

1. Identification of Substance & Company

Product

Product nameAMS DeFiantProduct codeAMS DeFiantHSNO approvalHSR002564

Approval description Embalming Products (Flammable, Acutely toxic, Corrosive) Group Standard

2020

UN number 3286

Proper Shipping Name FLAMMABLE LIQUID, TOXIC, CORROSIVE, NOS (contains methanol

/formaldehyde/glutaraldehyde)

DG class 3, 6.1, 8
Packaging group III
Hazchem code 3WE

Uses Embalming fluid

Company Details

Company
Address
SANTER SUPPLIES
18 Faulke Avenue
Wainuiomata
Lower Hutt 5014

Lower Hutt 5014 New Zealand

Website www.santersupplies.com

Emergency Telephone Number: 0800 764 766

2. Hazard Identification

Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002564, Embalming Products (Flammable, Acutely toxic, Corrosive) Group Standard 2020). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

GHS 7 Classes Hazard Statements

Flammable liquid category 3

STOT* single exposure category 3

Skin corrosive category 1C

Eye damage category 1

Mutagen category 2

H226 - Flammable liquid and vapour.

H335 - May cause respiratory irritation.

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage.

H341 - Suspected of causing genetic defects.

Carcinogen category 1 H350 - May cause cancer.

Acute toxicity category 3 (oral) H301 - Toxic if swallowed.

Acute toxicity category 3 (dermal)

Acute toxicity category 4 (inhalation)

H311 - Toxic in contact with skin.

H332 - Harmful if inhaled.

Skin sensitiser category 1 H317 - May cause an allergic skin reaction.

Respiratory sensitiser category 1 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. STOT* repeated exposure category 1 H372 - Causes damage to organs through prolonged or repeated exposure.

*STOT – System Target Organ Toxicity

SYMBOLS

DANGER













Other Classifications

There are no other classifications that are known to apply.

Precautionary Statements

Prevention P102 - Keep out of reach of children.

P103 - Read label before use.

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P210 - Keep away from ignition sources. No smoking.

P233 - Keep container tightly closed.

P240 - Ground/bond container and receiving equipment.

P241 - Use explosion-proof electrical equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P260 - Do not breathe vapours.

P264 - Wash hands thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product. P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves/eye/face protection.

P285 - In case of inadequate ventilation wear respiratory protection.

Response

P101 - If medical advice is needed, have product container or label at hand.

P308+P313 - IF exposed or concerned: Get medical advice/ attention.

P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse

skin with water/shower.

P361 - Remove/Take off immediately all contaminated clothing. P310 - Immediately call a POISON CENTRE or doctor/physician.

P363 - Wash contaminated clothing before reuse.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P304+P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician.

P321 - Specific treatment (see ... <reference to supplemental first aid instruction> on this label).*

P330 - Rinse mouth.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses,

if present and easy to do. Continue rinsing.

P310 - Immediately call a POISON CENTRE or doctor/physician.

Storage P403+P235 - Store in a well-ventilated place. Keep cool.

P405 - Store locked up.

Disposal P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Glutaraldehyde	111-30-8	8.14
Formaldehyde	50-00-0	30.38
Methanol	67-56-1	15.76
Phenol	108-95-2	0.50
Ethylene Glycol	107-21-1	0.50

This is a commercial product whose exact ratio of components may vary slightly. Trace quantities of impurities are also likely.



4. First Aid

General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

Recommended first aid

facilities

Ready access to running water is recommended. Accessible eyewash is

recommended.

Exposure

Swallowed

IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician. Rinse mouth. If conscious, give plenty of water to drink. DO NOT INDUCE vomiting. 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.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE or

doctor/physician.

Skin contact

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a

POISON CENTRE or doctor/physician.

Inhaled

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON

CENTRE or doctor/physician.

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

Fire and explosion hazards:

Vapours may form an explosive mixture in air which can be ignited by many sources such as pilot lights, open flames, electrical motors, switches and static electricity. Carbon dioxide, extinguishing powder, foam.

Suitable extinguishing substances:

Unsuitable extinguishing

substances:

Do not use water jets.

Products of combustion:

Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.

Protective equipment:

Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat

and eye protection. 3WE

Hazchem code:

Accidental Release Measures

Containment

If greater than 1000L is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent

discharge to storm water.

Emergency procedures

In the event of spillage alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately).

Clean-up method

Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers

or waterways has occurred advise local emergency services.

Disposal

Mop up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for

approved landfill. Dispose of only in accord with all regulations.





Precautions

Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.

7. Storage & Handling

Storage

Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10. Location test certificates must be available if storing >500 L (closed > 5 L), 1500 L (closed \leq 5 L), 250 L (open). Containers (and outer packaging) must bear the prescribed labelling, including the Hazchem code, UN number, flammability warning and name of contents.

Handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

8. Exposure Controls / Personal Protective Equipment

Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m³ for respirable particulates and 10mg/m³ for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	Ceiling	WES-STEL
	Glutaraldehyde Formaldehyde Methanol Phenol Ethylene Glycol	- 0.3ppm _(carc 1, dsen) 200ppm, 262mg/m ³ _(skin) 1ppm, 3.8mg/m ³ _(skin)	0.05ppm _(dsen, rsen) 50ppm (127mg/m ³)	- 0.6ppm _(carc 1, dsen) 250ppm, 328mg/m ³ _(skin) 2ppm, 7.7mg/m ³ _(skin)
Biological exposure index	Ingredient	Determinant	Sampling time	BEI
	Methanol Phenol	Methanol in urine Total phenol in urine	End of shift End of shift	15mg/L 100mg/L

Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

Personal Protective Equipment

General

Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate. Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.

Eyes



Protect eyes with goggles, safety glasses or full face mask. Avoid wearing contact lenses. Select eye protection in accordance with AS/NZS 1337.

Skin



Avoid any skin contact. Wear suitable protective clothing, e.g. overalls or aprons, rubber boots and impervious gloves. Nitrile gloves are recommended. Neoprene and latex gloves provide fair to limited protection and can be used for short term use. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with





AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking.



Respiratory



A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. Use a full face respirator with a formaldehyde cartridge. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

Supplied Air respirator should be considered in the event of excessive exposure (e.g. higher than WES).

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance Red liquid Odour Pungent **Odour Threshold** no data рΗ 6.8-7.2 no data Freezing/melting point **Boiling Point** 87.7°C **Flashpoint** 29.4°C **Flammability** no data **Upper & lower flammable limits** no data Vapour pressure no data

Vapour density Heavier than air Specific gravity/density Greater than 1.0 Solubility miscible in water

Partition coefficient no data Auto-ignition temperature no data **Decomposition temperature** no data Viscosity no data **Particle Characteristics** no data

10. Stability & Reactivity

Stability Stable

Conditions to be avoided Flammable substance. Keep away from sources of ignition at all times. Containers

should be kept closed in order to avoid contamination. Strong oxidisers, strong alkalis, strong mineral acids.

Incompatible groups **Substance Specific** none known

Incompatibility

Hazardous decomposition

May form formaldehyde gas, oxides of carbon, hydrocarbons. products

Hazardous reactions none known

11. Toxicological Information

Summary

IF SWALLOWED: toxic if swallowed. May cause burns to the mouth and digestive tract.

IF ON SKIN: toxic in contact with skin, may be absorbed through the skin. May cause allergic skin reactions. Causes severe skin burns.

Page 5 of 9 November 2024

Product Code: AMS DeFiant





IF IN EYES: may cause permanent eye damage, intense pain, redness, swelling and watering. .

IF INHALED: Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms of breathing difficulties if inhaled.

CHRONIC TOXICITY: formalin is a known carcinogen. Exposure may cause damage to kidneys, eyes, central nervous system, liver, heart. Methanol may cause blindness. May cause reproductive/developmental effects.

Supporting Data

Acute Oral Using LD50's for ingredients, the Acute Toxicity Estimate (ATE) (oral) for the mixture

is between 50 and 300 mg/kg. Data considered includes: Glutaraldehyde 50 mg/kg (guinea pig), Formaldehyde 260 mg/kg (Guinea pig), Methanol LD $_{50}$ (oral): 870mg/kg (mouse), 5628mg/kg (rat), 300mg/kg (human), Phenol 100 mg/kg (cat), 282 mg/kg bw (mouse), Ethylene Glycol LD $_{50}$ (oral): 1670 mg/kg bw (cat), 5500mg/kg (dog),

6610mg/kg (guinea pig).

Aspiration This mixture is not considered an aspiration hazard.

DermalNo data for mixture is available. Using LD₅₀'s for ingredients, the calculated LD₅₀

(dermal, rat) for the mixture is between 200 and 1000 mg/kg. Data considered includes: Glutaraldehyde 403.2 mg/kg (rabbit), Formaldehyde 270 mg/kg (rabbit), Methanol LD_{50} (dermal): 15800mg/kg (rabbit), 393 mg/kg bw (primates), Phenol 525

mg/kg bw (rat), Ethylene Glycol LD₅₀ (dermal): 9.53mL/kg (rabbit).

Inhaled No data for mixture is available. Using LC50's for ingredients, the calculated LC50

(inhalation, rat) for the mixture is between 0.5 and 2 mg/L in air for vapour.

Data considered includes: Glutaraldehyde 280 - 390 mg/m³ air (rat) Vapour = 0.28

Data considered includes: Glutaraldehyde 280 - 390 mg/m³ air (rat) Vapour = 0.28-0.39mg/L, Formaldehyde 0.497 mg/l (mouse, vapour), Methanol 64000ppm/4H (rat),

52mg/L/4h (monkey), Phenol 0.117 mg/L (mouse), dust/mist,

Eye The mixture is considered to be corrosive to the eye, because Formaldehyde is

considered to be a eye corrosive.

Skin The mixture is considered to be corrosive to the skin, because Formaldehyde is

considered to be a skin corrosive.

Chronic Sensitisation The mixture is considered to be a contact sensitizer, because Formaldehyde present

in greater than 0.1% is known to be a contact sensitizer. Glutaraldehyde is a known

contact and respiratory sensitiser.

Mutagenicity The mixture is considered to be a suspected mutagen, because at least one of the

ingredients (Formaldehyde) present in greater than 0.1% is suspected to be a

mutagen.

Carcinogenicity The mixture is considered to be a known or presumed carcinogen, because at least

one of the ingredients (Formaldehyde) present in greater than 0.1% is known or presumed to be a carcinogen. (IARC). Phenol is not classifiable as to its

carcinogenicity to humans (Group 3).

Reproductive / This mixture is considered a reproductive/developmental toxicant (methanol, phenol). **Developmental** Animal studies have shown that exposure to methanol may affect offspring, e.g.

increased fetal deaths, reduced fetal weight and fetal malformations.

Animal studies have shown that exposure to phenol may reduce fetal weight and litter

Animal studies have shown that exposure to phenor may reduce letal weight and little

numbers. Phenol is a suspected reproductive and developmental toxicant.

Systemic The mixture is considered to be a known or presumed target organ toxicant, because

at Formaldehyde and Methanol present in greater than 1% are known or presumed to be a target organ toxicant. The mixture is highly irritating to the upper respiratory tract. May cause inflammation of the lining of the nose, throat and lungs, with bronchopneumonia nd edema possible from extremely irritating exposure. Prolonged inhalation of high concentrations may cause central nervous system depression.

Chronic overexposure to methanol may cause eye damage in humans.

None known.

Aggravation of existing conditions

12. Ecological Data

Summary

This mixture is not considered ecotoxic towards aquatic organisms, very toxic in the soil environment and toxic towards terrestrial vertebrates. In all cases prevent run-off to drains, sewers and waterways.

Supporting Data

Aquatic

Using EC₅₀'s for ingredients, the calculated EC₅₀ for the mixture is > 1 mg/L. Data considered includes: Glutaraldehyde 0.35 mg/l (48 hr), Daphnia Magna, 0.61 mg/l (72hr) Algae, 3.5 mg/l (96hr) Rainbow trout, Formaldehyde 4.960mg/L (96hr, Channel

Page 6 of 9 November 2024

Product Code: AMS DeFiant





catfish), 40 mg/L (48hr, daphnia magna), , Methanol >100mg/L, Phenol 8.9 mg/l (96hr, Oncorhynchus mykiss), 3.1 mg/l (48hr, Ceriodaphnia dubia), 150 mg/l (96hr,

Selenastrum capricornutum (Algae))

Bioaccumulation Formaldehyde and methanol are not bioaccummulative.

Degradability Formaldehyde degrades rapidly.

The mixture may be toxic to the soil environment, with an estimated soil ecotoxicity Soil

value between 1 and 10 mg/kg.

Terrestrial vertebrate This product is considered toxic terrestrial vertebrates. No LC50 (diet) data for

ingredients are available and the classification is based on the LD50 (oral) - see

section 11 - oral toxicity.

Terrestrial invertebrate

The mixture is not considered harmful to terrestrial invertebrates.

Biocidal no data

13. Disposal Considerations

Restrictions There are no product-specific restrictions, however, local council and resource consent

conditions may apply, including requirements of trade waste consents.

Disposal method Disposal of this product must comply with the Hazardous Substances (Disposal) Notice

2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore

rendered non-hazardous before discharge to the environment.

Contaminated packaging Disposal of contaminated packaging must comply with the Hazardous Substances

(Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible

reuse or recycle packaging.

14. Transport Information

Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

UN number: 3286 Proper shipping name: **FLAMMABLE** LIQUID, TOXIC. (contains CORROSIVE. NOS

methanol/formaldehyde/glutaraldhyde

Class(es) Packing group: Ш Precautions: Flammable liquid Hazchem code: 3WE

IMDG

UN number: 3286 Proper shipping name: **FLAMMABLE** LIQUID. TOXIC.

CORROSIVE, NOS (contains methanol/formaldehyde/glutaraldhyde

Class(es) Packing group: Ш Precautions: Flammable liquid **EmS**

F-E, S-D

IATA

UN number: 3286 Proper shipping name: **FLAMMABLE** LIQUID. TOXIC.

> CORROSIVE, NOS (contains

methanol/formaldehyde/glutaraldhyde

Ш

Class(es) Packing group:

Precautions: Flammable liquid



15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002564, Embalming Products (Flammable, Acutely toxic, Corrosive) Group Standard 2020. All ingredients appear on the New Zealand Inventory of Chemicals NZIoC.

Specific Controls

Key workplace requirements are:

SDS To be available within 10 minutes in workplaces storing any *quantity*.

Inventory An inventory of all hazardous substances must be prepared and maintated Packaging All hazardous substances should be appropriately *packaged includin*

manufactured for own use or have been supplied

Labelling Must comply with the Hazardous Substances (Labelling) Notice 2017.

Emergency plan Required if > 1000L is stored.

Certified handler Required if > not required is handled or stored.

Tracking This substance is required to be tracked if > not required is present.

Bunding & secondary containment Required if > 1000L is stored.

Signage Required if > 1000L is stored.

Location compliance certificate Required if > 500 L (closed > 5 L)

1500 L (closed \leq 5 L) 250 L (open) is stored.

Flammable zone Must be established if > 100 L (closed containers)

25 L (decanting) 5 L (open occasionally)

1 L (open containers in continuous use) is stored.

If > 500L present.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

Other Legislation

Fire extinguisher

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

16. Other Information

Abbreviations

CAS Number

Approval Code

Approval HSR002564, Embalming Products (Flammable, Acutely toxic, Corrosive)

Group Standard 2020 Controls, EPA. www.epa.govt.nz Unique Chemical Abstracts Service Registry Number

ECotoxic Concentration 50% – concentration in water which is fatal to 50% of a test

population (e.g. daphnia, fish species)

EPA Environmental Protection Authority (New Zealand)

Globally Harmonised System of Classification and Labelling of Chemicals, 7th revised

edition, 2017, published by the United Nations.

HAZCHEM Code Emergency action code of numbers and letters that provide information to emergency

services, especially fire fighters

HSNO Hazardous Substances and New Organisms (Act and Regulations)

International Agency for Research on Cancer

LEL Lower Explosive Limit

LD₅₀ Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).

LC₅₀ Lethal Concentration 50% − concentration in air which is fatal to 50% of a test population

(usually rats)

NZIoC New Zealand Inventory of Chemicals

STEL Short Term Exposure Limit - The maximum airborne concentration of a chemical or

biological agent to which a worker may be exposed in any 15 minute period, provided

the TWA is not exceeded

Page 8 of 9 November 2024

Product Code: AMS DeFiant



STOT RESystem Target Organ Toxicity – Repeated Exposure
STOT SE
System Target Organ Toxicity – Single Exposure

TWA Time Weighted Average – generally referred to WES averaged over typical work day

(usually 8 hours)

UELÜpper Explosive LimitUN NumberUnited Nations Number

WES Workplace Exposure Standard - The airborne concentration of a biological or chemical

agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring

using procedures that gather air samples in the worker's breathing zone.

References

Unless otherwise stated comes from the EPA HSNO chemical classification information

database (CCID).

Controls EPA notices, www.epa.govt.nz, Health and Safety at Work (Hazardous Substances)

Regulations 2017, www.legislation.govt.nz

WES The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available

on their web site – www.worksafe.govt.nz.

Other References: Suppliers SDS

Review

Date Reason for review

November 2024 Not applicable - New SDS

Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email info@datachem.co.nz or phone: +64 21 1040951.

