



Material Safety Data Sheet

CARBO-MAX

AQUA-PICS

 Carrum Downs,
 Victoria, Australia

Ph: 0425 710 943

www.aquapics.com.au

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Section 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier	
Product Name	Glutaraldehyde (1.6% solution)
Chemical Name	Not applicable
Chemical Formula	Not applicable
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
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Details of the supplier of the safety data sheet

	AVA Synergistcs Pty Ltd t/a Aqua-Pics Unit 3, 544 Frankston-Dandenong Road, Carrum Downs, Vic. 3201 Phone: 0425 710 943
Emergency	Chemwatch Emergency Response
Primary number	1800 039 008
Alternative number	+612 9186 1132

Section 2 Hazards Identification

Classification of the substance or mixture

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

Poisons Schedule	S6
Hazard Statement(s)	R20/22 – Harmful by inhalation and if swallowed R37/38 – Irritating to respiratory system and skin R42/43 – May cause SENSITISATION by inhalation and skin contact R51 – Toxic to aquatic organisms R41 – Risk of serious damage to eyes
Safety Advice	S07 – Keep container tightly closed S09 – Keep container in a well-ventilated place S13 – Keep away from food, drink and animal feeding stuffs S23 – Do not breathe gas / fume / vapour / spray S25 – Avoid contact with eyes S26 – In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre S29 – Do not empty into drains S35 – This material and its container must be disposed of in a safe way S36 – Wear suitable protective clothing S37 – Wear suitable gloves S39 – Wear eye / face protection S40 – To clean the floor and all objects contaminated by this material, use water S45 – In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible) S46 – If swallowed, seek medical advice immediately and show this container or label

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	S51 – Use only in well-ventilated areas
	S56 – Dispose of this material and its container at hazardous or special waste collection point
	S57 – Use appropriate container to avoid environmental contamination
	S63 – In case of accident by inhalation, remove casualty to fresh air and keep at rest
	S64 – If swallowed, rinse mouth with water (only if the person is conscious)
Other hazards	
	Cumulative effects may result following exposure
	Vapours potentially cause drowsiness and dizziness

Section 3 Composition / Information on Ingredients

Substances	See section below for composition of Mixtures	
Mixtures		
CAS No	% (volume)	Name
111-30-8	1.6	glutaraldehyde
7732-18-5	98.4	water

Section 4 FIRST AID MEASURES

Description of first aid measures

Eye contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> • 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
Skin contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> • 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
Inhalation	<p>If fumes or combustion products are inhaled remove from contaminate area:</p> <ul style="list-style-type: none"> • 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
Ingestion	<p>IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.</p> <ul style="list-style-type: none"> • For advice, contact a Poisons Information Centre or a doctor. • Urgent hospital treatment is likely to be needed. • In the meantime, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. • If the services of a medical officer or medical doctor are readily available, the patient should be placed in his / her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist. • If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS. <p>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</p>

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	<ul style="list-style-type: none"> INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head down position, if possible) to maintain open airway and prevent aspiration. <p>NOTE: Wear a protective glove when inducing vomiting by mechanical means.</p>
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SECTION 5 FIREFIGHTING MEASURES

Extinguishing media	<p>The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.</p> <p>Though the media is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.</p> <p>In such an event consider – foam</p>
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Special hazards arising from the substrate or mixture

Fire Incompatibility	None known
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire-fighting procedures suitable for surrounding area.
Fire / Explosion Hazard	<ul style="list-style-type: none"> The material is not readily combustible under normal conditions. However, it will break down under fire conditions and the organic component may burn. Not considered to be a significant fire risk. Heat may cause expansion or decomposition with violent rupture of containers.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	<ul style="list-style-type: none"> 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.
Major Spills	<p>Moderate hazard</p> <ul style="list-style-type: none"> Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<p>DO NOT ALLOW CLOTHING WET WITH MATERIAL TO STAY IN CONTACT WITH SKIN</p> <ul style="list-style-type: none"> 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.
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Other information	<ul style="list-style-type: none"> • Store in original containers. • Keep containers securely sealed. • Store in a cool, dry, well-ventilated area. • Store away from incompatible materials and foodstuff containers.
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Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> • Polyethylene or polypropylene container. • Packing as recommended by manufacturer. • Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<p>Glutaraldehyde:</p> <ul style="list-style-type: none"> • Is a strong reducing agent, reacts with water forming an aqueous polymer solution, reacts violently with strong oxidisers, strong acids, bromine, ketones • Is incompatible with caustics, ammonia, amines, acetophenone, acetyl benzene, xylenes • The activated form (an alkaline solutions) reacts readily with alcohol, ketones, amines, hydrazines and proteins • None known



+ X + X X +

- X — Must not be stored together
 0 — May be stored together with specific preventions
 + — May be stored together

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

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	Glutaraldehyde	Glutaraldehyde	Not available	Not available	0.41 mg/m ³ / 0.1 ppm	Sen
Australia Exposure Standards	Methanol	Methyl alcohol	262 mg/m ³ / 200 ppm	328 mg/m ³ / 250 ppm	Not available	Sk

EMERGENCY LIMITS

Ingredient	Material Name	TEEL-1	TEEL-2	TEEL-3
Glutaraldehyde	Glutaraldehyde	Not Available	Not Available	Not Available
Methanol	Methyl alcohol; (Methanol)	Not Available	Not Available	Not Available
Ingredient	Original IDLH	Revised IDLH		
Glutaraldehyde	Not Available	Not Available		
Methanol	25,000 ppm	6,000 ppm		
Water	Not Available	Not Available		

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Exposure Controls

<p>Appropriate engineering controls</p>	<p>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.</p> <p>The basic types of engineering controls are:</p> <ul style="list-style-type: none"> • 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.
<p>Personal protection</p>	
<p>Eye and face protection</p>	<ul style="list-style-type: none"> • 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.
<p>Skin protection</p>	<p>See Hand protection below</p>
<p>Hands / feet protection</p>	<ul style="list-style-type: none"> • Wear chemical protective gloves, eg. PVC • Wear safety footwear or safety gumboots, eg. Rubber <p>NOTE:</p> <ul style="list-style-type: none"> • 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.
<p>Body protection</p>	<p>See other protection below</p>
<p>Other protection</p>	<ul style="list-style-type: none"> • Overalls • PVC apron • Barrier cream
<p>Thermal hazards</p>	<p>Not available</p>

Recommended material(s) GLOVE SELECTION INDEX		Respiratory protection Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000)	
Material	CPI	SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES & 149:2001, ANSI Z88 or national equivalent)	
BUTYL	A	Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.	
NEOPRENE	A	Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.	
VITON	A		
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.		Required Minimum Protection Factor	Half-Face Respirator
		Up to 10 x ES	Air line
		Up to 20 x ES	-
		20+ x ES	-
		Full-Face Respirator	Powered Air Respirator
		AX-2	AX-PAPR-2
		AX-3	-
		Air Line	-
		* - Continuous-flow; ** - Continuous-flow or positive pressure demand ^ - 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(SO ₂), G = Agricultural chemicals, K = Ammonia(NH ₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)	

Information on basic physical and chemical properties

Appearance	Transparent colourless liquid with sharp fruity, medicinal odour; mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1.129
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	-21	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	100.5	Molecular weight (g/mol)	Not Applicable
Incompatible materials	See section 7		
Hazardous decomposition products	See section 5		
Flash point (°C)	Not available	Taste	Not available
Evaporation rate	1 (BuAC = 1)	Explosive properties	Not available
Flammability	Not available	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)	0.03	Gas group	Not available
Solubility in water (g/L)	Miscible	pH as a solution	Not available
Vapour density (Air=1)	>1	VOC g/L	Not available

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SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> • 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

SECTION 11 TOXICOLOGICAL INFORMATION

Inhaled	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Inhalation of vapours may cause drowsiness and dizziness.	
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.	
Skin Contact	<p>This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition.</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 product systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitable 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 disease of the airways involving difficult breathing and related systemic problems.</p> <p>Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p>	
Glutaraldehyde	TOXICITY Dermal (rat) LD50: 1771.2 mg/kg Inhalation (rat) LC50: 0.48 mg/L/4hd Oral (rat) LD50: 770.4 mg/kg	IRRITATION Eye (rabbit) 0.25mg/24h-SEVERE Eye (rabbit) 1mg-SEVERE Skin (human) 6mg/3d-int/SEVERE Skin (rabbit) 13mg open-mild Skin (rabbit) 2mg/24h-SEVERE
Methanol	TOXICITY Dermal (rabbit) LD50: 15800 mg/kg Inhalation (rat) LC50: 64000ppm/4h Oral (rat) LD50: >11872769 mg/kg	IRRITATION Eye (rabbit) 100 mg/24h-moderate Eye (rabbit) 40 mg-moderate Skin (rabbit): 20 mg/24h-moderate
	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.	
Water	TOXICITY Oral (rat) LD50: >90000 mg/kg	IRRITATION Not available
	No significant acute toxicological data identified in literature search.	

SECTION 12 ECOLOGICAL INFORMATION**Toxicity**

Toxic to aquatic organisms.

DO NOT discharge into sewer or waterways.**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
Glutaraldehyde	LOW	LOW
Methanol	LOW	LOW
Water	LOW	LOW

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Bioaccumulative potential

Ingredient	Bioaccumulation
Glutaraldehyde	LOW (LogKOW = -0.1821)
Methanol	LOW (BCF = 10)
Water	LOW (LogKOW = -1.38)

Mobility in soil

Ingredient	Mobility
Glutaraldehyde	HIGH (KOC = 1.094)
Methanol	HIGH (KOC = 1)
Water	LOW (KOC = 14.3)

SECTION 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. Otherwise: <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 MSDS and observe all notices pertaining to the product.
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SECTION 14 TRANSPORT INFORMATION**Labels Required**

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS