis may occur from prolonged exposure. Injuries are more severe with hot acid.

### **Inhaled**

Causes irritation to the respiratory system. Vapours and mists are corrosive to the nose, throat and mucous membranes.

## **2.2 Health Effects - Chronic**

No significant health effects could be found. This material is not considered to be a carcinogen or mutagen and no reproductive effects have been identified.

## **2.3 First Aid**

### **Swallowed**

DO NOT induce vomiting. If conscious give a little water to drink. Obtain medical attention immediately.

### **Eye**

Immediately flush eyes with plenty of water for at least 15 minutes. Obtain medical attention.

### **Skin**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use. Obtain medical attention immediately.

### **Inhaled**

Remove to fresh air and remove contaminated clothing. If NOT breathing apply artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention immediately.

## **First Aid Facilities**

Ensure an eye bath and safety shower are available and ready for use.

## **2.5 Advice to Doctor**

Treat symptomatically based on judgement of doctor and individual reactions of patient.

## **2.6 Toxicity Data**

Oral LD50 = 1530 mg/kg (Rat) Dermal LD50 = 2740 mg/kg (Rabbit) Inhalation TCLo = 100 mg/m<sup>3</sup> (Human)

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## **3. PRECAUTIONS FOR USE**

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### **3.1 Exposure Standards**

Worksafe Australia recommends : TWA 1 mg/m<sup>3</sup> STEL 3 mg/m<sup>3</sup>

### **3.2 Engineering Controls**

Provide general and/or local exhaust ventilation where misting can occur.

### **3.3 Personal Protection**

Respiratory - not required for normal work procedures. If misting occurs, use an appropriate respirator, a full facepiece or a half mask air-purifying cartridge respirator equipped for acid gases/mists. Hands - wear rubber gloves with gauntlets. Eyes - wear chemical safety goggles. Skin - wear acid-resistant protective clothing with rubber boots. Wash hands and face thoroughly after handling and before eating, drinking, smoking or using the toilet.

### **3.4 Flammability**

Material is non-flammable.

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## **SAFE HANDLING INFORMATION**

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### **4.1 Storage / Transport**

Workers must be trained in handling phosphoric acid. Avoid breathing mist. Prevent contact with eyes, skin or clothing. Store 85% solution above 21 deg C, 81.5% solution above 7 deg C, 80% solution above 4 deg C and 75% solution above -20 deg C to prevent crystallisation. Keep container tightly closed. Keep away from direct sunlight, alkalis, sulphides, cyanides and metal powders. Store in corrosion-proof ventilated area. Keep soda ash or lime in area for emergency use.

### **4.2 Packaging / Labelling**

UN No. 1805

Class 8

Sub Risk None Allocated

Hazchem Code 2R

Pack Group III

EPG No. 37

Shipping Name PHOSPHORIC ACID

Hazard CORROSIVE

## **Risk Phrases**

R34 Causes burns.

## **Safety Phrases**

S1/2 Keep locked up and out of the reach of children.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible).

## **4.3 Spills and Disposal**

### **Spills**

Wear full protective clothing, boots, protective gloves and goggles and a self contained breathing apparatus. Keep unnecessary people away. Keep non-neutralised material out of sewers, storm drains, surface waters and soil.

Ventilate area of spill or leak. Apply sand, fly ash or cement to absorb liquid. Neutralise with lime, soda ash, calcium carbonate or sodium bicarbonate and collect up into suitable containers for disposal.

### **Disposal**

Neutralised acid slurry can be buried in an approved land fill. Dispose of in accordance with all Local, State and Federal regulations at an approved waste disposal facility. Empty containers can have residues, gases and mists and are subject to proper waste disposal, as above.

## **4.4 FIRE AND EXPLOSION HAZARD**

### **Fire / Explosion**

Material is non-flammable. Material is stable under normal conditions of use. Strong caustics will liberate much heat and cause spattering. Most metals will cause formation of flammable and explosive hydrogen gases. Bases react violently. Sulphide, phosphide, cyanide, carbide and silicides reactions release poisonous gases. Hazardous decomposition products include toxic gases and vapours (phosphoric acid fumes may be released). May liberate phosphorous oxide.

### **Extinguishing Media**

Use water spray, dry chemical, carbon dioxide or foam type extinguishers. DO NOT use a direct water stream. Contact with most metals produces hydrogen which may form flammable mixtures with air. Firefighters should wear a self- contained breathing apparatus and full impermeable protective clothing. Keep containers cool by spraying with water.

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## **5 OTHER INFORMATION**

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### Other Information

Acidic, nutrient for undesirable algae. While acidity may be reduced by natural water hardness minerals, the phosphate may persist indefinitely. Ecotoxicity value : TLm mosquito fish 138 mg/L/24-96 hr in turbid water at 22 - 24 degrees C. Bioconcentration : none

### 5.1 Contact Points

Organisation	Location	Telephone	Ask For
Price Chemicals Pty Ltd	Somersby NSW	02-4340 0088	Technical Officer
Poisons Information Centre	Westmead	131129	
		1800-251525	