Auto Klene Wheel Wizard

Auto Klene Solutions

Chemwatch: 5175-90 Issue Date: 31/03/2020 Version No: 2.1.1.1

Chemwatch Hazard Alert Code: 3

Print Date: 31/03/2020

Safety Data Sheet according to WHS and ADG requirements

Initial Date: Not Available S.GHS.AUS.EN

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

Product Identifier				
Product name	Auto Klene Wheel Wizard			
Synonyms	Not Available			
Proper shipping name	CORROSIVE LIQUID, N.O.S. (contains ox-	alic acid)		
Other means of identification	Not Available			
Relevant identified uses of the	e substance or mixture and uses advise	ed against		
Relevant identified uses	Acidic cleaner for brake dust removal on wh	heels.		
Details of the supplier of the	safety data sheet			
Registered company name	Auto Klene Solutions		Auto Klene Solutions	
Address	4/87-91 Heatherdale Road VIC Ringwood 3	4/87-91 Heatherdale Road VIC Ringwood 3174 Australia 1/83 Merrindale Drive VIC Croydon 3136 Australia		
Telephone	+61 3 9872 5911áá		+61 3 8761 1900	
Fax	+61 3 9872 6025		+61 3 8761 1955	
Website	https://www.autoklene.com		https://www.autoklene.com/msds/	
Email	Not Available		Not Available	
Emergency telephone numbe	r			
Association / Organisation	Not Available	Not Available		
Emergency telephone numbers	Not Available	131 126 (Poisons Information Centre)		
Other emergency telephone numbers	Not Available 0408 406 968 (Mark Adams mobile)			
SECTION 2 HAZARDS IDE	ENTIFICATION			

Classification of the substance or mixture

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

CHEMWATCH HAZARD RATINGS



Poisons Schedule	S6
[1] Classification	Metal Corrosion Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1, Reproductive Toxicity Category 2, Chronic Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

Label elements

GHS label elements





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SIGNAL WORD	DANGER
Hazard statement(s)	
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H361	Suspected of damaging fertility or the unborn child.
H412	Harmful to aquatic life with long lasting effects.
Precautionary statement(s) F	Prevention
P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P234	Keep only in original container.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
Precautionary statement(s) F	Response
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
Precautionary statement(s) S	Storage
P405	Store locked up.
Precautionary statement(s) [Disposal
P501	Dispose of contents/container in accordance with local regulations.
SECTION 3 COMPOSITIO	N / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
144-62-7	10-30	oxalic acid
9002-92-0	0-10	lauryl alcohol, ethoxylated
141-43-5	0-10	<u>ethanolamine</u>
7732-18-5	balance	water

SECTION 4 FIRST AID MEASURES

Description of first aid measures

If this product comes in contact with the eyes:

Eye Contact

 \blacktriangleright Immediately hold eyelids apart and flush the eye continuously with 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. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- ▶ Transport to hospital or doctor without delay.
- ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

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Skin Contact	If skin or hair contact occurs: ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▶ Quickly remove all contaminated clothing, including footwear. ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▶ Transport to hospital, or doctor.
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. ▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. ▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). ▶ 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. ▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.
	This must definitely be left to a doctor or person authorised by him/her. (ICSC13719)
Ingestion	 ▶ For advice, contact a Poisons Information Centre or a doctor at once. ▶ Urgent hospital treatment is likely to be needed. ▶ 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. ▶ 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. ▶ Transport to hospital or doctor without delay. medical attention and special treatment needed

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:

- ▶ 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.

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Extinguishing media

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

SECTION 5 FIREFIGHTING MEASURES

Carbon dioxide.

Special hazards arising from the substrate or mixture

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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. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Use fire fighting procedures suitable for surrounding area. ▶ Do not approach containers suspected to be hot. ▶ Cool fire exposed containers with water spray from a protected location. ▶ If safe to do so, remove containers from path of fire.
Fire/Explosion Hazard	 Non combustible. Not considered to be a significant fire risk. Acids may react with metals to produce hydrogen, a highly flammable and explosive gas. Heating may cause expansion or decomposition leading to violent rupture of containers. May emit corrosive, poisonous fumes. May emit acrid smoke.
	Decomposition may produce toxic fumescafbon dioxide (CO2)titrogen oxides (NOx)other pyrolysis products typical of burning organic material

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	 ▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. ▶ Check regularly for spills and leaks. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb spill with sand, earth, inert material or vermiculite. ▶ Wipe up. ▶ Place in a suitable, labelled container for waste disposal.
Major Spills	 ▶ Clear area of personnel and move upwind. ▶ 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. ▶ Consider evacuation (or protect in place). ▶ Stop leak if safe to do so. ▶ 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	<u>g</u>
Safe handling	 ▶ DO NOT allow clothing wet with material to stay in contact with skin ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material. ▶ Avoid smoking, naked lights or ignition sources. ▶ Avoid contact with incompatible materials. ▶ When handling, DO NOT eat, drink or smoke.
Other information	 ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

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▶ DO NOT use aluminium or galvanised

containers - Check regularly for spills and leaks

- ▶ Lined metal can, lined metal pail/ can.
- ▶ Plastic pail.
- ▶ Polyliner drum.
- ▶ Packing as recommended by manufacturer.
- ▶ Check all containers are clearly labelled and free from leaks.

For low viscosity materials

- ▶ Drums and jerricans must be of the non-removable head type.
- ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.

For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):

- ▶ Removable head packaging; ▶
- Cans with friction closures and

low pressure tubes and cartridges

may be used.

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

Suitable container

- ▶ Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.
- ▶ Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates. Avoid strong bases.
- ▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

Avoid contamination of water, foodstuffs, feed or seed.

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	ethanolamine	Ethanolamine	7.5 mg/m3 / 3 ppm	15 mg/m3 / 6 ppm	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	7.4 mg/m3	500 mg/m3
lauryl alcohol, ethoxylated	Brij-35; (alpha-Dodecyl-omega-hydroxypoly(oxyethylene))		1 mg/m3	11 mg/m3	200 mg/m3
ethanolamine	Ethanolamine		6 ppm	6 ppm	1000 ppm
Ingredient	Original IDLH Revised IDLH				
oxalic acid	500 mg/m3 500 [Unch] mg/n		m3		
lauryl alcohol, ethoxylated	Not Available Not Available				
ethanolamine	1,000 ppm 30 ppm				
water	Not Available Not Available				

Exposure 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. The basic types of engineering controls are:

Appropriate engineering controls

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. 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.

Employers may need to use multiple types of controls to prevent employee overexposure.

Personal protection











Eye and face

protection

▶ Chemical goggles. ▶ Full face shield may be required for supplementary but never for primary protection of eyes.

▶ 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

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- ▶ Wear chemical protective gloves, e.g. PVC.
- ▶ Wear safety footwear or safety gumboots, e.g. Rubber
- ▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.

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.

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.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- ▶ frequency and duration of contact, ▶ chemical resistance of glove material,
- glove thickness and
- ▶ dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- ▶ When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- ▶ When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

Body protection

Hands/feet protection

See Other protection below

Other protection

- Overalls.
- ▶ PVC Apron. ▶ PVC protective suit may be required if exposure severe.
- ▶ Evewash unit.
- ▶ Ensure there is ready access to a safety shower.

Thermal hazards

Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Respiratory protection

Type ABEK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)
Glove selection is based on a modified

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presentation of the:

"Forsberg Clothing Performance Index".

Material	СРІ
BUTYL	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator		
up to 10 x ES	ABEK-AUS P2	-	ABEK-PAPR-AUS / Class 1 P2		
up to 50 x ES	-	ABEK-AUS / Class 1 P2	-		
up to 100 x ES	-	ABEK-2 P2	ABEK-PAPR-2 P2 ^		
Where the concentration of gas/particulates in the breathing zone, approaches or					

exceeds the

The effect(s) of the following substance(s) are taken into account in the computer-"Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection

generated selection:

Auto Klene Wheel Wizard varies with Type of filter.

^ - 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

- * CPI Chemwatch Performance Index
- A: Best Selection

PVA

PVC

VITON

- 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.

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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Clear green liquid: mixes with water.

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Physical state	Liquid	Relative density (Water = 1)	1.193
Odour	Not Available	Partition coefficient n- octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	1.9	Decomposition temperature	Not Available
Melting point / freezing point (°C)	~0	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	~100	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)	2 @ 20 degC	Gas group	Not Available
Solubility in water (g/L)	Miscible	pH as a solution (1%)	2.5
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 ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ 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

SECTION 11 TOXICOLOGICAL INFORMATION

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. 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. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness. 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	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. 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

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	calcium concentration. 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	Skin contact with the material may be harmful; systemic effects may result following absorption. The material can produce chemical burns following direct contact with the skin. 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. 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. Oxalate ion is an irritant, and may cause skin irritation. Following contact, skin lesions may develop. Open cuts, abraded or irritated skin should not be exposed to this material 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.			
Еуе	The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. If applied to the eyes, this material causes severe eye damage. 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	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. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. 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. 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. 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.			
	TOXICITY	IRRITATION		
Auto Klene Wheel Wizard				
	Not Available	Not Available		
	TOVIOITY	IDDITATION		
	TOXICITY	IRRITATION		
oxalic acid	(2)			
	Dermal (rabbit) LD50: 2000 mg/kg	Not Available		
	Oral (rat) LD50: 1.08 ml/100 ^l g			
	TOXICITY	IRRITATION		
lauryl alcohol, ethoxylated	Dermal (rabbit) LD50: >2000 mg/kgg	Eye (rabbit): 0.75 mg/24h SEVERE		
	Oral (rat) LD50: 1000 mg/kg ²	Eye (rabbit): 100 mg		
		Skin (rabbit): 500 mg/24h mild		
		Skin (rabbit): 75 mg/24h mild		
	TOXICITY	IRRITATION		
ethanolamine	[0]	Fire (arthir) 0.70 are CEVEDE		
	Dermal (rabbit) LD50: 1020 mg/kg Oral (rat) LD50: 1091.4 mg/kg	Eye (rabbit): 0.76 mg - SEVERE Skin (rabbit):505 mg open-moderate		
	TOXICITY	IRRITATION		
water				
water	[2]			
Logandi	Oral (rat) LD50: >90000 mg/kgNot Available	icity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified		
Legena:	data extracted from RTECS - Register of Toxic Effect of chemical Substa	· ·		
OXALIC ACID	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.			

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> Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis

LAURYL ALCOHOL. ETHOXYLATED

of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production. 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. The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce

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.

While it is difficult to generalise about the full range of potential health effects posed by exposure to the many different amine compounds, characterised by those used in the manufacture of polyurethane and polyisocyanurate foams, it is agreed that overexposure to the majority of these materials may cause adverse health effects.

- ▶ Many amine-based compounds can induce histamine liberation, which, in turn, can trigger allergic and other physiological effects, including bronchoconstriction or bronchial asthma and rhinitis.
- ▶ Systemic symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, tachycardia (rapid heartbeat), itching, erythema (reddening of the skin), urticaria (hives), and facial edema (swelling). Systemic effects (those affecting the body) that are related to the pharmacological action of amines are usually transient.

Typically, there are four routes of possible or potential exposure; inhalation, skin contact, eve contact, and ingestion.

Inhalation:

conjunctivitis

Inhalation of vapors may, depending upon the physical and chemical properties of the specific product and the degree and length of exposure, result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs

Products with higher vapour pressures have a greater potential for higher airborne concentrations.

ETHANOLAMINE

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce

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.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria

of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

* Bayer

WATER No significant acute toxicological data identified in literature search.

	- The significant data to horse great data to him to data of search.		
Acute Toxicity	✓	Carcinogenicity	
Skin Irritation/Corrosion	•	Reproductivity	~
Serious Eye Damage/Irritation	•	STOT - Single Exposure	0
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	0
Mutagenicity		Aspiration Hazard	
		Legend: X	- Data available but does not fill the criteria for

classification

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- Data required to make classification available
- Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
oxalic acid	EC50	48	Crustacea	136.9mg/L	1
oxalic acid	EC50	96	Algae or other aquatic plants	91267.289mg/L	3
oxalic acid	LC50	96	Fish	50.37564mg/L	3
oxalic acid	NOEC	0.33	Algae or other aquatic plants	2.03000mg/L	4
oxalic acid	EC0	192	Algae or other aquatic plants	80mg/L	1
lauryl alcohol, ethoxylated	BCF	72	Fish	1mg/L	4
lauryl alcohol, ethoxylated	LC50	96	Fish	1.5mg/L	4
lauryl alcohol, ethoxylated	EC50	504	Crustacea	0.46mg/L	5

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lauryl alcohol, ethoxylated	NOEC	504	Crustacea	0.24mg/L	5			
lauryl alcohol, ethoxylated	EC50	72	Algae or other aquatic plants	2.05963mg/L	2			
ethanolamine	LC50	96	Fish	=75mg/L	1			
ethanolamine	EC50	48	Crustacea	32.6mg/L	2			
ethanolamine	NOEC	504	Crustacea	0.85mg/L	2			
ethanolamine	EC50	72	Algae or other aquatic plants	2.1mg/L	2			
ethanolamine	EC50	72	Algae or other aquatic plants	ca.2.5mg/L	2			
water	EC50	384 Crustacea 199.179mg/L 3						
water	EC50	Algae or other aquatic plants 8768.874mg/L 3						
water	LC50	96 Fish 897.520mg/L 3						
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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 allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

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. DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
oxalic acid	LOW	LOW
lauryl alcohol, ethoxylated	LOW	LOW
ethanolamine	LOW	LOW
water	LOW	LOW
Bioaccumulative potential		
Ingredient	Bioaccumulation	
oxalic acid	LOW (LogKOW = -1.7365)	
lauryl alcohol, ethoxylated	LOW (LogKOW = 3.6722)	
ethanolamine	LOW (LogKOW = -1.31)	
water	LOW (LogKOW = -1.38)	
Mobility in soil		
Ingredient	Mobility	
oxalic acid	HIGH (KOC = 1.895)	
lauryl alcohol, ethoxylated	LOW (KOC = 10)	
ethanolamine	HIGH (KOC = 1)	

SECTION 13 DISPOSAL CONSIDERATIONS

LOW (KOC = 14.3)

Waste treatment methods

water

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- ▶ Containers may still present a chemical hazard/ danger when empty.
- ▶ Return to supplier for reuse/ recycling if possible.

Otherwise:

- 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.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

▶ Reduction ▶

Reuse

▶ Recycling

▶ Disposal (if all else fails)

Product / Packaging disposal

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type.

Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

- ▶ 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.

- ▶ Recycle wherever possible.
- ▶ 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.
- ▶ 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 licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material).
- ▶ 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	
	CORNOSIVE 8
Marine Pollutant	NO
HAZCHEM	2X
Land transport (ADG)	
UN number	1760
Packing group	П
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (contains oxalic acid)
Environmental hazard	Not Applicable
Transport hazard class(es)	Class 8 Subrisk Not Applicable
Special precautions for user	Special provisions 274 Limited quantity 1 L
Air transport (ICAO-IATA / Do	GR)
UN number	1760
Packing group	П
UN proper shipping name	Corrosive liquid, n.o.s. * (contains oxalic acid)
Environmental hazard	Not Applicable
Transport hazard class(es)	ICAO/IATA Class 8 ICAO / IATA Subrisk Not Applicable ERG Code 8L

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Special precautions for user	Special provisions Cargo Only Packing Instructions Cargo Only Maximum Qty / Pack Passenger and Cargo Packing Instructions Passenger and Cargo Maximum Qty / Pack Passenger and Cargo Limited Quantity Packing Instruct	A3A803 855 30 L 851 1 L ons Y840
	Passenger and Cargo Limited Maximum Qty / Pack	0.5L
Sea transport (IMDG-Code /	GGVSee)	
UN number	1760	
Packing group	П	
UN proper shipping name	CORROSIVE LIQUID, N.O.S. (contains oxalic acid)	
Environmental hazard	Not Applicable	
Transport hazard class(es)	IMDG Class 8 IMDG Subrisk Not Applicable	
Special precautions for	EMS Number F-A, S-B Special provisions 274	

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

Limited Quantities | 1 L

OXALIC ACID(144-62-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS	
Australia Exposure Standards	Australia Inventory of Chemical Substances (AICS)
Australia Hazardous Substances Information System - Consolidated Lists	

LAURYL ALCOHOL, ETHOXYLATED(9002-92-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

ETHANOLAMINE(141-43-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS) Australia Exposure Standards

Australia Hazardous Substances Information System - Consolidated Lists

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

|--|--|--|--|

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Australia - AICS Υ Υ Canada - DSL Canada - NDSL N (lauryl alcohol, ethoxylated; ethanolamine; water; oxalic acid) China - IECSC Υ Europe - EINEC / ELINCS / NLP Japan - ENCS N (water) Korea - KECI Υ New Zealand - NZIoC Υ Philippines - PICCS Υ

SECTION 16 OTHER INFORMATION

Other information

USA - TSCA

Legend:

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Ingredients with multiple cas numbers

Name	CAS No
lauryl alcohol, ethoxylated	12789-47-8, 9002-92-0

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

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.

A list of reference resources used to assist the committee may be found at:

Υ

Y = All ingredients are on the inventory

www.chemwatch.net

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.

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