

SAFETY DATA SHEET**1. IDENTIFICATION OF MATERIAL & COMPANY DETAILS**

Product Name: 212 METAL CLEAN SOLUTION

Product description: Metal Etch Solution
Recommended Use: Use according to manufactures Technical Data Sheet
CAS Number: Not Applicable

Company Name: Lacnam Paints Australia
Address: 78-80 Mandoon Road, Girraween, NSW 2145
Email: sales@lacnam.com.au
Telephone Number: (02) 9688-1999
Facsimile: (02) 9896 1606

Emergency Number: (02) 9636-5505 (after hours)

2. HAZARDS IDENTIFICATION**HAZARDOUS SUBSTANCE-DANGEROUS GOODS:**

Classified as hazardous according to criteria of Work Safe Australia

Classified as dangerous according to Dangerous Good Code

**Signal Word:** DANGER**GHS Classification:**

Corrosive to Metals: Category 1

Eye Irritation Hazard: Category 2A

Skin Corrosion: Sub-category 1C

Skin Sensitisation Category 1

Acute Toxicity: Category 4

Specific Target Organ Toxicity: Category 3

Specific Target Organ Toxicity- Repeated Exposure Category 2

Hazard Statements:

H290 - May be corrosive to metals

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H314 - Causes severe skin burns and eye damage

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H335 - May cause respiratory irritation

H336 - May cause drowsiness and dizziness

H373 - May cause damage to organs

Non GHS Hazard Statement:

AUH066 – Repeated exposure may cause skin dryness and cracking

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2. HAZARDS IDENTIFICATION

General Precautionary Statements:

P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P103 - Read label before use

Prevention Precautionary Statements:

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P233+234 - Keep container tightly closed. Keep only in original container
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P262 - Do not get in eyes, on skin, or on clothing
P264 - Wash all exposed skin area thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P285 - In case of inadequate ventilation wear respiratory protection.

Response Precautionary Statements:

P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302+352 - IF ON SKIN: Wash with soap and water
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P306+360 - IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes
P308+313 - IF exposed or concerned: Get medical advice/attention
P314 - Get Medical advice/attention if you feel unwell
P321 - Specific treatment: Immediate First Aid Measures Refer Section 4 of Safety Data Sheet
P333+313 - If skin irritation or a rash occurs: Get medical advice/attention
P337+313 - If eye irritation persists get medical advice/attention
P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage

Storage Precautionary Statements:

P403+233+235: Store in a well ventilated place. Keep container tightly closed. Keep cool

Disposal precautionary statements:

P501: Dispose of contents/container to authorised landfill. Refer to State/Local land Management Authority.

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3. COMPOSITION/INFORMATION OF INGREDIENTS

Component Name:	CAS Number:	Proportion % Weight:
Orthophosphoric acid	7664-38-2	10.0 - 30.0%
2-butoxyethanol	111-76-2	10.0 - 20.0%
Ethoxylated nonylphenol	9016-45-9	00.0 - 01.0%
Non Hazardous Materials	Proprietary	50.0 - 70.0%

4. FIRST AID MEASURES

Inhalation:

- If inhalation of mists, fumes or vapour causes irritation to the nose, throat or lungs, causing coughing, wheezing or impaired motor skills, remove patient to fresh air.
- If symptoms persist, obtain medical advice.

Skin:

- Remove all contaminated clothing and footwear.
- Wash contaminated area thoroughly with soap and water as soon as reasonably practicable.
- Seek medical attention if irritation occurs.

Eyes:

- Immediately flush eyes with large amounts of water for at least 15 minutes.
- Method of irrigation; keep eyelids apart and away from eyes, routinely lift upper and lower eyelid away from eye while flushing with water.
- Removal of contact lenses should only be performed by skilled personnel.
- Transport to the nearest medical facility for additional treatment.

Swallowed:

- Do not induce vomiting, place person's face downwards, head lower than hips to prevent vomit entering lungs.
- Rinse mouth with water. Give water to drink.
- Avoid giving patient milk or oils.
- Observe patient carefully; withhold water if patient display signs of drowsiness or reduced awareness and possible unconsciousness.
- Seek medical advice.

First Aid Facilities:

- Ensure that eye wash bath and safety showers are readily accessible.

Advice to Doctor:

- Treat the patient symptomatically.

Persons with pre-existing skin disorders or impaired respiratory or pulmonary function may be at increased risk to the effects of this substance.

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5. FIRE FIGHTING MEASURES

Fire & Explosion Hazard:

- Class C1 combustible liquid.
- There is no risk of an explosion from this product under normal circumstances in a fire.
- Vapours from this product are heavier than air and may accumulate in sump, pits and other low-lying spaces, forming potentially explosive mixtures.
- Fire decomposition products from this material may be toxic if inhaled.
- Avoid contamination with oxidising agents i.e. oxides of phosphorus, nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. Potentially volatile vapors maybe produced.

Fire Fighting:

- Evacuate immediate area of non-emergency personnel.
- Alert Fire Brigade and tell them location and nature of hazard.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Wear full protective equipment including self-contained breathing apparatus.
- Fight fire from a safe distance, with adequate cover and safe fire escape exit.
- Use alcohol resistant foam, dry chemical or carbon dioxide extinguishers. Fine water spray may be used to cool containers to prevent vapour pressure build up.
- Prevent water runoff from entering storm water drains or waterways.

6. ACCIDENTAL RELEASE MEASURES

Minor Spills:

- Clean up all spills immediately.
- Neutralize with sodium bicarbonate (Na HCO₃) or a mixture of soda ash / slaked lime.
- Wear full protective clothing (refer section 8)
- Avoid breathing vapors and contact with skin and eyes.
- Contain and absorb using earth, sand, vermiculite or other absorbent material. DO NOT USE sawdust, this is flammable.
- Collect residues into a acid proof plastic / glass waste container and dispose of according to local waste management regulations.
- Do not allow product to enter storm water drains or waterways.
- Immediately remove all contaminated clothing after containment.

Major Spills:

- Evacuate personnel from immediate area and move upwind.
- Alert Fire Brigade of location and nature of hazard
- Wear full protective clothing (refer section 8)
- If safe to do so eliminate source of spillage.
- Avoid breathing vapours and contact with skin and eyes.
- Prevent, by any means available, spillage from entering storm water drains or water ways.
- If possible neutralize with sodium bicarbonate (Na HCO₃) or a mixture of soda ash / slaked lime.
- Contain and absorb using earth, sand, vermiculite or other absorbent material. DO NOT USE sawdust, this is flammable.
- Recoverable product should be collected into labeled acid proof plastic / glass container for recycling.
- Collect residues into labeled acid proof plastic / glass container and dispose of according to local waste management regulations.
- Immediately remove all contaminated clothing after containment.

Note: Lime is the preferred neutralizing agent because of the low solubility of participate (calcium phosphate) formed. The residue can then be shoveled into containers for disposal.

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7. HANDLING AND STORAGE

Safe Storage:

- Store product in accordance with Local State, or Territory Dangerous Goods Regulations.
- Keep containers closed when not in use.
- Phosphoric acid solutions should be stored in acid proof plastic / glass containers.
- Storage area should have an acid resistant floor with approved drainage.
- Store away from sources of heat in a cool dry well ventilated area.
- Do store in areas where vapours may be concentrated i.e. pits, basements, or unventilated storage area.
- Do not store or load on the same vehicle as Class 1, Class 4.3, Class 5.1, Class 5.2, Class 6, or Class 7.

Precautions for safe handling:

- Keep out of reach of children.
- Ensure containers are clearly labeled.
- Avoid generating mists.
- Avoid skin and eye contact and breathing in vapour.
- Corrosion of equipment and surfaces should be considered in areas of constant use.
- When diluting, add contents to water, not water to contents.
- Empty containers may contain residues which are hazardous.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Limits: No value assigned for this specific product by Safe Work Australia: Hazardous Substances Information System (HSIS).

Concentration Cut-off Levels:

A concentration cut-off level for a substance is the level (expressed as a percentage on a weight/weight basis for solids and liquids and a volume/volume basis for gases) at and above which that substance is classified as a hazardous substance. A mixture is classified as a hazardous substance if it contains at least one ingredient at a concentration equal to, or above, the lowest concentration cut-off level given for that ingredient. Concentration cut-off levels refer to health hazards only, and are not associated with the physicochemical or environmental hazards of a substance. The health effects of certain types of hazardous substances are regarded as additive. Due to additive effects, a mixture may be classified as hazardous even if all of the individual substances in the mixture are present at levels below their respective cut offs.

- Reportable exposure limits for individual components that exceed **Concentration Cut Off levels:**

Chemical Name	CAS. No	TWA (8hr)		STEL		Source	Notices	%weight
		ppm	mg/m3	ppm	mg/m3			
Orthophosphoric acid	766-38-2	0.25	1	0.75	3	H		<30.00%
2-butoxyethanol	111-76-2	20	96.9	50	242		Sk	<20.00%

Source:

- A Listed in the National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 1003(1995).
- H American Conference of Governmental Industrial Hygienists (ACGIH) is the documentation source
- Eu Listed in the European Union's Annex I of the EEC Council Directive 67/548/EEC (as updated by EEC Council Directive 2001/59/EC).
- NIOSH National Institute for Occupational Safety and Health.
- NZWES New Zealand Workplace Exposure Standards and Biological Exposure Indices 7th edition
- Sk Absorption through the skin may be a significant source of exposure.
- (a) The value for inhalable dust containing no asbestos and less than 1.0% free silica.

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Based on available information on hazardous components of this product, the recommended exposure limit, (TWA) is 1 ppm / 4 mg/m³.

Exposed individuals may be desensitised to product and are not reasonably expected to be warned, by smell, that exposure standard is being exceeded.

If the TWA concentration of ANY of the components is exceeded the individual is deemed to be over exposed.

Engineering Controls: Use process enclosures, local exhaust ventilation or other engineering controls to maintain worker exposure to airborne contaminants below any recommended or statutory limits. Keep containers closed when not in use. Ensure exhaust air does not contaminate other work spaces.
Vapour heavier than air - Prevent vapours concentrating in work pits, tanks or sumps. DO NOT enter confined spaces where vapour may have collected.
Ensure electrical equipment is in accordance with applicable regulations.
Ventilation equipment should be explosion/flame/acid resistant.

Personal Protection: Avoid contact with skin and eyes. Wear suitable clothing such as impervious overalls, PVC, or Neoprene gloves, and safety goggles. Where workplace ventilation is assessed as inadequate and vapours/mists are generated, the use of an approved Half or Full Face Respirator with Type A-P Filter complying with Australian Standards AS1715/1716 is recommended. Select a filter suitable for organic gases and vapours rated for; [boiling point > 65°C]. If working in confined spaces with inadequate ventilation, wear an air-fed full face mask.



Confined Space
Application:



9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Colourless liquid
Boiling Point (°C): 100
Vapour Pressure: Not available
Specific Gravity: 1.1 - 1.2
Flashpoint (°C): 68 (CAS No: 111-76-2)
Auto-ignition temperature (°C): 230 (CAS No: 111-76-2)
Explosion/Flammability Limits (% by Volume): Not available
Solubility in Water: Readily Soluble

10. STABILITY AND REACTIVITY:

Flammability: Class C1 combustible liquid (CAS No: 111-76-2).

Chemical stability: Stable under normal conditions of use.

Do not store: In areas of extreme heat generated by naked flame or heating element
In the presence of incompatible materials. Refer Section 7.
In non-acid proof containers.

Incompatible materials: Do not store with Reactive or oxidizing agents. Reactions may release flammable and / or toxic gasses.

Hazardous combustion: Carbon Dioxide, Carbon Monoxide, Soot and Toxic smoke.

Hazardous reactions: Under normal ambient conditions hazardous polymerization will not occur.

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11. TOXICOLOGICAL INFORMATION:

No value has been assigned for 212 Metal Clean Solution. Toxicity limits are recorded for individual components that may be present.

Acute - Swallowed: May cause irritation to mouth, throat and digestive tract. Large dose may cause drowsiness and may lead to unconsciousness.

Acute - Eye: Irritating to the eyes.

Acute - Skin: Irritating to the skin. Repeated or prolonged skin contact may lead to contact dermatitis and toxic effects from absorption through the skin..

Acute - Inhaled: Vapour may be an irritant to mucous membranes and respiratory tract.

Inhalation of vapour can result in headaches, dizziness and possible nausea. Inhalation of high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and, if exposure is prolonged, unconsciousness. Harmful if inhaled.

Chronic: Repeated or prolonged exposure to this chemical could may cause anaemia, haemolytic disorders, kidney and liver damage.

Acute Toxicity: Refer Table 1 Section 16:

Chemical Name	Cas.No	Result	Species	Dose	Exposure
Orthophosphoric acid	766-38-2	LD50 Oral	Rat	1530mg/kg	
		LD50 Dermal	Rabbit	2740mg/kg	
2-butoxyethanol	111-76-2	LD50 Oral	Rat	530-3000mg/kg	4 hours
		LD50 Dermal	Rat	100-610mg/kg	4 hours
		LC50 Inhalation	Rabbit	450-486ppm	
		LD50 Oral	Guinea Pig	950-1414mg/kg	
		LD50 Dermal	Guinea Pig	1200-2000mg/kg	
Ethoxylated nonylphenol	9016-45-9	LD50 Oral	Rat	<2000mg/l	

12. ECOLOGICAL INFORMATION:

No value has been assigned for 212 Metal Clean Solution. Aquatic Ecotoxicity Results are recorded for individual components that may be present.

- Prevent release into the environment.
- Do not discharge into sewer or waterways.
- May cause adverse effects to marine organisms.
- May cause adverse effects to marine environment

Aquatic Ecotoxicity

Chemical Name	Cas.No	Species	Result	Method	Exposure
Orthophosphoric acid	766-38-2	Fish (Mosquito Fish)	LC50=138mg/L		96 hour
2-butoxyethanol	111-76-2	Fish (Oncorhynchus mykiss)	LC50=1474mg/L	Static	96 hour
		Water Flea (Daphnia Magna)	EC50=1550mg/L	Static	48 hour
		Algae (Pseudokirchneriella subcapitata)	EbC50=911mg/L	Static	72 hour
Ethoxylated nonylphenol	9016-45-9	Water Flea (Daphnia Magna)	EC50=19mg/l		48 hour
		Fish (Brachydanio rerio)	LC50=5.6mg/l		96 hour

Persistence and Biodegradability: High probability not acutely harmful to aquatic life and it does not accumulate in the food chain. However the substance can lead to pH changes an increase in phosphorous levels in aquatic environments and water table.

Bioaccumulative Potential: No information available on bioaccumulation for this product.

Mobility in Soil: Fully soluble in water. During transport through the soil, phosphoric acid will dissolve some of the soil material, in particular, carbonate-based materials. The acid will be neutralized to some degree. However, significant amounts of acid will remain for transport down toward the groundwater table. Depending on the concentration, phosphorous and/or nitrogen compounds may contribute to the eutrophication of drinking water supplies.

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13. DISPOSAL CONSIDERATION:

Waste generation should be minimized where possible.
Do not mix with oxidizing agents.
Refer to Local/ State Land Waste Management Authority for disposal regulations. Advice flammable nature of product.
Acid component can be neutralized using Lime/Soda Ash.
Solvent component normally suitable for incineration by approved agent if recycling is not feasible.
Liquid waste recycling, refer to Local Waste Authority. Recycle containers if possible, or dispose of in authorised landfill.

14. TRANSPORT INFORMATION:

Classified as Dangerous Goods by criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.



Product Name: 212 Metal Clean Solution
Other Names: Paint
Manufacturer's Product Code: 212
UN Number: 3264
Packaging Group: III
Dangerous Goods Class & Subsidiary Risk: 3
Hazchem Code: •2R
Declaration for land shipment: Mineral Acid Solution
Limited Quantity: 5 Litres

Air Transport IATA:

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA), Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

Product Name: 212 Metal Clean Solution
ICAO/IATA Class: 3
Subsidiary risk: None
UN No: 3264
Packaging Group: III
Shipping name: Mineral Acid Solution

Marine Transport:

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

Product Name: 212 Metal Clean Solution
UN No: 3264
Class-primary: 3 Flammable Liquid
Packing Group: III
Shipping Name: Mineral Acid Solution
IMDG Marine Pollutant: Nil is readily dispersed

Do not load on the same vehicle as:

- Class 1: Explosives
- Class 2.1: Flammable Gases
- Class 2.3: Toxic Gasses
- Class 4.2: Spontaneously Combustible Substances
- Class 5.1: Oxidising Agents
- Class 5.2: Organic Peroxides
- Class 6: Toxic Substances (where toxic substances are cyanides and the corrosive are acids.
- Class 7: Radioactive Substances

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15. REGULATORY INFORMATION

Poison Schedule: 6

Individual components of 212 Metal Clean Solution on regulatory listings:

2-butoxyethanol: **CAS No: 111-76-2:** Australian Inventory of Chemical Substances (AICS), Chinese Chemical Inventory of Existing Chemical Substances (IECSC), Japan Existing and New Chemical Substances (ENCS), Korea Existing Chemicals Inventory (KECI), New Zealand Inventory of Chemicals (NZIoC), Philippines Inventory of Chemicals and Chemical Substances (PICCS), AICS), Canadian Domestic Substances List/Non-Domestic Substance List (DSL/NDL), US Toxic Substances Control Act (TSCA), European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), International Agency for Research on Cancer (IRAC).

Orthophosphoric acid: **CAS No: 766-38-2:** Australian Hazardous Substances, Australian High Volume Industrial List (HVICL), Australian Inventory of Chemical Substances (AICS), The National Pollutant Inventory (NPI), International Council of Chemical Associations (ICCA) - High Production Volume List, OECD Representative List of High Production Volume (HPV) Chemicals, International Council of Chemical Associations (ICCA).

Ethoxylated nonylphenol: **CAS No: 9016-45-9:** Australian Inventory of Chemical Substances (AICS).

Water: **CAS No: 7732-18-5:** Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION:

CAS No: CAS Registry Number is a unique numeric identifier that designates only one substance. It has no chemical significance.

Class C1: A combustible liquid that has a flashpoint of 150°C or less, i.e. >60°C, <150°C.

TWA: Exposure standard-time weighted average; the average airborne concentration of a particle substance when calculated over a normal eight hour working day, for a five day week.

STEL: Short-term exposure limit (STEL) is the acceptable exposure limit to a toxic or an irritant substance over a short period of time (time-weighted average), usually 15 minutes. STEL is the maximum concentration of a chemical to which workers may be exposed continuously for a short period of time without any danger to health, safety or work efficiency.

ppm: Parts of vapour or gas per million parts of contaminated air by volume.

mg/m3: Milligrams of substance per cubic metre of air at 25°C and one atmosphere pressure. When entry is in this column only the value is exact; when listed with a ppm value, it is approximate.

LD50: Lethal Dosage represents the individual dose required to kill 50 percent of a population of test animals.

LC50: Lethal Concentrations of the chemical in air that kills 50% of the test animals during the observation period of time (traditional 4 hours). It can also mean the concentration of a chemical in water.

EC50: The Median Effective Concentration is the statistically derived concentration of a substance in an environmental medium expected to produce a certain effect in 50% of test organisms in a given population under a defined set of conditions.

IC50: Half Maximal Inhibitory Concentration is a measure of the effectiveness of a substance in inhibiting a specific biological or biochemical function. This quantitative measure indicates how much of a particular drug or other substance is needed to inhibit a given biological process (or component of a process, i.e. an enzyme, cell, cell receptor or microorganism) by half.

EbC50: The concentration at which 50% reduction of biomass for algae and aquatic plants is observed

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16. OTHER INFORMATION:

Toxicity classification: Table 1

		Toxicity Classes: Hodge and Sterner Scale			
		Route of Administration			
Toxicity Rating	Common Term	Oral LD50	Inhalation LC50	Dermal LD ₅₀	Probable Lethal Dose for Man
		(single dose to rats) mg/kg	(exposure of rats for 4 hours) ppm	(single application to skin of rabbits) mg/kg	
1	Extremely Toxic	1 or less	10 or less	5 or less	1 grain (a taste, a drop)
2	Highly Toxic	1 to 50	10 to 100	5 to 43	4 ml (1 tsp)
3	Moderately Toxic	50 to 500	100 to 1000	44 to 340	30 ml (1 fl. oz.)
4	Slightly Toxic	500 to 5000	1000 to 10000	350 to 2810	600 ml (1 pint)
5	Practically Non Toxic	5000 to 15000	10000 to 100000	2820 to 22590	1 litre (or 1 quart)
6	Relatively Harmless	15000 or more	100000 or more	22600 or more	1 litre (or 1 quart)

Toxicity classification: Table 2

LC/EC/IC50	< 1 mg/l	very high toxicity
LC/EC/IC50	1-10 mg/l	high toxicity
LC/EC/IC50	10-100 mg/l	moderate toxicity
LC/EC/IC50	>100 mg/l	low toxicity

CONTACT POINT		
Technical Manager	- Working hours	(02) 9688-1999
	- After hours	(02) 9636-5505

Although this information is presented in good faith and compiled from various sources believed to be accurate, Lacnam Paints make no representations or warranty as to the completeness or accuracy thereof. As the product's performance and suitability depends on various factors, the purchasers of our products should determine for themselves whether the product is suitable for their particular use.

Hazardous according to criteria of Australian Safety Compensation Council
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