# SAFE ADVANTAGE

**Auto Klene Solutions**

Chemwatch Hazard Alert Code: **3**

Chemwatch: **5313-78**
Version No: **4.1.1.1**
Safety Data Sheet according to WHS and ADG requirements

Issue Date: **26/11/2018**
Print Date: **27/11/2018**
S.GHS.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

| | |
|---|---|
| **Product name** | SAFE ADVANTAGE |
| **Synonyms** | wheel cleaner |
| **Proper shipping name** | CORROSIVE LIQUID, N.O.S. (contains phosphoric acid and oxalic acid) |
| **Other means of identification** | Not Available |

### Relevant identified uses of the substance or mixture and uses advised against

| | |
|---|---|
| **Relevant identified uses** | Use according to manufacturer's directions.<br>Wheel cleaner. |

### Details of the supplier of the safety data sheet

| | |
|---|---|
| **Registered company name** | **Auto Klene Solutions** |
| **Address** | 1/83 Merrindale Drive Croydon VIC 3136 Australia |
| **Telephone** | +61 3 8761 1900 |
| **Fax** | +61 3 8761 1955 |
| **Website** | http://www.autoklene.com/msds/ |
| **Email** | Not Available |

### Emergency telephone number

| | |
|---|---|
| **Association / Organisation** | **Not Available** |
| **Emergency telephone numbers** | 131 126 (Poisons Information Centre) |
| **Other emergency telephone numbers** | 0800 764 766 (New Zealand Poisons Information Centre) |

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.**

**CHEMWATCH HAZARD RATINGS**

| | | Min Max |
|---|---|---|
| Flammability | **0** | |
| Toxicity | **2** | ▬▬ |
| Body Contact | **3** | ▬▬▬ |
| Reactivity | **1** | ▬ |
| Chronic | **2** | ▬▬ |

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

| | |
|---|---|
| **Poisons Schedule** | S6 |
| **Classification [1]** | Metal Corrosion Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1 |
| ***Legend:*** | *1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI* |

### Label elements

| | |
|---|---|
| **Hazard pictogram(s)** |  |

| | |
|---|---|
| SIGNAL WORD | **DANGER** |

### Hazard statement(s)

| | |
|---|---|
| **H290** | May be corrosive to metals. |
| **H302** | Harmful if swallowed. |
| **H312** | Harmful in contact with skin. |

**Continued...**

| | |
|---|---|
| **H314** | Causes severe skin burns and eye damage. |
| **H318** | Causes serious eye damage. |

### Precautionary statement(s) Prevention

Not Applicable

### Precautionary statement(s) Response

Not Applicable

### Precautionary statement(s) Storage

Not Applicable

### Precautionary statement(s) Disposal

Not Applicable

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

See section below for composition of Mixtures

### Mixtures

| CAS No | %[weight] | Name |
|---|---|---|
| 144-62-7 | 10-15 | oxalic acid |
| 7664-38-2 | 1-5 | phosphoric acid |
| | <1 | dye perfume |
| | balance | Ingredients determined not to be hazardous |

## SECTION 4 FIRST AID MEASURES

### Description of first aid measures

| | |
|---|---|
| **Eye Contact** | If this product comes in contact with the eyes:<br>- Immediately hold eyelids apart and flush the eye continuously with running water.<br>- 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.<br>- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.<br>- Transport to hospital or doctor without delay.<br>- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| **Skin Contact** | If skin or hair contact occurs:<br>- Immediately flush body and clothes with large amounts of water, using safety shower if available.<br>- Quickly remove all contaminated clothing, including footwear.<br>- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.<br>- Transport to hospital, or doctor. |
| **Inhalation** | - If fumes or combustion products are inhaled remove from contaminated area.<br>- Lay patient down. Keep warm and rested.<br>- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.<br>- 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.<br>- Transport to hospital, or doctor, without delay.<br>- Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.<br>- Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).<br>- As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.<br>- Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.<br>**This must definitely be left to a doctor or person authorised by him/her.**<br>(ICSC13719) |
| **Ingestion** | - For advice, contact a Poisons Information Centre or a doctor at once.<br>- Urgent hospital treatment is likely to be needed.<br>- If swallowed do **NOT** induce vomiting.<br>- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.<br>- Observe the patient carefully.<br>- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.<br>- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.<br>- Transport to hospital or doctor without delay. |

### Indication of any immediate medical attention and special treatment needed

- Effective therapy against burns from oxalic acid involves replacement of calcium.
- Intravenous oxalic acid is substantially excreted (88% - 90%) in the urine within 36 hours.

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- **DO NOT** attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

Continued...

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjuctival cul-de-sacs. Irrigation should last at least 20-30 minutes. **DO NOT** use neutralising agents or any other additives. Several litres of saline are required.
- Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

Treatment must be prompt.

- Give immediately by mouth, a dilute solution of any soluble calcium salt; calcium lactate, lime water, finely pulverised chalk or plaster suspended in a large volume of water or milk. Large amounts of calcium are required to inactivate oxalate by precipitating it as the insoluble calcium salt. Do NOT give an emetic drug.
- Perform gastric lavage carefully or not at all if severe mucosal injury is evident. Dilute lime water (calcium hydroxide) makes a good lavage fluid if used in large quantity.
- Administer a slow intravenous injection of 10-20 ml of calcium gluconate (10% solution) or of calcium chloride (5% solution). This injection may be repeated frequently to prevent hypocalcaemic tetany. Calcium gluconate (10 m) may also be given intramuscularly every few hours. Calcium compounds are never given subcutaneously; even the intramuscular route is hazardous in infants because of the incidence of sloughing.
- In severe cases parathyroid extract (100 USP units) should be given intramuscularly.
- Morphine may be necessary to control pain.
- Treat shock by cautious intravenous injection of isotonic saline solution. Check for metabolic acidosis and infuse sodium bicarbonate if necessary.
- Watch for oedema of the glottis late formation of oesophageal stricture.
- Useful demulcents by mouth include milk of magnesia, bismuth subcarbonate, and mineral oil.
- Prophylactic and therapeutic measures in anticipation of renal damage.

[GOSSELIN SMITH HODGE: Clinical Toxicology of Commercial Products]

Oxalates are readily metabolized to oxalic acid in the body. Oxalic acid is excreted in the urine at a rate of 8-40 mg/day in healthy normal men and women. About half is excreted as oxalic acid and half as magnesium, calcium or other salts. Ingested oxalic acid is also excreted in the feces. In rats, approximately half of ingested oxalic acid is destroyed by bacterial action and about 25% is excreted unchanged in the feces. In humans, calcium oxalate is deposited in the kidneys as crystals and may be deposited in non-crystalline form, bound to lipid, in the liver and other body tissues.

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

### Special hazards arising from the substrate or mixture

| | |
|---|---|
| **Fire Incompatibility** | Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |

### Advice for firefighters

| | |
|---|---|
| **Fire Fighting** | Alert Fire Brigade and tell them location and nature of hazard.<br>Wear full body protective clothing with breathing apparatus.<br>Prevent, by any means available, spillage from entering drains or water course.<br>Use fire fighting procedures suitable for surrounding area.<br>**Do not** approach containers suspected to be hot.<br>Cool fire exposed containers with water spray from a protected location.<br>If safe to do so, remove containers from path of fire. |
| **Fire/Explosion Hazard** | Non combustible.<br>Not considered to be a significant fire risk.<br>Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.<br>Heating may cause expansion or decomposition leading to violent rupture of containers.<br>May emit corrosive, poisonous fumes. May emit acrid smoke.<br>Decomposition may produce toxic fumes of:<br>carbon dioxide ($CO_2$)<br>other pyrolysis products typical of burning organic material. |
| **HAZCHEM** | 2X |

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

| | |
|---|---|
| **Minor Spills** | Environmental hazard - contain spillage.<br>Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.<br>Check regularly for spills and leaks.<br>Clean up all spills immediately.<br>Avoid breathing vapours and contact with skin and eyes.<br>Control personal contact with the substance, by using protective equipment.<br>Contain and absorb spill with sand, earth, inert material or vermiculite.<br>Wipe up.<br>Place in a suitable, labelled container for waste disposal. |

**Continued...**

| | |
|---|---|
| **Major Spills** | Environmental hazard - contain spillage.<br>- Clear area of personnel and move upwind.<br>- Alert Fire Brigade and tell them location and nature of hazard.<br>- Wear full body protective clothing with breathing apparatus.<br>- Prevent, by any means available, spillage from entering drains or water course.<br>- Consider evacuation (or protect in place).<br>- Stop leak if safe to do so.<br>- Contain spill with sand, earth or vermiculite. |

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

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

| | |
|---|---|
| **Safe handling** | - **DO NOT** allow clothing wet with material to stay in contact with skin<br>- Avoid all personal contact, including inhalation.<br>- Wear protective clothing when risk of exposure occurs.<br>- Use in a well-ventilated area.<br>- Avoid contact with moisture.<br>- Avoid contact with incompatible materials.<br>- When handling, **DO NOT** eat, drink or smoke.<br>- Keep containers securely sealed when not in use. |
| **Other information** | - Store in original containers.<br>- Keep containers securely sealed.<br>- Store in a cool, dry, well-ventilated area.<br>- Store away from incompatible materials and foodstuff containers.<br>- Protect containers against physical damage and check regularly for leaks.<br>- Observe manufacturer's storage and handling recommendations contained within this SDS. |

### Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Suitable container** | - **DO NOT** use aluminium or galvanised containers<br>- Check regularly for spills and leaks<br>- Lined metal can, lined metal pail/ can.<br>- Plastic pail.<br>- Polyliner drum.<br>- Packing as recommended by manufacturer.<br>- Check all containers are clearly labelled and free from leaks.<br>For low viscosity materials<br>- Drums and jerricans must be of the non-removable head type.<br>- Where a can is to be used as an inner package, the can must have a screwed enclosure.<br>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):<br>- Removable head packaging;<br>- Cans with friction closures and<br>- low pressure tubes and cartridges<br>may be used.<br>-<br>Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic. |
| **Storage incompatibility** | - Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.<br>- Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.<br>- Avoid strong bases. |

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|---|---|---|---|---|---|
| Australia Exposure Standards | oxalic acid | Oxalic acid | 1 mg/m3 | 2 mg/m3 | Not Available | Not Available |
| Australia Exposure Standards | phosphoric acid | Phosphoric acid | 1 mg/m3 | 3 mg/m3 | Not Available | Not Available |

**EMERGENCY LIMITS**

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|---|
| oxalic acid | Oxalic acid, anhydrous; (Ethanedioic acid) | 2 mg/m3 | 20 mg/m3 | 500 mg/m3 |
| phosphoric acid | Phosphoric acid | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| oxalic acid | 500 mg/m3 | Not Available |
| phosphoric acid | 1,000 mg/m3 | Not Available |

### Exposure controls

| | |
|---|---|
| **Appropriate engineering controls** | 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.<br>The basic types of engineering controls are:<br>Process controls which involve changing the way a job activity or process is done to reduce the risk. |

**Continued...**

| | |
|---|---|
| | 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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.<br>Employers may need to use multiple types of controls to prevent employee overexposure. |
| **Personal protection** | |
| **Eye and face protection** | ▸ Chemical goggles.<br>▸ Full face shield may be required for supplementary but never for primary protection of eyes.<br>▸ 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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. |
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | ▸ Wear chemical protective gloves, e.g. PVC.<br>▸ Wear safety footwear or safety gumboots, e.g. Rubber<br>▸ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.<br>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.<br>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.<br>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. |
| **Body protection** | See Other protection below |
| **Other protection** | ▸ Overalls.<br>▸ PVC Apron.<br>▸ PVC protective suit may be required if exposure severe.<br>▸ Eyewash unit.<br>▸ Ensure there is ready access to a safety shower. |

### Recommended material(s)

**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:
**"Forsberg Clothing Performance Index".**
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
SAFE ADVANTAGE

| Material | CPI |
|---|---|
| NATURAL RUBBER | A |
| NATURAL+NEOPRENE | A |
| NEOPRENE | A |
| NEOPRENE/NATURAL | A |
| NITRILE | A |
| NITRILE+PVC | A |
| PVC | A |
| BUTYL | C |
| NAT+NEOPR+NITRILE | C |
| PE | C |
| SARANEX-23 | C |
| VITON | C |

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
**NOTE**: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### Respiratory protection

Type AB-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.
Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|---|---|---|---|
| up to 10 x ES | AB-AUS P2 | - | AB-PAPR-AUS / Class 1 P2 |
| up to 50 x ES | - | AB-AUS / Class 1 P2 | - |
| up to 100 x ES | - | AB-2 P2 | AB-PAPR-2 P2 ^ |

^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | Red coloured, water-like liquid; mixes with water. |

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | **Relative density (Water = 1)** | 1.1 |
| **Odour** | Not Available | **Partition coefficient n-octanol / water** | Not Available |

**Continued...**

| | | | |
|---|---|---|---|
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | Not Applicable |
| **pH (as supplied)** | 2 | **Decomposition temperature** | Not Available |
| **Melting point / freezing point (°C)** | Not Available | **Viscosity (cSt)** | Not Available |
| **Initial boiling point and boiling range (°C)** | Not Available | **Molecular weight (g/mol)** | Not Applicable |
| **Flash point (°C)** | Not Applicable | **Taste** | Not Available |
| **Evaporation rate** | Not Available | **Explosive properties** | Not Available |
| **Flammability** | Not Applicable | **Oxidising properties** | Not Available |
| **Upper Explosive Limit (%)** | Not Applicable | **Surface Tension (dyn/cm or mN/m)** | Not Available |
| **Lower Explosive Limit (%)** | Not Applicable | **Volatile Component (%vol)** | Not Available |
| **Vapour pressure (kPa)** | Not Available | **Gas group** | Not Available |
| **Solubility in water** | Miscible | **pH as a solution (1%)** | Not Available |
| **Vapour density (Air = 1)** | Not Available | **VOC g/L** | Not Available |

## SECTION 10 STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity** | See section 7 |
| **Chemical stability** | ▸ Contact with alkaline material liberates heat |
| **Possibility of hazardous reactions** | See section 7 |
| **Conditions to avoid** | See section 7 |
| **Incompatible materials** | See section 7 |
| **Hazardous decomposition products** | See section 5 |

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

| | |
|---|---|
| **Inhaled** | 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.<br>Inhalation of oxalic acid dusts or vapours can cause ulceration of the linings of the nose and throat, nosebleed, headache and nervousness. The airborne dust behaves as a strong acid producing severe local burns of the linings of the nose and throat.<br>Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness.<br>Inhalation of soluble oxalate produces irritation of the respiratory tract. Effects on the body may include protein in the urine, ulceration of the mucous membranes, headache, nervousness, cough, vomiting, severe weight loss, back pain (due to kidney injury) and weakness. |
| **Ingestion** | The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.<br>Accidental ingestion of the material may be damaging to the health of the individual.<br>Oxalic acid is a minor, normal body constituent occurring in blood, kidney, muscle and liver at very low concentrations. Higher concentrations are toxic. Ingestion of 5 grams has caused death within hours. It is a poison which affects the central nervous system and kidney function. Low doses may cause low blood calcium concentration.<br>Ingestion of acidic corrosives may produce burns around and in the mouth, the throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. |
| **Skin Contact** | The material can produce chemical burns following direct contact with the skin.<br>Solutions of 5% to 10% oxalic acid are irritating to the skin after prolonged contact; early gangrene may occur after hand immersion in oxalate solutions.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.<br>Oxalate ion is an irritant, and may cause skin irritation. Following contact, skin lesions may develop.<br>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. |
| **Eye** | The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.<br>If applied to the eyes, this material causes severe eye damage.<br>Irritation of the eyes may produce a heavy secretion of tears (lachrymation).<br>Direct eye contact with acid corrosives may produce pain, tears, sensitivity to light and burns. Mild burns of the epithelia generally recover rapidly and completely. |
| **Chronic** | Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.<br>Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.<br><br>Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.<br>This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.<br>Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother.<br>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.<br>Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs.<br>Chronic exposure to oxalates may result in circulatory failure or nervous system irregularities, the latter due to calcium binding to oxalate. Prolonged and severe exposure can cause chronic cough, protein in the urine, vomiting, pain in the back, and gradual weight loss and weakness. |

**Continued...**

| | TOXICITY | IRRITATION |
|---|---|---|
| **SAFE ADVANTAGE** | Not Available | Not Available |

| | TOXICITY | IRRITATION |
|---|---|---|
| **oxalic acid** | dermal (rat) LD50: =20000 mg/kg[2] | Not Available |
| | Oral (rat) LD50: =375 mg/kg[2] | |

| | TOXICITY | IRRITATION |
|---|---|---|
| **phosphoric acid** | 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: 1250 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* |

| | |
|---|---|
| **PHOSPHORIC ACID** | No significant acute toxicological data identified in literature search.<br>For acid mists, aerosols, vapours<br>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).<br>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>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. Repeated exposures may produce severe ulceration.<br>phosphoric acid ( 85%) |
| **OXALIC ACID & 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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. |

| | | | |
|---|---|---|---|
| **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 either not available or does not fill the criteria for classification*
✓ *– Data available to make classification*

## SECTION 12 ECOLOGICAL INFORMATION

### Toxicity

| | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|---|
| **SAFE ADVANTAGE** | Not Available | Not Available | Not Available | Not Available | Not Available |

| | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|---|
| **oxalic acid** | LC50 | 96 | Fish | 8215.146mg/L | 3 |
| | EC50 | 48 | Crustacea | 136.9mg/L | 1 |
| | EC50 | 96 | Algae or other aquatic plants | 91267.289mg/L | 3 |
| | NOEC | 0.33 | Algae or other aquatic plants | 2.000mg/L | 4 |

| | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---|---|---|---|---|---|
| **phosphoric acid** | LC50 | 96 | Fish | 75.1mg/L | 2 |
| | EC50 | 48 | Crustacea | >5.62mg/L | 2 |
| | EC50 | 72 | Algae or other aquatic plants | 15.29mg/L | 2 |
| | NOEC | 72 | Algae or other aquatic plants | 3.71mg/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* |

On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems.

**Continued...**

**Ecotoxicity:**
The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5
For Oxalic Acid and Oxalate Salts:
Atmospheric Fate: If released to the atmosphere, removal from air via wet deposition, dry deposition, and photolysis is likely to occur.
Terrestrial Fate: If released to soil, oxalic acid at pH 5 - 9 will be in the form of the oxalate ion and is expected to leach in soil. Photolysis and biodegradation are expected to be an important fate processes. It has not been determined whether the oxalate ion will adsorb to sediment or soil more strongly than its estimated Koc value indicates.
Aquatic Fate: If released to water, oxalic acid / oxalates will not volatilize, adsorb to sediment, bioconcentrate in aquatic organisms, oxidize or hydrolyze. Oxalic acid, however, may act as a leaching agent for those metals that form soluble oxalate complexes, including aluminum and iron. Oxalic acid is not expected to bioconcentrate in aquatic organisms.
Prevent, by any means available, spillage from entering drains or water courses.

## Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| oxalic acid | LOW | LOW |
| phosphoric acid | HIGH | HIGH |

## Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| oxalic acid | LOW (LogKOW = -1.7365) |
| phosphoric acid | LOW (LogKOW = -0.7699) |

## Mobility in soil

| Ingredient | Mobility |
|---|---|
| oxalic acid | HIGH (KOC = 1.895) |
| phosphoric acid | HIGH (KOC = 1) |

# SECTION 13 DISPOSAL CONSIDERATIONS

## Waste treatment methods

| | |
|---|---|
| **Product / Packaging disposal** | ▸ Recycle wherever possible.<br>▸ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.<br>▸ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with soda-ash or soda-lime followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).<br>▸ Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed. |

# SECTION 14 TRANSPORT INFORMATION

## Labels Required

| | |
|---|---|
| |  |
| **Marine Pollutant** | NO<br>Not Applicable |
| **HAZCHEM** | 2X |

## Land transport (ADG)

| | |
|---|---|
| **UN number** | 1760 |
| **UN proper shipping name** | CORROSIVE LIQUID, N.O.S. (contains phosphoric acid and oxalic acid) |
| **Transport hazard class(es)** | Class: 8<br>Subrisk: Not Applicable |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | Special provisions: 223 274<br>Limited quantity: 5 L |

## Air transport (ICAO-IATA / DGR)

| | |
|---|---|
| **UN number** | 1760 |
| **UN proper shipping name** | Corrosive liquid, n.o.s. * (contains phosphoric acid and oxalic acid) |

Continued...

| | |
|---|---|
| **Transport hazard class(es)** | ICAO/IATA Class: 8<br>ICAO / IATA Subrisk: Not Applicable<br>ERG Code: 8L |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | Special provisions: A3 A803<br>Cargo Only Packing Instructions: 856<br>Cargo Only Maximum Qty / Pack: 60 L<br>Passenger and Cargo Packing Instructions: 852<br>Passenger and Cargo Maximum Qty / Pack: 5 L<br>Passenger and Cargo Limited Quantity Packing Instructions: Y841<br>Passenger and Cargo Limited Maximum Qty / Pack: 1 L |

### Sea transport (IMDG-Code / GGVSee)

| | |
|---|---|
| **UN number** | 1760 |
| **UN proper shipping name** | CORROSIVE LIQUID, N.O.S. (contains phosphoric acid and oxalic acid) |
| **Transport hazard class(es)** | IMDG Class: 8<br>IMDG Subrisk: Not Applicable |
| **Packing group** | III |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | EMS Number: F-A , S-B<br>Special provisions: 223 274<br>Limited Quantities: 5 L |

### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

## SECTION 15 REGULATORY INFORMATION

### Safety, health and environmental regulations / legislation specific for the substance or mixture

**OXALIC ACID(144-62-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

| | |
|---|---|
| Australia Exposure Standards | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2) |
| Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3) |
| Australia Inventory of Chemical Substances (AICS) | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6 |

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

| | |
|---|---|
| Australia Exposure Standards | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2) |
| Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5 |
| Australia Inventory of Chemical Substances (AICS) | Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6 |

### National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AICS | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| Canada - DSL | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| Canada - NDSL | N (phosphoric acid; oxalic acid; dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| China - IECSC | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| Europe - EINEC / ELINCS / NLP | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| Japan - ENCS | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| Korea - KECI | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| New Zealand - NZIoC | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| Philippines - PICCS | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| USA - TSCA | N (dye perfume; Ingredients determined not to be hazardous) Non-disclosed ingredients |
| ***Legend:*** | *Y = All ingredients are on the inventory*<br>*N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)* |

**Continued...**

## SECTION 16 OTHER INFORMATION

| | |
|---|---|
| **Revision Date** | 26/11/2018 |
| **Initial Date** | 23/10/2018 |

### SDS Version Summary

| Version | Issue Date | Sections Updated |
|---|---|---|
| 3.1.1.1 | 19/11/2018 | Classification, Disposal |

### Other information

### Ingredients with multiple cas numbers

| Name | CAS No |
|---|---|
| phosphoric acid | 7664-38-2, 16271-20-8 |

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

**end of SDS**