



SAFETY DATA SHEET

Product Name: GLY-PRO™ Descaler

NON-HAZARDOUS CHEMICAL, NON-DANGEROUS GOODS

Glycol Sales Australia (GSA) encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

| | |
|------------------------------------|---|
| Product name: | GLY-PRO™ Descaler |
| Company identification: | Glycol Sales Australia PO BOX 136 LILYDALE, VIC 3140 |
| Contact Details: | 1300 459 265 info@glycolsales.com.au |
| Emergency Telephone Number: | For advice, contact a doctor (at once) or the Australian Poisons Information Centre: 131 126 Transport Emergency Only Dial 000 |

Recommended use:

GLY-PRO™ Descaler is a high-performance cleaning fluid designed to effectively remove scale build-up and hardwater contaminants from internal pipework commonly used in HVAC and secondary refrigeration systems.

GLY-PRO™ Descaler recommended temperature range 5°C to 80°C.

Product Name: GLY-PRO™ Descaler
2. HAZARDS IDENTIFICATION
GHS classification

| | |
|--|---|
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage | Category 1 |
| Skin Sensitizer | Category 1 |
| Specific target organ toxicity - single exposure | Category 3 (respiratory tract irritation) |
| Acute Aquatic Hazard | Category 3 |
| Chronic Aquatic Hazard | Category 3 |

Hazard Pictogram


| | |
|--------------------|---------------|
| Signal Word | DANGER |
|--------------------|---------------|

Hazard Statements

| | |
|------|--|
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H317 | May cause an allergic skin reaction. |
| H335 | May cause respiratory irritation. |
| H412 | Harmful to aquatic life with long lasting effects. |

Precautionary statement(s) Prevention

| | |
|------|--|
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P261 | Avoid breathing mist/vapours/spray. |
| P273 | Avoid release to the environment. |

Precautionary statement(s) Response

| | |
|----------------|--|
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTRE or doctor/physician. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |

Precautionary statement(s) Storage

| | |
|-----------|--|
| P405 | Store locked up. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

Product Name: GLY-PRO™ Descaler**Precautionary statement(s) Disposal**

P501

Dispose of contents/container in accordance with local regulations.

DANGEROUS GOOD CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

| CHEMICAL ENTITY | CAS NO | PROPORTION |
|--|------------|------------|
| Citric Acid | 77-92-9 | 10 – 25% |
| nonylphenol, ethoxylated | 9016-45-9 | 5 – 10% |
| alcohols C7-C10 ethoxylated, propoxylated | 68987-81-5 | 1 – 5% |
| alcohols C8-10 ethoxylated propoxylated | 68603-25-8 | 1 – 5% |
| N-(2-hydroxy)ethylenediaminetriacetic acid, trisodium salt | 139-89-9 | 1 – 3% |
| phosphoric acid | 7664-38-2 | 0.1-0.6% |

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation:

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

Skin Contact: If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

Eye contact: If this product comes in contact with the eyes:

- Wash out immediately with fresh running water
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Ingestion:

- **If swallowed do NOT induce vomiting.**
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.

Product Name: GLY-PRO™ Descaler

- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

Notes to physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Extinguishing media

- Alcohol stable foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

Specific hazards: Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Firefighting further advice:

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.

Fire/Explosion Hazard

- Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

Combustion products include:

- carbon dioxide (CO₂)
- nitrogen oxides (NO_x)
- sulfur oxides (SO_x)
- other pyrolysis products typical of burning organic material.
-

May emit poisonous fumes.

May emit corrosive fumes.

6. ACCIDENTAL RELEASE MEASURES**SMALL SPILLS**

Take necessary precautions to prevent skin and eye contamination. Avoid inhalation of vapour. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal using PPE

LARGE SPILLS

Slippery when spilt. Clean up immediately. Take necessary precautions to prevent skin and eye

Product Name: GLY-PRO™ Descaler

contamination and the inhalation of vapours . Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. Wear breathing apparatus plus protective gloves.

Dangerous Goods – Initial Emergency Response Guide No: Not applicable

Personal Protective Equipment advice is contained in Section 8 of the SDS.

7. HANDLING AND STORAGE

Handling:

- **DO NOT allow clothing wet with material to stay in contact with skin**
- Overheating of ethoxylates/ alkoxyates in air should be avoided. When some ethoxylates are heated vigorously in the presence of air or oxygen, at temperatures exceeding 160 C, they may undergo exothermic oxidative degeneration resulting in self-heating and autoignition.
- Nitrogen blanketing will minimise the potential for ethoxylate oxidation. Prolonged storage in the presence of air or oxygen may cause product degradation.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

Other Information:

Ethoxylates/ alkoxyates react slowly with air or oxygen and may generate potentially sensitising intermediates (haptens). Storage under heated conditions in the presence of air or oxygen increases reaction rate. For example, after storing at 35 C for 30 days in the presence of air, there is measurable oxidation of the ethoxylate. Lower temperatures will allow for longer storage time and higher temperatures will shorten the storage time if stored under an air or oxygen atmosphere.

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.

Conditions for safe storage, including any incompatibilities

Suitable Container

For ethoxylates suitable containers include carbon steel coated with baked phenolic. Any moisture may cause rusting of carbon steel.

If product is moisture free, uncoated carbon steel tanks may be used.

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

Incompatible with

- Avoid reaction with oxidising agents
- Avoid storage with reducing agents.
- Avoid strong bases.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

Product Name: GLY-PRO™ Descaler

| Ingredient | TWA | | STEL | | NOTICES |
|-----------------|-----|---------|------|---------|---------------|
| | ppm | mg/m3 | ppm | mg/m3 | |
| phosphoric acid | - | 1 mg/m3 | - | 3 mg/m3 | Not Available |

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15-minute period which should not be exceeded at any time during a normal eight-hour workday.

These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept too as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Emergency Limits

| Ingredient | Material Name | TEEL-1 | TEEL-2 | TEEL-3 |
|---|--|---------------|-----------|-------------|
| nonylphenol, ethoxylated | Glycols, polyethylene, mono(p-nonylphenyl) ether | 4.5 mg/m3 | 49 mg/m3 | 300 mg/m3 |
| nonylphenol, ethoxylated | Ethoxylated nonylphenol; (Nonyl phenyl polyethylene glycol ether) | 1 mg/m3 | 11 mg/m3 | 260 mg/m3 |
| N-(2-hydroxy)ethylened iaminetriacetic acid, trisodium salt | Trisodium N-hydroxyethylethylenediaminetriacetate; (Trisodium N-(2-hydroxyethyl)ethylenediaminetriacetate) | 30 mg/m3 | 330 mg/m3 | 2,000 mg/m3 |
| phosphoric acid | Phosphoric acid | Not available | | |

Engineering Measures: Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Environmental exposure controls : Avoid release to the environment.

Personal Protection Equipment:

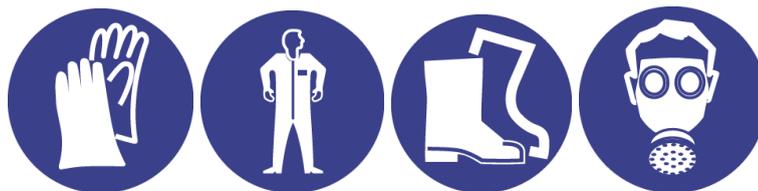
Avoid all unnecessary exposure.

Product Name: GLY-PRO™ Descaler**Special Note:**

Personal Protective Equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted.

The selection of PPE is dependent on a full risk assessment. The risk assessment should consider the work situation, physical form of chemical, handling method and volume, environmental factors and area of application.

If the outcome of risk assessment is considerably low, still manufacturer recommends to use minimum PPE stipulated by the chemical industry practices. Ex: Safety Glasses, Impervious Gloves



If the handling volume is large and risk of spill exists, wear suitable protective clothing covers unprotected exposed skin area with an overall, safety shoes and a chemical resistant apron at all times to avoid any possible injuries.

Eye and face protection

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection

- See Hand protection below

Hands/feet protection

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. Available information suggests that gloves made from natural rubber, nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Product Name: GLY-PRO™ Descaler

Personal hygiene is a key element of effective hand care.

Other protection

- Overalls.
- P.V.C. apron.
- Barrier cream.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and repeated or prolonged skin contact. Avoid inhalation of vapour. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|-------------------------------|
| Physical state | Liquid |
| Color | Amber coloured acidic liquid. |
| Odor | odorless |
| Odor threshold | No data available |
| pH (as supplied) | 2.5-3.0 |
| Melting point | Not applicable |
| Freezing point | No data available |
| Boiling point | 104° C |
| Flash point | No data available |
| Relative evaporation rate (butyl acetate=1) | No data available |
| Flammability (solid, gas) | Not applicable. |
| Vapor pressure | No data available |
| Relative vapor density at 20 °C | >1 |
| Relative density | 1.11-1.13 |
| Solubility | Water: 100 % |
| Partition coefficient n-octanol/water (Log Pow) | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity, kinematic | No data available |
| Viscosity, dynamic | No data available |
| Explosion limits | No data available |
| Explosive properties | No data available |
| Oxidizing properties | No data available |

Chemical stability: This material is thermally stable when stored and used as directed.

10. STABILITY AND REACTIVITY

The product is non-reactive under normal conditions of use, storage and transport.

| | |
|---------------------------|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> • Unstable in the presence of incompatible materials. • Product is considered stable. |

Product Name: GLY-PRO™ Descaler

| | |
|---|--|
| | <ul style="list-style-type: none"> • Hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

| | |
|---------------------|---|
| Inhaled | <p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> |
| Ingestion | Accidental ingestion of the material may be damaging to the health of the individual |
| Skin Contact | <p>The material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> |
| Eye | If applied to the eyes, this material causes severe eye damage. |
| Chronic | <p>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Based on experience with similar materials, there is a possibility that exposure to the material may reduce fertility in humans at levels which do not cause other toxic effects.</p> <p>Prolonged or repeated skin contact may cause degreasing, followed by drying, cracking and skin inflammation.</p> |

Product Name: GLY-PRO™ Descaler

| | | |
|---|--|-----------------------------------|
| GLY-PRO™ Descaler | TOXICITY | IRRITATION |
| | Not available | Not Available |
| citric acid | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >2000 mg/kg ^[1] | Eye (rabbit): 0.75 mg/24h-SEVERE |
| | Oral (rat) LD50: 3000 mg/kg ^[2] | Skin (rabbit): 500 mg/24h - mild |
| nonylphenol, ethoxylated | TOXICITY | IRRITATION |
| | Oral (rat) LD50: 1310 mg/kg ^[2] | Eye (rabbit): 5 mg SEVERE |
| | | Skin (human): 15 mg/3D mild |
| | | Skin (rabbit): 500 mg mild |
| alcohols C7-C10 ethoxylated, propoxylated | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: 2000 mg/kg ^[2] | Eye : SEVERE * |
| | Inhalation (rat) LC50: >50 mg/l/1h** ^[2] | |
| | Oral (rat) LD50: 3500 mg/kg ^[2] | |
| alcohols C8-10 ethoxylated propoxylated | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >3000 mg/kg ^[2] | dermal test |
| | Oral (rat) LD50: 2400 mg/kg ^[2] | Eye (rabbit): Irritation score |
| | | Skin (rabbit):Irritation score |
| N-(2-hydroxy)ethylenediaminetriacetic acid, trisodium salt | TOXICITY | IRRITATION |
| | Not available | Not available |
| phosphoric acid | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >1260 mg/kg ^[2] | Eye (rabbit): 119 mg - SEVERE |
| | Inhalation (rat) LC50: 0.0255 mg/l/4h ^[2] | Skin (rabbit):595 mg/24h - SEVERE |
| | Oral (rat) LD50: 1530 mg/kg ^[2] | |

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity
 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

| | |
|---------------------------------|---|
| NONYLPHENOL, ETHOXYLATED | Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitizers. The |
|---------------------------------|---|

Product Name: GLY-PRO™ Descaler

| | |
|---|---|
| | <p>oxidization products also cause irritation.</p> <p>Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. Death may result in experimental animal.</p> |
| ALCOHOLS C7-C10 ETHOXYLATED, PROPOXYLATED | <p>The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function.</p> <p>for 85% aqueous solution: No known or reported effects on reproductive function or foetal development. No known or reported to be mutagenic.</p> |
| ALCOHOLS C8-10 ETHOXYLATED PROPOXYLATED | Data for Triton DF-16: |
| N-(2-HYDROXY)ETHYLENEDIAMI NETRIACETIC ACID, TRISODIUM SALT | <p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.</p> <p>Nitritotriacetic acid and its water-soluble metal complexes occur in household detergents and drinking water. Their ability to chelate metal ions accounts for the toxicity. They may cause cancer of the kidney, bladder and urinary tract in some experimental animals but no foetal or genetic damage has been recorded. They do not cause skin sensitisation or irritation but may accumulate in the foetal skeleton.</p> <p>WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.</p> |
| PHOSPHORIC ACID | <p>For acid mists, aerosols, vapours</p> <p>Test results suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airway from direct exposure to inhaled acidic mists (which also protects the stomach lining from the hydrochloric acid secreted there).</p> <p>The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> <p>Repeated exposures may produce severe ulceration.</p> <p>phosphoric acid (85%)</p> |
| NONYLPHENOL, ETHOXYLATED & ALCOHOLS C8-10 ETHOXYLATED PROPOXYLATED | <p>Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. No death due to poisoning with alcohol ethoxylates has ever been reported.</p> |
| NONYLPHENOL, ETHOXYLATED & ALCOHOLS C7-C10 ETHOXYLATED, PROPOXYLATED & ALCOHOLS C8-10 ETHOXYLATED PROPOXYLATED | <p>Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed.</p> |
| NONYLPHENOL, ETHOXYLATED | The material may produce severe irritation to the eye causing pronounced |

Product Name: GLY-PRO™ Descaler

| | |
|---|--|
| & ALCOHOLS C7-C10 ETHOXYLATED, PROPOXYLATED & ALCOHOLS C8-10 ETHOXYLATED PROPOXYLATED & PHOSPHORIC ACID | inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. |
| NONYLPHENOL, ETHOXYLATED & ALCOHOLS C7-C10 ETHOXYLATED, PROPOXYLATED & ALCOHOLS C8-10 ETHOXYLATED PROPOXYLATED | The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. |
| ALCOHOLS C7-C10 ETHOXYLATED, PROPOXYLATED & PHOSPHORIC ACID | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. |
| N-(2-HYDROXY)ETHYLENEDIAMI NETRIACETIC ACID, TRISODIUM SALT & PHOSPHORIC ACID | No significant acute toxicological data identified in literature search. |

| | | | |
|--|---|-------------------------------------|---|
| Acute Toxicity | ⊘ | Carcinogenicity | ⊘ |
| Skin Irritation/Corrosion | ✓ | Reproductivity | ⊘ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ✓ |
| Respiratory or Skin sensitisation | ✓ | STOT - Repeated Exposure | ⊘ |
| Mutagenicity | ⊘ | Aspiration Hazard | ⊘ |

Legend - ✓ - Data available to make classification ✘ - Data available but does not fill the criteria for classification ⊘ - Data Not Available to make classification

12. ECOLOGICAL INFORMATION**TOXICITY**

| GLY-PRO™ Descaler | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|------------------------------|-----------------|-------------------------------|----------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |

Product Name: GLY-PRO™ Descaler

| | | | | | |
|--|---|---------------------------|-------------------------------|---------------|---------------|
| citric acid | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | NOEC | 16 | Crustacea | 153mg/L | 4 |
| nonylphenol, ethoxylated | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 1.3mg/L | 4 |
| | EC50 | 48 | Crustacea | 12.2mg/L | 4 |
| | EC50 | 96 | Algae or other aquatic plants | 12.0mg/L | 4 |
| | NOEC | 2400 | Fish | 0.035mg/L | 4 |
| alcohols C7-C10 ethoxylated, propoxylated | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| alcohols C8-10 ethoxylated propoxylated | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| N-(2-hydroxy)ethylenediaminetriacetic acid, trisodium salt | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | NOEC | 840 | Fish | >=25.7mg/L | 2 |
| phosphoric acid | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 75.1mg/L | 2 |
| | EC50 | 48 | Crustacea | >376mg/L | 2 |
| | EC50 | 72 | Algae or other aquatic plants | 77.9mg/L | 2 |
| | NOEC | 72 | Algae or other aquatic plants | <7.5mg/L | 2 |
| LEGEND | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data | | | | |

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Product Name: GLY-PRO™ Descaler

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|--|-------------------------|------------------|
| citric acid | LOW | LOW |
| nonylphenol, ethoxylated | LOW | LOW |
| N-(2-hydroxy)ethylenediaminetriacetic acid, trisodium salt | LOW | LOW |
| phosphoric acid | HIGH | HIGH |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|--|------------------------|
| citric acid | LOW (LogKOW = -1.64) |
| nonylphenol, ethoxylated | LOW (BCF = 16) |
| N-(2-hydroxy)ethylenediaminetriacetic acid, trisodium salt | LOW (LogKOW = -4.0864) |
| phosphoric acid | LOW (LogKOW = -0.7699) |

Mobility in soil

| Ingredient | Mobility |
|--|-------------------|
| citric acid | LOW (KOC = 10) |
| nonylphenol, ethoxylated | LOW (KOC = 940) |
| N-(2-hydroxy)ethylenediaminetriacetic acid, trisodium salt | LOW (KOC = 20.47) |
| phosphoric acid | HIGH (KOC = 1) |

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods**

| | |
|-------------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> Containers may still present a chemical hazard/ danger when empty. Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. Where possible retain label warnings and SDS and observe all notices pertaining to the product. DO NOT allow wash water from cleaning or process equipment to enter drains. It may be necessary to collect all wash water for treatment before disposal. In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. Where in doubt contact the responsible authority. |
|-------------------------------------|---|

Product Name: GLY-PRO™ Descaler

| | |
|--|---|
| | <ul style="list-style-type: none"> ● Recycle wherever possible or consult manufacturer for recycling options. ● Consult State Land Waste Authority for disposal. ● Bury or incinerate residue at an approved site. ● Recycle containers if possible, or dispose of in an authorised landfill. |
|--|---|

14. TRANSPORT INFORMATION**HAZCHEM**

Not applicable

ROAD AND RAIL TRANSPORT

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Danger

15. REGULATORY INFORMATION**Safety, health and environmental regulations / legislation specific for the substance or mixture****CITRIC ACID(77-92-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Hazardous Substances Information System - Consolidated Lists
Australia Inventory of Chemical Substances (AICS)

NONYLPHENOL, ETHOXYLATED(9016-45-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

ALCOHOLS C7-C10 ETHOXYLATED, PROPOXYLATED(68987-81-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

ALCOHOLS C8-10 ETHOXYLATED PROPOXYLATED(68603-25-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists
Australia Inventory of Chemical Substances (AICS)

N-(2-HYDROXY)ETHYLENEDIAMINETRIACETIC ACID, TRISODIUM SALT(139-89-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

PHOSPHORIC ACID(7664-38-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards
Australia Hazardous Substances Information System - Consolidated Lists
Australia Inventory of Chemical Substances (AICS)

| National Inventory | Status |
|--------------------|--------|
|--------------------|--------|

Product Name: GLY-PRO™ Descaler

| | |
|-------------------------------|--|
| Australia - AICS | Y |
| Canada - DSL | N (alcohols C7-C10 ethoxylated, propoxylated) |
| Canada - NDSL | N (N-(2-hydroxy)ethylenediaminetriacetic acid, trisodium salt; phosphoric acid; citric acid; alcohols C8-10 ethoxylated propoxylated) |
| China - IECSC | Y |
| Europe - EINEC / ELINCS / NLP | N (alcohols C7-C10 ethoxylated, propoxylated; alcohols C8-10 ethoxylated propoxylated) |
| Japan - ENCS | N (alcohols C7-C10 ethoxylated, propoxylated; alcohols C8-10 ethoxylated propoxylated) |
| Korea - KECI | Y |
| New Zealand - NZIoC | Y |
| Philippines - PICCS | N (alcohols C7-C10 ethoxylated, propoxylated) |
| USA - TSCA | Y |
| LEGEND | <i>Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i> |

16. OTHER INFORMATION**Ingredients with multiple cas numbers**

| Ingredient | CAS No |
|--|---|
| citric acid | 77-92-9, 1192555-95-5, 12262-73-6, 136108-93-5, 245654-34-6, 43136-35-2, 623158-96-3, 856568-15-5, 878903-72-1, 890704-54-8, 896506-46-0, 906507-37-7 |
| nonylphenol, ethoxylated | 9016-45-9, 26027-38-3, 26571-11-9, 14409-72-4 |
| N-(2-hydroxy)ethylenediaminetriacetic acid, trisodium salt | 139-89-9, 207386-87-6 |
| phosphoric acid | 7664-38-2, 16271-20-8 |

Definitions and abbreviations

| | |
|------------|---|
| PC – TWA: | Permissible Concentration-Time Weighted Average |
| PC – STEL: | Permissible Concentration-Short Term Exposure Limit |
| IARC: | International Agency for Research on Cancer |
| ACGIH: | American Conference of Governmental Industrial Hygienists |
| STEL: | Short Term Exposure Limit |
| TEEL: | Temporary Emergency Exposure Limit. |
| IDLH: | Immediately Dangerous to Life or Health Concentrations |
| OSF: | Odour Safety Factor |
| NOAEL : | No Observed Adverse Effect Level |
| LOAEL: | Lowest Observed Adverse Effect Level |

Product Name: GLY-PRO™ Descaler

| | |
|------|---------------------------|
| TLV: | Threshold Limit Value |
| LOD: | Limit Of Detection |
| OTV: | Odour Threshold Value |
| BCF: | BioConcentration Factors |
| BEI: | Biological Exposure Index |

The information in this safety data sheet (SDS) is believed to be correct as of the date issued. This product was classified according to globally harmonised system of classification and labelling of chemicals (GHS) revision version 07.

Glycol Sales Australia/NZ makes no warranties, expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose or course of performance or usage of trade.

User is responsible for determining whether the product is fit for purpose and suitable for the user's method of use or application. Given the variety of factors that can affect the use and application of this product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for the user's method of use or application.

For this reason, Glycol Sales Australia/NZ always recommends a user perform a test patch or trial in small scale or in an inconspicuous area prior to full application to limit possible damage. Testing before beginning any project is also the best way to ensure product effectiveness.

Glycol Sales Australia/NZ provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, Glycol Sales Australia/NZ makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from Glycol Sales Australia/NZ. It is the user responsibility to ensure they have the most current information available.