



## SAFETY DATA SHEET

<b>Section 1.</b>	<b>Identification of the material and the supplier</b>
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Product:	<b>Water/Clot Guard</b>
Product Use:	Supplemental Embalming Fluid.
Restriction of Use in NZ:	Refer to Section 15
<b>New Zealand Supplier:</b>	<b>Thirty SixPlus Embalmers</b>
Address:	18 Norman Spencer Drive Manukau City Auckland 2104
Telephone:	0800 362 256
Fax:	+64 9 262 3705
<b>Emergency No:</b>	<b>0800 764 766 (National Poison Centre)</b>
<b>Australia Supplier:</b>	<b>XXX</b> XXX XXX
Tel:	+61 XXX
<b>Australian Emergency No</b>	<b>13 11 26 (National Poison Centre)</b>
Date of SDS Preparation:	1 August 2019

<b>Section 2.</b>	<b>Hazards Identification</b>
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**Australia:**  
Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia

**New Zealand:**  
This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

**EPA Approval No:** Embalming Products (subsidiary) – HSR002565

**Pictograms**



Irritant    Chronic

Signal Word: **DANGER**

NZ HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A

6.9A	H372	Causes damage to organs through prolonged or repeated exposure.	STOT RE 1
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Prevention Code	Prevention Statement
P103	Read label before use.
P260	Do not breathe fumes, vapours or spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective clothing detailed in Section 8.

Response Code	Response Statement
P314	Get medical advice/attention if you feel unwell.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
None allocated	Store in a well-ventilated place. Keep cool.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

### Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt%	CAS NUMBER.
Ethylene glycol	15-20	107-21-1
Non Hazardous	To bal	

### Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.
If on Skin	Rinse skin with water/shower. If skin irritation occurs: get medical advice/attention.
If Swallowed	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. Seek medical attention if needed.
If Inhaled	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. Get medical advice if breathing becomes difficult.

#### Most important symptoms and effects, both acute and delayed

Symptoms:

<b>Ingestion:</b>	Not applicable.
<b>Inhalation:</b>	Not applicable.
<b>Skin:</b>	Not applicable.

Product Name: Orifice Guard  
Date of SDS: 1 August 2019

Prepared by: Technical Compliance Consultants (NZ) Ltd  
Tel: 64 9 475 5240 www.techcomp.co.nz

**Eye:** Causes serious eye irritation.  
**Chronic:** Causes damage to organs through repeated or prolonged exposure.

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

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

To treat poisoning by the higher aliphatic alcohols (up to C7):

Gastric lavage with copious amounts of water.

It may be beneficial to instill 60 ml of mineral oil into the stomach.

Oxygen and artificial respiration as needed.

Electrolyte balance: it may be useful to start 500 ml. M/6 sodium bicarbonate intravenously but maintain a cautious and conservative attitude toward electrolyte replacement unless shock or severe acidosis threatens.

To protect the liver, maintain carbohydrate intake by intravenous infusions of glucose.

Haemodialysis if coma is deep and persistent. [GOSSELIN, SMITH HODGE: Clinical Toxicology of Commercial Products, Ed 5)

**BASIC TREATMENT**

Establish a patent airway with suction where necessary.

Watch for signs of respiratory insufficiency and assist ventilation as necessary.

Administer oxygen by non-rebreather mask at 10 to 15 l/min.

Monitor and treat, where necessary, for shock.

Monitor and treat, where necessary, for pulmonary oedema.

Anticipate and treat, where necessary, for seizures.

DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

Give activated charcoal.

**ADVANCED TREATMENT**

Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred. Positive-pressure ventilation using a bag-valve mask might be of use. Monitor and treat, where necessary, for arrhythmias.

Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution.

Fluid overload might create complications.

If the patient is hypoglycaemic (decreased or loss of consciousness, tachycardia, pallor, dilated pupils, diaphoresis and/or dextrose strip or glucometer readings below 50 mg), give 50% dextrose. Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.

Drug therapy should be considered for pulmonary oedema.

Treat seizures with diazepam.

Proparacaine hydrochloride should be used to assist eye irrigation.

**EMERGENCY DEPARTMENT**

Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph. Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.

Acidosis may respond to hyperventilation and bicarbonate therapy.

Haemodialysis might be considered in patients with severe intoxication.

Consult a toxicologist as necessary. BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

For C8 alcohols and above.

Symptomatic and supportive therapy is advised in managing patients.

**Section 5. Fire Fighting Measures**

<b>Hazard Type</b>	Non Flammable
<b>Hazards from combustion products</b>	On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive. Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.
<b>Suitable Extinguishing media</b>	Foam, dry chemical powder, BCF (where regulations permit), carbon dioxide and water spray or fog.
<b>Precautions for firefighters and special protective clothing</b>	Wear full body protective clothing with breathing apparatus. Slight fire hazard when exposed to heat, flame. Heating may cause expansion or decomposition leading to violent rupture of containers.
<b>HAZCHEM CODE</b>	<b>None allocated</b>

**Section 6. Accidental Release Measures****Personal precautions:**

Use protective clothing as detailed in Section 8. Avoid breathing vapours and contact with skin and eyes. Clear area of personnel and move upwind. Remove sources of ignition.

**Spill and Disposal procedures:**

Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Dispose of waste safely, according to local Council regulations detailed in Section 13.

**Section 7. Handling and Storage****Precautions for Handling:**

- Read label before use.
- Do not breathe fumes, vapours or spray.
- Use in a well ventilated area.
- Prevent concentrations in hollows and sumps.
- Do not enter confined spaces until atmosphere has been checked.
- Do not allow clothing wet with materials to stay in contact with skin.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective clothing detailed in Section 8.

**Precautions for Storage:**

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- 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.
- Store in well-ventilated areas between 10 to 38°C.
- Avoid strong acids, bases.  
Ethylene glycol:
  - reacts violently with oxidisers and oxidising acids, sulfuric acid, chlorosulfonic acid, chromyl chloride, perchloric acid forms explosive mixtures with sodium perchlorate
  - is incompatible with strong acids, caustics, aliphatic amines, isocyanates, chlorosulfonic acid, oleum, potassium bichromate, phosphorus pentasulfide, sodium chlorite
  - Avoid reaction with oxidising agents

**Suitable Container:**

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

**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance	TWA	STEL
	ppm mg/m <sup>3</sup>	ppm mg/m <sup>3</sup>
Ethylene glycol (vapour and mist) [107-21-1]		Ceiling 50 ppm (127 mg/m <sup>3</sup> )

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

**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.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. 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.

**Personal Protection Equipment**

<b>Eyes</b>	Chemical goggles or safety glasses with side shields. 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.
<b>Hands</b>	Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber
<b>Skin</b>	Overalls. PVC Apron. Barrier Cream Skin cleaning cream
<b>Respiratory</b>	Type A-P Filter of sufficient capacity.
<b>General</b>	Ensure there is ready access to a eyewash unit.

**Section 9****Physical and Chemical Properties**

<b>Appearance</b>	Liquid, mixes with water
<b>Colour</b>	Clear, colourless
<b>Odour</b>	Slightly sweet odour
<b>Odour Threshold</b>	Not available
<b>pH</b>	Not available
<b>Boiling Point</b>	>100°C
<b>Melting Point</b>	Not available
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	>93°C (PMCC)

<b>Flammability</b>	Highly Flammable
<b>Upper and Lower Explosive Limits</b>	32% - Not available
<b>Vapour Pressure</b>	3 @ 20 degC
<b>Vapour Density (Air=1)</b>	<1
<b>Relative Density (Water=1)</b>	1.14
<b>Water Solubility</b>	Miscible
<b>Partition Coefficient:</b>	Not available
<b>Auto-ignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	Not available
<b>Kinematic Viscosity</b>	Not available
<b>Particle Characteristics</b>	Not available
<b>Volatile Component (%vol)</b>	Not available

### Section 10. Stability and Reactivity

<b>Stability of Substance</b>	This product is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	reacts violently with oxidisers and oxidising acids, sulfuric acid, chlorosulfonic acid, chromyl chloride, perchloric acid forms explosive mixtures with sodium perchlorate
<b>Conditions to Avoid</b>	Keep away from heat, sparks, open flames or hot surfaces. No smoking.
<b>Incompatible Materials</b>	is incompatible with strong acids, caustics, aliphatic amines, isocyanates, chlorosulfonic acid, oleum, potassium bichromate, phosphorus pentasulfide, sodium chlorit.
<b>Hazardous Decomposition Products</b>	On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive. Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

### Section 11 Toxicological Information

#### Acute Effects:

<b>Swallowed</b>	Not triggered, 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. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) for ethylene glycol: Ingestion symptoms include respiratory failure, central nervous depression, cardiovascular collapse, pulmonary oedema, acute kidney failure, and even brain damage. Ingestion of 100 ml has caused death. (ChemInfo) Toxicity of ethylene glycol to human (KB) cell cultures has been reported as less than that of ethanol. (NIOSHITIC) Ethylene glycol produces a three-stage response with the severity of each stage dependent on the amount of ingestion.
<b>Dermal</b>	Not applicable.
<b>Inhalation</b>	Not triggered, however Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo. 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.
<b>Eye</b>	Cause serious eye irritation.
<b>Skin</b>	Not applicable. Repeated exposure may cause skin cracking, flaking or drying following normal handling and use. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. 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.

#### Chronic Effects:

<b>Carcinogenicity</b>	Not applicable.
<b>Reproductive Toxicity</b>	Not applicable.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.
<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	Causes damage to organs through repeated or prolonged exposure.
<b>Chronic</b>	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population. There is some evidence from animal testing that exposure to this material may result in reduced fertility. There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby. Exposure to ethylene glycol over a period of several weeks may cause throat irritation, mild headache and low backache.

#### Individual component information:

##### Acute Toxicity:

Chemical Name	Oral – LD50	Dermal – LD50	Inhalation – LC50
Ethylene Glycol	4700 mg/kgm(rat)	9530mg/kg (rabbit)	50.1 mg/l/8H (rat)

ETHYLENE GLYCOL	<p>For ethylene glycol:</p> <p>Ethylene glycol is quickly and extensively absorbed through the gastrointestinal tract. Limited information suggests that it is also absorbed through the respiratory tract; dermal absorption is apparently slow. Following absorption, ethylene glycol is distributed throughout the body according to total body water. In most mammalian species, including humans, ethylene glycol is initially metabolised by alcohol dehydrogenase to form glycolaldehyde, which is rapidly converted to glycolic acid and glyoxal by aldehyde oxidase and aldehyde dehydrogenase. These metabolites are oxidised to glyoxylate; glyoxylate may be further metabolised to formic acid, oxalic acid, and glycine. [Estimated Lethal Dose (human) 100 ml; RTECS quoted by Orica] Substance is reproductive effector in rats (birth defects). Mutagenic to rat</p>
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## Section 12. Ecotoxicological Information

### This product is not hazardous to the environment.

<b>Persistence and degradability</b>	No data available
<b>Bioaccumulation</b>	No data available
<b>Mobility in Soil</b>	No data available
<b>Other adverse effects</b>	No data available

#### Toxicity

##### For Ethylene Glycol:

Log Kow: -1.93 to -1.36;

Product Name: Orifice Guard  
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Half-life (hr) air: 24 hrs;

Henry's Law Constant:  $1.41 \sim 10^{-3}$  or  $6.08 \sim 10^{-3}$  Pa.m<sup>3</sup>/mol, (depending on method of calculation); Henry's atm m<sup>3</sup> /mol:  $2.3 \times 10^{-4}$  atm-m<sup>3</sup>/mol; Vapor Pressure: 7.9 Pa @ 20 C; BOD 5: 0.15 to 0.81, 12%; COD: 1.21 to 1.29; ThOD: 1.26; BCF: 10 to 190.

Atmospheric Fate: In the atmosphere, ethylene glycol exists mainly in the vapor phase. It is degraded by reactions with hydroxyl radicals, (estimated half-life 24-50 hours). Direct breakdown of the substance by sunlight is not expected.

Terrestrial Fate: Soil - The substance is not expected to evaporate from soil surfaces. Ethylene glycol has little or no capacity to bind to soil and will be mobile.

### Individual component information:

Persistence and degradability		
Ingredient	Persistence: Water/Soil	P
ethylene glycol	LOW (Half-life = 24 days)	LOW (Half-life = 3.46days)

  

Bioaccumulative potential	
Ingredient	B
ethylene glycol	-

  

Mobility in soil	
Ingredient	M
ethylene glycol	HIGH (KOC = 1)

Do not allow to enter waterways.

## Section 13. Disposal Considerations

### Disposal Method:

Containers may still present a chemical hazard/ danger when empty.

Return to supplier for reuse/ recycling if possible.

Otherwise:

If container cannot 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.

**Precautions or methods to avoid:** None known.

## Section 14 Transport Information

**This product is NOT classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) (7th edition).**

**This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2012**

## Section 15 Regulatory Information

### Australia:

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classified as a Schedule 6 Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

### New Zealand:

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval Code: Embalming Products (subsidiary) – HSR002565



HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	Not required
Emergency Response Plan	10 000L (6.9A)
Secondary Containment	10 000L (6.9A)
Restriction of Use	Only use for the intended purpose.

## Section 16 Other Information

### Glossary

EC <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

### References:

#### Australia:

1. Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
2. Standard for the Uniform Scheduling of Medicines and Poisons.
3. Australian Code for the Transport of Dangerous Goods by Road & Rail.
4. Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
5. Workplace exposure standards for airborne contaminants, Safe work Australia.
6. American Conference of Industrial Hygienists (ACGIH).
7. Globally Harmonised System of classification and labelling of chemicals.

#### New Zealand:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

### Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

The information herein is given in good faith, but no warranty, express or implied is made.

Please contact the Australian Manufacturer or New Zealand distributor, if further information is required.

Issue Date:

1 August 2019

Review Date:

1 August 2024