

Section 1 – Identification of the Material and Supplier

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Chemical nature: Phosphoric acid solution.
Trade Name: **DESCALER**
Product Use: Removal of calcium and rust stains from metal and mineral surfaces.
Creation Date: August, 2013
This version issued: September, 2016 and is valid for 5 years from this date.

Section 2 – Hazards Identification

GHS Pictogram

GHS05: Corrosive.
GHS09: Environment.



GHS Signal word: DANGER

HAZARD CLASSIFICATION

Skin corrosion.

HAZARD STATEMENT:

H290: May be corrosive to metals.
H314: Causes severe skin burns and eye damage.
H402: Harmful to aquatic life.

PREVENTION

P102: Keep out of reach of children.
P234: Keep only in original container.
P260: Do not breathe fumes, mists, vapours or spray.
P264: Wash contacted areas thoroughly after handling.
P280: Wear protective gloves, protective clothing and eye or face protection.

RESPONSE

P363: Wash contaminated clothing before reuse.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Wash with plenty of soap and water.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P390: Absorb spillage to prevent material damage.
P391: Collect spillage.
P370+P378: Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires.

STORAGE

P405: Store locked up.
P406: Store in corrosive resistant container with a resistant inner liner.
P402+P404: Store in a dry place. Store in a closed container.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

DISPOSAL

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P501: Dispose of contents and containers to landfill.

Emergency Overview

Physical Description & Colour: Clear, colourless liquid.

Odour: Acidic odour.

Major Health Hazards: Causes severe skin burns and eye damage.

SUSMP Classification: S6 (POISON)

Potential Health Effects

Inhalation:

Short Term Exposure: Available data indicates that this product is not harmful. However, it enters nasal passages, it will cause pain and burn nasal membranes. Patients with inhalation burns may develop acute pulmonary oedema.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is corrosive to the skin. Capable of causing moderate to severe burns with ulceration. Can penetrate to deeper layers of skin, resulting in third degree burns. Corrosion will continue until product is removed or neutralised. Severity depends on concentration and duration of exposure. Burns may not be immediately painful; the onset of pain may be minutes to hours.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product is corrosive to eyes. It will cause severe pain, and corrosion of the eye and surrounding facial tissues. Unless exposure is quickly treated, permanent blindness and facial scarring is likely.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. However, this product is corrosive to the gastrointestinal tract. Capable of causing moderate to severe burns with ulceration. Can penetrate to deeper layers of skin, resulting in third degree burns. Corrosion will continue until product is removed or neutralised. Severity depends on concentration and duration of exposure.

Long Term Exposure: No data for health effects associated with long term ingestion.

Carcinogen Status:

SWA: No significant ingredient is classified as carcinogenic by SWA.

NTP: No significant ingredient is classified as carcinogenic by NTP.

IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 3 – Composition/Information on Ingredients

Ingredients	CAS No	Conc., %	TWA (mg/m ³)	STEL (mg/m ³)
Phosphoric acid	7664-38-2	<60	1	3
Water	7732-18-5	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

Section 4 - First Aid Measures

General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 11 26 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

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Skin Contact: Flush contaminated area with lukewarm, gently flowing water for at least 20-30 minutes, by the clock. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts). If irritation persists, repeat flushing. Seek medical attention.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20-30 minutes, by the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Take care not to rinse contaminated water into the unaffected eye or onto face. If irritation persists, repeat flushing. Call a Poisons Information Centre or a doctor urgently. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting; rinse mouth thoroughly with water and contact a Poisons Information Centre. Urgent hospital treatment is likely to be needed. Give activated charcoal if instructed.

Section 5 – Fire Fighting Measures

Fire and Explosion Hazards: There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids.

This product is likely to decompose only after heating to dryness, followed by further strong heating.

Fire decomposition products from this product are likely to be harmful if inhaled. Take suitable protective measures.

Extinguishing Media: Not combustible. Use extinguishing media suited to burning materials. Water fog or fine spray is the preferred medium for large fires. Aim to dilute the material with large quantities of water. If practical, contain diluted material and prevent from entering drains and water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Flash point: Does not burn.

Upper Flammability Limit: Does not burn.

Lower Flammability Limit: Does not burn.

Autoignition temperature: Not applicable - does not burn.

Flammability Class: Does not burn.

Section 6 – Accidental Release Measures

Accidental release: This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products. In the event of a major spill, prevent spillage from entering drains or water courses and call emergency services.

Section 7 – Handling and Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area. Check containers periodically for corrosion and leaks. Containers should be kept closed in order to minimise contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. If you keep more than 10000kg or L of Dangerous Goods of Packaging Group III, you may be required to license the premises or notify your Dangerous Goods authority. If you have any doubts, we suggest you contact your Dangerous Goods authority in order to clarify your obligations. Check packaging - there may be further storage instructions on the label.

Section 8 – Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

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Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

SWA Exposure Limits	TWA (mg/m ³)	STEL (mg/m ³)
Phosphoric acid	1	3

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Your eyes must be completely protected from this product by splash resistant goggles with face shield. All surrounding skin areas must be covered. Emergency eye wash facilities must also be available in an area close to where this product is being used.

Skin Protection: Because of the dangerous nature of this product, make sure that all skin areas are completely covered by impermeable gloves, overalls, hair covering, an apron and face shield. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: rubber, PVC, Viton.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 – Physical and Chemical Properties:

Physical Description & colour:	Clear, colourless liquid.
Odour:	Acidic odour.
Boiling Point:	Approximately 100°C at 100kPa.
Freezing/Melting Point:	Below 0°C.
Volatiles:	Water component.
Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	As for water.
Specific Gravity:	1.39-1.43
Water Solubility:	Completely soluble in water.
pH:	Below 1.0
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	As for water.
Coeff Oil/water Distribution:	No data
Autoignition temp:	Not applicable - does not burn.

Section 10 – Stability and Reactivity

Reactivity: Inorganic acids react with inorganic and organic bases such as amines to form salts. They also react with many metals liberating hydrogen gas. These reactions are often rapid and typically liberate much heat. They can also decompose many organic materials such as esters, in a reaction called hydrolysis.

Conditions to Avoid: This product should be kept in a cool place, preferably below 30°C. Keep containers tightly closed. Containers should be kept dry.

Incompatibilities: bases, zinc, tin, aluminium and their alloys, other substances reactive with strong mineral acids.

Fire Decomposition: This product is likely to decompose only after heating to dryness, followed by further strong heating. Combustion forms water. May form oxides of phosphorus and other phosphorus compounds.

Polymerisation: This product will not undergo polymerisation reactions.

Section 11 – Toxicological Information

Local Effects:

Target Organs: There is no data to hand indicating any particular target organs.

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Classification of Hazardous Ingredients

Ingredient	Hazard Statements
Phosphoric acid	H314: Causes severe skin burns and eye damage.

Health Effects – Acute

Swallowed: May be irritating to digestive system if swallowed.

Eye: Causes serious eye damage.

Skin: Causes severe skin burns.

Inhaled: Avoid breathing vapour, spray or fumes.

Section 12 – Ecological Information

Salts, acids and bases are typically diluted and neutralised when released to the environment in small quantities. However, until diluted or neutralised it will kill all aquatic organisms it contacts due to extreme pH.

Section 13 – Disposal Considerations

Disposal: Dispose of small quantities and empty containers by wrapping with paper and putting in garbage. For larger quantities, if recycling or reclaiming is not possible, use a commercial waste disposal service.

Section 14 – Transport Information

ADG Code: 1805, PHOSPHORIC ACID, SOLUTION

Hazchem Code: 2R

Special Provisions: 223

Limited quantities: ADG 7 specifies a Limited Quantity value of 5 L for this class of product.

Dangerous Goods Class: Class 8: Corrosive Substances.

Packaging Group: III

Packaging Method: P001, IBC03, LP01

Class 8 Corrosive Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents), 5.2 (Organic Peroxides), 6 (Toxic Substances where the Toxic Substances are cyanides and the Corrosives are acids), 7 (Radioactive Substances), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Poisonous Gases), 3 (Flammable liquids), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 6 (Toxic Substances except where the Toxic Substances are cyanides and the Corrosives are acids) and 9 (Miscellaneous Dangerous Goods).

Section 15 – Regulatory Information

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredient: Phosphoric acid, is mentioned in the SUSMP.

Section 16 – Other Information

This SDS contains only safety-related information. For other data see product literature.

Emergency Contact: Phone 13 11 26 (Australia wide)

Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 th edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified

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NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

Please read all labels carefully before using product.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This SDS is prepared in accord with the SWA document "Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals" (February 2016).

End of Safety Data Sheet

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