



SAFETY DATA SHEET

Section 1.	Identification of the material and the supplier
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Product:	Plasma Flo
Product Use:	Embalming fluid
Restriction of Use in NZ:	Refer to Section 15
New Zealand Supplier:	Thirty SixPlus Embalmers
Address:	18 Norman Spencer Drive Manukau City Auckland 2104
Telephone:	0800 362 256
Fax:	+64 9 262 3705
Emergency No:	0800 764 766 (National Poison Centre)
Australia Supplier:	XXX XXX XXX
Tel:	+61 XXX
Australian Emergency No	13 11 26 (National Poison Centre)
Date of SDS Preparation:	14 January 2020

Section 2.	Hazards Identification
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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



Irritation

Signal Word: **Warning**

NZ HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.3B	H316	Causes mild skin irritation.	Skin Irrit. 3

6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A
9.2D	H423	Harmful to the soil environment.	

Prevention Code	Prevention Statement
P103	Read label before use.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	Storage Statement
None allocated	

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

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt%	CAS NUMBER.
Triethanolamine	25-35	102-71-6
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 Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: get medical advice/attention.
- If Swallowed Do not induce vomiting. Wash out mouth thoroughly with water. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Seek medical attention if needed.
- If Inhaled Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

- Ingestion:** Not applicable.
- Inhalation:** Not applicable.
- Skin:** Causes mild skin irritation.
- Eye:** Causes serious eye irritation.
- Chronic:** Not applicable.

Indication of any immediate medical attention and special treatment needed

For acute or short-term repeated exposures to alkaline materials:

Respiratory stress is uncommon but present occasionally because of soft tissue edema. Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary. Oxygen is given as indicated.

The presence of shock suggests perforation and mandates an intravenous line and fluid administration. Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue. Alkalis continue to cause damage after exposure.

INGESTION:

Milk and water are the preferred diluents

No more than 2 glasses of water should be given to an adult.

Neutralising agents should never be given since exothermic heat reaction may compound injury.

* Catharsis and emesis are absolutely contra-indicated. * Activated charcoal does not absorb alkali.

* Gastric lavage should not be used.

Supportive care involves the following:

Withhold oral feedings initially.

If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.

Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.

Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

Injury should be irrigated for 20-30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]

For amines:

Certain amines may cause injury to the respiratory tract and lungs if aspirated. Also, such products may cause tissue destruction leading to stricture. If lavage is performed, endotracheal and/or esophagoscopy control is suggested.

No specific antidote is known.

Care should be supportive and treatment based on the judgment of the physician in response to the reaction of the patient.

Laboratory animal studies have shown that a few amines are suspected of causing depletion of certain white blood cells and their precursors in lymphoid tissue. These effects may be due to an immunosuppressive mechanism.

Some persons with hyperreactive airways (e.g., asthmatic persons) may experience wheezing attacks (bronchospasm) when exposed to airway irritants.

Lung injury may result following a single massive overexposure to high vapour concentrations or multiple exposures to lower concentrations of any pulmonary irritant material.

Health effects of amines, such as skin irritation and transient corneal edema ("blue haze," "halo effect," "glaucompsia"), are best prevented by means of formal worker education, industrial hygiene monitoring, and exposure control methods. Persons who are highly sensitive to the triggering effect of non-specific irritants should not be assigned to jobs in which such agents are used, handled, or manufactured.

Medical surveillance programs should consist of a pre-placement evaluation to determine if workers or applicants have any impairments (e.g., hyperreactive airways or bronchial asthma) that would limit their fitness for work in jobs with potential for exposure to amines. A clinical baseline can be established at the time of this evaluation.

Periodic medical evaluations can have significant value in the early detection of disease and in providing an opportunity for health counseling.

Medical personnel conducting medical surveillance of individuals potentially exposed to polyurethane amine catalysts should consider the following:

Health history, with emphasis on the respiratory system and history of infections

Physical examination, with emphasis on the respiratory system and the lymphoreticular organs (lymph nodes, spleen, etc.)

Lung function tests, pre- and post-bronchodilator if indicated

Total and differential white blood cell count

Serum protein electrophoresis

Persons who are concurrently exposed to isocyanates also should be kept under medical surveillance.

Pre-existing medical conditions generally aggravated by exposure include skin disorders and allergies, chronic respiratory disease (e.g. bronchitis, asthma, emphysema), liver disorders, kidney disease, and eye disease.

Broadly speaking, exposure to amines, as characterised by amine catalysts, may cause effects similar to those caused by exposure to ammonia. As such, amines should be considered potentially injurious to any tissue that is directly contacted.

Inhalation of aerosol mists or vapors, especially of heated product, can result in chemical pneumonitis, pulmonary edema, laryngeal edema, and delayed scarring of the airway or other affected organs. There is no specific treatment.

Clinical management is based upon supportive treatment, similar to that for thermal burns.

Persons with major skin contact should be maintained under medical observation for at least 24 hours due to the possibility of delayed reactions.

Polyurethane Amine Catalysts: Guidelines for Safe Handling and Disposal Technical Bulletin June 2000

Alliance for Polyurethanes Industry

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from combustion products	Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive.
Suitable Extinguishing media	Foam. dry chemical powder, BCF (where regulations permit), Carbon dioxide. Water spray or fog
Precautions for firefighters and special protective clothing	For firefighting, cleaning up large spills, and other emergency operations, workers must wear a self-contained breathing apparatus with full face-piece, operated in a pressure-demand mode. Airline and air purifying respirators should not be worn for firefighting or other emergency or upset conditions. Respirators should be used in conjunction with a respiratory protection program, which would include suitable fit testing and medical evaluation of the user. 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.
HAZCHEM CODE	3Y

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.

Environmental precautions:

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

Spill and Disposal procedures:

If possible (i.e., without risk of contact or exposure), stop the leak. Contain the spilled material by diking, then neutralize. Next absorb the neutralized product with clay, sawdust, vermiculite, or other inert absorbent and shovel into containers. Store the containers outdoors.

Brooms and mops should be disposed of, along with any remaining absorbent.

Decontamination of floors and other hard surfaces after the spilled material has been removed may be accomplished by using a 5% solution of acetic acid, followed by very hot water.

according to local Council regulations detailed in Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Alkanolamines and iron may produced unstable complexes. Monoethanolamine (MEA) and iron form a trisethanolamino-iron complex. This material may spontaneously decompose at temperatures between 130 and 160 degrees C. and is suspected of causing a fire in a nearly empty storage tank containing a "heel" of MEA in contact with carbon steel coils. If steam coil heating is used, low pressure steam in stainless steel coils should be considered. Drum heating should also be reviewed and, where possible, temperatures should be maintained below 130 degrees C.
- DO NOT USE brass or copper containers / stirrers
- DO NOT allow clothing wet with material to stay in contact with skin.
- Read label before use.
- Wash hands thoroughly after handling.
- Avoid release to the environment.
- Wear protective clothing as 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 such as strong acids, bases and oxidizing agents and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.

Suitable Containers:

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

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³
Triethanolamine [102-71-6]		5		

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 2019 11TH 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



Eyes	<p>For amines: SPECIAL PRECAUTION: Because amines are alkaline materials that can cause rapid and severe tissue damage, wearing of contact lenses while working with amines is strongly discouraged. Wearing such lenses can prolong contact of the eye tissue with the amine, thereby causing more severe damage. Appropriate eye protection should be worn whenever amines are handled or whenever there is any possibility of direct contact with liquid products, vapors, or aerosol mists. CAUTION: Ordinary safety glasses or face-shields will not prevent eye irritation from high concentrations of vapour. In operations where positive-pressure, air-supplied breathing apparatus is not required, all persons handling liquid amine catalysts or other polyurethane components in open containers should wear chemical workers safety goggles. Eyewash fountains should be installed, and kept in good working order, wherever amines are used.</p>
Hands	<p>Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber</p>
Skin	<p>Overalls, PVC apron. Barrier Cream and skin cleansing cream</p>
Respiratory	<p>Type AEK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)</p>
General	<p>Ensure there is ready access to a safety shower and eyewash unit.</p>

Section 9 Physical and Chemical Properties

Appearance	liquid; mixes with water.
Colour	Clear, colourless
Odour	Not available
Odour Threshold	Not available
pH	Not available
Boiling Point	100°C
Melting Point	Not available
Freezing Point	Not available
Flash Point	>85°C(TCC)
Flammability	Non Flammable
Upper and Lower Explosive Limits	Not available
Vapour Pressure	< 2kPa
Vapour Density (Air=1)	Not available
Relative Density (Water=1)	1.07
Water Solubility	Miscible
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available
Volatile Component (%vol)	>40

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	Not available
Conditions to Avoid	None known
Incompatible Materials	Avoid strong acids, bases. Avoid contact with copper, aluminium and their alloys. Avoid reaction with oxidising agents
Hazardous Decomposition Products	On combustion, may emit toxic fumes of carbon monoxide (CO).

Section 11 Toxicological Information**Acute Effects:**

Swallowed	Not applicable.
Dermal	Not applicable.
Inhalation	Not triggered however the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Rats exposed to triethanolamine for six hours showed no abnormality. Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful.
Eye	Causes serious eye irritation.
Skin	Causes mild skin irritation. The material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. 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. Skin contact with the material may be harmful; systemic effects may result following absorption.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Not applicable.

Individual component information:**Acute Toxicity:**

Chemical Name	Oral - LD50	Dermal - LD50	Inhalation - LC50
Triethanolamine	5559.6mg/kg (female)(rat)	>18080 mg/kg (rat)	-

TRIETHANOLAMINE

Lachrymation, diarrhoea, convulsions, urinary tract changes, changes in bladder weight, changes in testicular weight, changes in thymus weight, changes in liver weight, dermatitis after systemic exposure, kidney, ureter, bladder tumours recorded. Equivocal tumourigen by RTECS criteria. Dermal rabbit value quoted above is for occluded patch in male or female animals * Union Carbide

Section 12. Ecotoxicological Information

New Zealand: HSNO Classes: 9.2D = Harmful to the soil environment.

Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

Individual component information:

Persistence and degradability		
Ingredient	Persistence: Water/Soil	P
triethanolamine	LOW	LOW

Bioaccumulative potential	
Ingredient	
triethanolamine	LOW (BCF = 4)

Mobility in soil	
Ingredient	
triethanolamine	LOW (KOC = 10)

Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:

Triple rinse and dispose of according to Local Regulations.

Precautions or methods to avoid: Avoid release to the environment.

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 NOT 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 5 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

HSNO Classification: 6.3B, 6.4A, 9.2D

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	Not required
Secondary Containment	Not required
Restriction of Use	Only use for the intended purpose.

Glossary

EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC ₅₀	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD ₅₀	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

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

Issue Date:

14 January 2020

Review Date:

14 January 2025