

Product Name: SATINTEX 18 ARTERIAL EMBALMING FLUID

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

SATINTEX 18 ARTERIAL EMBALMING FLUID

Synonyms

SATINTEX 18

Product Use

Funeral Home Embalming Products.

Restrictions on Use

This product should only be used by Licensed Embalmers.

Details of the supplier of the safety data sheet

Dr. G.H. Michel - Restor-Skin Company

PO Box 337

202 Sixth Street

East Brady, PA 16028

Phone: 1-800-635-3403

Emergency Phone #: 1-724-526-3565 E-mail: fourcogs16028@yahoo.com

Product Code

Product Size(s): 16 oz. Bottles

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.

Flammable Liquids - Category 4

Acute Toxicity - Oral - Category 4

Acute Toxicity - Dermal - Category 3

Acute Toxicity - Inhalation - Vapor - Category 1

Skin Corrosion/Irritation - Category 1

Serious Eye Damage/Eye Irritation - Category 1

Respiratory Sensitization - Category 1A

Skin Sensitization - Category 1A

Germ Cell Mutagenicity - Category 1A

Carcinogenicity - Category 1A

Reproductive Toxicity - Category 1A

Specific Target Organ Toxicity - Single Exposure - Category 1 (Central Nervous System , nervous system ,

respiratory system, heart, kidneys, body, optic nerve, retina, systemic toxicity, eyes)

Specific Target Organ Toxicity - Single Exposure - Category 2

Specific Target Organ Toxicity - Single Exposure - Category 3 (respiratory system)

Specific Target Organ Toxicity - Repeated Exposure - Category 1 (Central Nervous System, respiratory

system, heart, kidneys, eyes, retina)

Specific Target Organ Toxicity - Repeated Exposure - Category 2

Hazardous to the Aquatic Environment - Acute - Category 2

Hazardous to the Aquatic Environment - Chronic - Category 2

GHS Label Elements Symbol(s)



Signal Word

Danger

Hazard Statement(s)

Combustible liquid.

Harmful if swallowed.

Toxic in contact with skin.

Fatal if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

May damage fertility or the unborn child.

Causes damage to organs.

May cause damage to organs.

May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure.

May cause damage to organs through prolonged or repeated exposure.

Toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

Prevention

Obtain special instructions before use.

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

Keep away from heat/sparks/open flame/hot surfaces - No smoking.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear respiratory protection.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Do not eat, drink or smoke when using this product.

Avoid release to the environment.

Response

In case of fire: Use appropriate media to extinguish.

Immediately call a POISON CENTER or doctor.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Wash contaminated clothing before reuse.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Collect spillage.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Statement(s) of Unknown Acute Toxicity

54.886% of the mixture consists of ingredient(s) of unknown acute toxicity.

Other Hazards

None known.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
50-00-0	Formaldehyde	10-20
107-21-1	Ethylene glycol	10-15
25322-58-3	Polyethylene glycol	10-15
111-30-8	Glutaraldehyde	1-10
67-56-1	Methyl alcohol	1-10
57-55-6	1,2 Propanediol	1-10

The chemical identity and/or percentage of composition is being withheld as a trade secret.

Section 4 - FIRST AID MEASURES

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER.

Skin

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

Eyes

IF IN EYES: Flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor.

Most Important Symptoms/Effects

Acute

Toxic if swallowed or in contact with skin. Fatal if inhaled. Causes severe skin burns and eye damage. May cause allergic or asthmatic symptoms or breathing difficulties if inhaled. May cause allergic skin reactions. May cause respiratory irritation. central nervous system damage, nervous system damage, respiratory system damage, heart damage, kidney damage, optic nerve damage, retina damage, systemic toxicity, eye damage, damage to body

Delayed

May produce an allergic reaction. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. central nervous system damage, respiratory system damage, eye damage, kidney damage, retina damage

Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical, water spray, alcohol-resistant foam

Unsuitable Extinguishing Media

Do not use water jet.

Special Hazards Arising from the Chemical

Combustible liquid.

Hazardous Combustion Products

Oxides of carbon, formaldehyde gas

Page 3 of 13 Issue date: 2018-05-17 Revision 2.0 Print date: 2018-10-04

Fire Fighting Measures

Move container from fire area if it can be done without risk. Dike far ahead of liquid spill for collection and later disposal. Do not scatter spilled material with extinguishing agent. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside container. Cool containers with water spray until well after the fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. ALWAYS stay away from tanks engulfed in fire. Avoid inhalation of material or combustion by-products.

Special Protective Equipment and Precautions for Firefighters

Wear personal protective clothing and equipment such as self-contained breathing apparatus (SCBA) for protection against possible exposure.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8.

Methods and Materials for Containment and Cleaning Up

Eliminate all sources of ignition. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if safe to do so. Prevent entry into waterways, sewers, basements, or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to container.

Environmental Precautions

Collect spillage. Avoid release to the environment.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Keep away from heat/sparks/open flame/hot surfaces - No smoking. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection. Do not breathe vapor or mist. Wash thoroughly after handling. Wear respiratory protection. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Do not allow product to evaporate to dryness.

Conditions for Safe Storage, Including any Incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.

Store locked up.

Further information on storage conditions: Keep away from heat, sparks, open flame and other ignition sources. Keep away from incompatible materials.

Incompatible Materials

Strong acid

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Formaldehyde	50-00-0
ACGIH:	0.3 ppm Ceiling
NIOSH:	0.016 ppm TWA
	0.1 ppm Ceiling 15 min
	20 ppm IDLH
OSHA (US):	0.75 ppm TWA

	2 ppm STEL (See 29 CFR 1910.1048) 15 min; 0.5 ppm Action Level (See 29 CFR 1910.1048); 0.75 ppm TWA (See 29 CFR 1910.1048)	
	2 ppm STEL (see 29 CFR 1910.1048)	
Mexico:	2 ppm Ceiling ; 3 mg/m3 Ceiling	
Ethylene glycol	107-21-1	
ACGIH:	100 mg/m3 Ceiling aerosol only	
Europe:	20 ppm TWA ; 52 mg/m3 TWA	
	Possibility of significant uptake through the skin	
	40 ppm STEL ; 104 mg/m3 STEL	
Mexico:	100 mg/m3 Ceiling aerosol	
Glutaraldehyde	111-30-8	
ACGIH:	0.05 ppm Ceiling (activated and inactivated)	
NIOSH:	0.2 ppm Ceiling ; 0.8 mg/m3 Ceiling	
Mexico:	0.2 ppm Ceiling ; 0.7 mg/m3 Ceiling	
Methyl alcohol	67-56-1	
ACGIH:	200 ppm TWA	
	250 ppm STEL	
	Skin - potential significant contribution to overall exposure by the cutaneous route	
NIOSH:	200 ppm TWA ; 260 mg/m3 TWA	
	250 ppm STEL ; 325 mg/m3 STEL	
	Potential for dermal absorption	
	6000 ppm IDLH	
Europe:	200 ppm TWA ; 260 mg/m3 TWA	
	Possibility of significant uptake through the skin	
OSHA (US):	200 ppm TWA ; 260 mg/m3 TWA	
Mexico:	200 ppm TWA VLE-PPT ; 260 mg/m3 TWA VLE-PPT	
	250 ppm STEL [PPT-CT]; 310 mg/m3 STEL [PPT-CT]	
	Skin - potential for cutaneous absorption	

 $EU - Occupational \ Exposure \ (98/24/EC) - Binding \ Biological \ Limit \ Values \ and \ Health \ Surveillance \ Measures$ There are no biological limit values for any of this product's components.

Page 5 of 13 Issue date: 2018-05-17 Revision 2.0 Print date: 2018-10-04

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI) Methyl alcohol (67-56-1)

15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)

Engineering Controls

Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment Eye/face protection

Wear chemical safety goggles with a face shield or chemical splash hood. Eye wash fountain and emergency showers are recommended.

Skin Protection

Wear appropriate chemical resistant clothing.

Respiratory Protection

Respiratory protection is required for not sufficiently ventilated working places and during the spraying processing.

Glove Recommendations

Wear appropriate chemical resistant gloves: neoprene, rubber gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Med. red clear liquid	Physical State	liquid
Odor	Formaldehyde	Color	Med , red , clear
Odor Threshold	Not available	рН	Not available
Melting Point	Not available	Boiling Point	100 °C (212 °F)
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not available
Autoignition Temperature	Not available	Flash Point	69 °C (156.2 °F)
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	Not available
Water Solubility	100% (Soluble)	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Solubility (Other)	Not available
Density	Not available	Molecular Weight	Not available

Other Information

No additional information is available.

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable under normal temperatures and pressures.

Page 6 of 13 Issue date: 2018-05-17 Revision 2.0 Print date: 2018-10-04

Possibility of Hazardous Reactions

Hazardous polymerization is not expected to occur.

Conditions to Avoid

Keep away from heat, sparks, open flame and other ignition sources. Keep away from incompatible materials.

Incompatible Materials

Strong acid,

Hazardous decomposition products

Oxides of carbon, formaldehyde gas

Section 11 - TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation

Fatal if inhaled. May cause respiratory irritation. May cause an allergic reaction. May cause damage to organs if inhaled.

Skin Contact

May cause allergic reaction. Toxic in contact with skin. Causes skin burns. Prolonged skin contact with dry particulate may cause drying of the skin.

Eye Contact

Causes serious eye damage.

Ingestion

Toxic if swallowed. Causes damage to organs if swallowed.

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Formaldehyde (50-00-0)

Oral LD50 Rat 100 mg/kg

Dermal LD50 Rabbit 270 mg/kg

Inhalation LC50 Rat 0.578 mg/L 4 h

Polyethylene glycol (25322-68-3)

Oral LD50 Rat 22 g/kg

Dermal LD50 Rabbit >20 mL/kg

Ethylene glycol (107-21-1)

Oral LD50 Rat 4700 mg/kg

Dermal LD50 Rat 10600 mg/kg

Glutaraldehyde (111-30-8)

Oral LD50 Rat 252 mg/kg

Dermal LD50 Rabbit 560 µL/kg

Inhalation LC50 Rat 24 - 5000 ppm 4 h

Methyl alcohol (67-56-1)

Oral LD50 Rat 6200 mg/kg

Inhalation LC50 Rat 22500 ppm 8 h

1,2-Propanediol (57-55-6)

Oral LD50 Rat 20 g/kg

Dermal LD50 Rabbit 20800 mg/kg

Water (7732-18-5)

Oral LD50 Rat >90 mL/kg

Product Toxicity Data

Acute Toxicity Estimate

Dermal	807.9979 mg/kg
Inhalation - Vapor	0.4649 mg/L
Oral	478.5705 mg/kg

Immediate Effects

Toxic if swallowed or in contact with skin. Fatal if inhaled. Causes severe skin burns and eye damage. May cause allergic or asthmatic symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. May cause respiratory irritation, central nervous system damage, nervous system damage, respiratory system damage, heart damage, kidney damage, optic nerve damage, retina damage, eye damage, systemic toxicity, damage to body

Delayed Effects

May produce an allergic reaction. May cause genetic defects. May cause cancer. May damage fertility or the unborn child, central nervous system damage, respiratory system damage, heart damage, kidney damage, eye damage, retina damage

Irritation/Corrosivity Data

Causes severe skin burn and eye damage. May cause respiratory irritation.

Respiratory Sensitization

May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.

Dermal Sensitization

May cause allergic skin reaction.

Component Carcinogenicity

Formaldehyde	50-00-0
ACGIH:	A2 - Suspected Human Carcinogen
IARC:	Monograph 100F [2012]; Monograph 88 [2006]; Monograph 62 [1995]; Supplement 7 [1987] (Group 1 (carcinogenic to humans))
NTP:	Known Human Carcinogen
DFG:	Category 4 (no significant contribution to human cancer)
OSHA:	Present
OSHA:	see 29 CFR 1910.1048
NIOSH:	potential occupational carcinogen
Ethylene glycol	107-21-1
ACGIH:	A4 - Not Classifiable as a Human Carcinogen
Glutaraldehyde	111-30-8
ACGIH:	A4 - Not Classifiable as a Human Carcinogen (activated and inactivated)
DFG:	Category 4 (no significant contribution to human cancer)

May cause cancer.

Germ Cell Mutagenicity

May cause genetic defects.

Tumorigenic Data

No data available

Reproductive Toxicity

May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Central Nervous System, nervous system, respiratory system, heart, kidney, body, optic nerve, retina, eyes, systemic toxicity

Specific Target Organ Toxicity - Repeated Exposure

Central nervous system, respiratory system, heart, kidney, eyes, retina

Page 8 of 13	Issue date: 2018-05-17 Revision 2.0	Print date: 2018-10-04

Aspiration hazard

No data available for this product.

Medical Conditions Aggravated by Exposure

No data available.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

Formaldehyde 50-00-0 Fish:	•	To an a
Fish: Istatic LC50 96 h Brachydanio rerio 41 mg/L static LC50 96 h Oncorhynchus mykiss 0.032 - 0.226 mL/L [flow-through LC50 96 h Oncorhynchus mykiss 100 - 136 mg/L [static LC50 96 h Pimephales promelas 23.2 - 29.7 mg/L [static EPA] Invertebrate: LC50 48 h Daphnia magna 2 mg/L IUCLID ; EC50 48 h Daphnia magna 11.3 - 18 mg/L [static EPA] Ethylene 107-21-1 LC50 96 h Oncorhynchus mykiss 41000 mg/L LC50 96 h Oncorhynchus mykiss 40761 mg/L [static LC50 96 h Oncorhynchus mykiss 40761 mg/L [static LC50 96 h Oncorhynchus mykiss 40761 mg/L [static LC50 96 h Poecilia reticulata 16000 mg/L [static LC50 96 h Oncorhynchus mykiss 2.6 - 4.8 mg/L [static LC50 96 h Oncorhynchus mykiss 7.8 - 13 mg/L [static LC50 96 h Pimephales promelas 5.4 mg/L [static LC50 96 h Pimephales promelas 5.4 mg/L [static LC50 96 h Desmodesmus subspicatus 0.84 mg/L [static LC50 96 h Pimephales promelas 5.4 mg/L [static LC50 96 h Pimep	Formaldehyde	50-00-0
Ethylene glycol LC50 96 h Oncorhynchus mykiss 41000 mg/L; LC50 96 h Oncorhynchus mykiss 14 - 18 mL/L [static]; LC50 96 h Lepomis macrochirus 27540 mg/L [static]; LC50 96 h Oncorhynchus mykiss 40761 mg/L [static]; LC50 96 h Pimephales promelas 40000 - 60000 mg/L [static]; LC50 96 h Poecilia reticulata 16000 mg/L [static]] Algae: EC50 96 h Pseudokirchneriella subcapitata 6500 - 13000 mg/L IUCLID Invertebrate: EC50 48 h Daphnia magna 46300 mg/L IUCLID Glutaraldehyde 111-30-8 LC50 96 h Lepomis macrochirus 7.8 - 22 mg/L [static]; LC50 96 h Oncorhynchus mykiss 2.6 - 4.8 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 7.8 - 13 mg/L [static]; LC50 96 h Pimephales promelas 5.4 mg/L [static] Algae: EC50 72 h Desmodesmus subspicatus 0.61 mg/L IUCLID; EC50 96 h Desmodesmus subspicatus 0.84 mg/L [UCLID] Invertebrate: EC50 48 h Daphnia magna 14 mg/L IUCLID; EC50 48 h Daphnia magna 0.56 - 1 mg/L [Static] EPA Methyl alcohol 67-56-1 ELC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through]] 1,2- Propanediol 57-55-6 Fish: LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L Algae: EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID	Fish:	[static]; LC50 96 h Brachydanio rerio 41 mg/L [static]; LC50 96 h Oncorhynchus mykiss 0.032 - 0.226 mL/L [flow-through]; LC50 96 h Oncorhynchus mykiss 100 - 136 mg/L [static]; LC50 96 h Pimephales promelas
EC50 96 h Oncorhynchus mykiss 41000 mg/L; LC50 96 h Oncorhynchus mykiss 14 - 18 mL/L [static]; LC50 96 h Lepomis macrochirus 27540 mg/L [static]; LC50 96 h Oncorhynchus mykiss 40761 mg/L [static]; LC50 96 h Pimephales promelas 40000 - 60000 mg/L [static]; LC50 96 h Poecilia reticulata 16000 mg/L [static] Algae: EC50 96 h Pseudokirchneriella subcapitata 6500 - 13000 mg/L IUCLID	Invertebrate:	LC50 48 h Daphnia magna 2 mg/L IUCLID ; EC50 48 h Daphnia magna 11.3 - 18 mg/L [Static] EPA
Fish: 96 h Lepomis macrochirus 27540 mg/L [static]; LC50 96 h Oncorhynchus mykiss 40761 mg/L [static]; LC50 96 h Poecilia reticulata 16000 mg/L [static] Algae: EC50 96 h Pseudokirchneriella subcapitata 6500 - 13000 mg/L IUCLID Invertebrate: EC50 48 h Daphnia magna 46300 mg/L IUCLID Glutaraldehyde I11-30-8 LC50 96 h Lepomis macrochirus 7.8 - 22 mg/L [static]; LC50 96 h Oncorhynchus mykiss 2.6 - 4.8 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 7.8 - 13 mg/L [static]; LC50 96 h Pimephales promelas 5.4 mg/L [static] Algae: EC50 72 h Desmodesmus subspicatus 0.61 mg/L IUCLID; EC50 96 h Desmodesmus subspicatus 0.84 mg/L IUCLID Invertebrate: EC50 48 h Daphnia magna 14 mg/L IUCLID; EC50 48 h Daphnia magna 0.56 - 1 mg/L [Static] EPA Methyl alcohol 67-56-1 Fish: LC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through] 1,2-Propanediol 57-55-6 Fish: LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L Algae: EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID	-	107-21-1
Invertebrate: EC50 48 h Daphnia magna 46300 mg/L IUCLID Glutaraldehyde 111-30-8 LC50 96 h Lepomis macrochirus 7.8 - 22 mg/L [static]; LC50 96 h Oncorhynchus mykiss 2.6 - 4.8 mg/L [flowthrough]; LC50 96 h Oncorhynchus mykiss 7.8 - 13 mg/L [static]; LC50 96 h Pimephales promelas 5.4 mg/L [static]] Algae: EC50 72 h Desmodesmus subspicatus 0.61 mg/L IUCLID; EC50 96 h Desmodesmus subspicatus 0.84 mg/L IUCLID Invertebrate: EC50 48 h Daphnia magna 14 mg/L IUCLID; EC50 48 h Daphnia magna 0.56 - 1 mg/L [Static] EPA Methyl alcohol 67-56-1 LC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through]] 1,2- Propanediol 57-55-6 Fish: LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L Algae: EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID	Fish:	96 h Lepomis macrochirus 27540 mg/L [static]; LC50 96 h Oncorhynchus mykiss 40761 mg/L [static]; LC50
Glutaraldehyde 111-30-8	Algae:	EC50 96 h Pseudokirchneriella subcapitata 6500 - 13000 mg/L IUCLID
Fish: LC50 96 h Lepomis macrochirus 7.8 - 22 mg/L [static]; LC50 96 h Oncorhynchus mykiss 2.6 - 4.8 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 7.8 - 13 mg/L [static]; LC50 96 h Pimephales promelas 5.4 mg/L [static] Algae: EC50 72 h Desmodesmus subspicatus 0.61 mg/L IUCLID; EC50 96 h Desmodesmus subspicatus 0.84 mg/L IUCLID Invertebrate: EC50 48 h Daphnia magna 14 mg/L IUCLID; EC50 48 h Daphnia magna 0.56 - 1 mg/L [Static] EPA Methyl alcohol 67-56-1 LC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through] 1,2- Propanediol Fish: LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L Algae: EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID	Invertebrate:	EC50 48 h Daphnia magna 46300 mg/L IUCLID
Fish: through]; LC50 96 h Oncorhynchus mykiss 7.8 - 13 mg/L [static]; LC50 96 h Pimephales promelas 5.4 mg/L [static] Algae: EC50 72 h Desmodesmus subspicatus 0.61 mg/L IUCLID ; EC50 96 h Desmodesmus subspicatus 0.84 mg/L IUCLID Invertebrate: EC50 48 h Daphnia magna 14 mg/L IUCLID ; EC50 48 h Daphnia magna 0.56 - 1 mg/L [Static] EPA Methyl alcohol 67-56-1 LC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through] 1,2- Propanediol 57-55-6 Fish: LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 710 mg/L Algae: EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID	Glutaraldehyde	111-30-8
Invertebrate: EC50 48 h Daphnia magna 14 mg/L IUCLID; EC50 48 h Daphnia magna 0.56 - 1 mg/L [Static] EPA Methyl alcohol 67-56-1 LC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through] 1,2- Propanediol 57-55-6 Fish: LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L Algae: EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID	Fish:	through]; LC50 96 h Oncorhynchus mykiss 7.8 - 13 mg/L [static]; LC50 96 h Pimephales promelas 5.4 mg/L
Methyl alcohol C50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through] 1,2-Propanediol	Algae:	· · · · · · · · · · · · · · · · · · ·
LC50 96 h Pimephales promelas 28200 mg/L [flow-through]; LC50 96 h Pimephales promelas >100 mg/L [static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through]	Invertebrate:	EC50 48 h Daphnia magna 14 mg/L IUCLID ; EC50 48 h Daphnia magna 0.56 - 1 mg/L [Static] EPA
Fish: [static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus mykiss 18 - 20 mL/L [static]; LC50 96 h Lepomis macrochirus 13500 - 17600 mg/L [flow-through] 1,2- Propanediol 57-55-6 LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L Algae: EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID	Methyl alcohol	67-56-1
Propanediol Fish: LC50 96 h Oncorhynchus mykiss 51600 mg/L [static]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static]; LC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L Algae: EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID	Fish:	[static]; LC50 96 h Oncorhynchus mykiss 19500 - 20700 mg/L [flow-through]; LC50 96 h Oncorhynchus
Algae: EC50 96 h Pimephales promelas 51400 mg/L [static]; LC50 96 h Pimephales promelas 710 mg/L EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID		57-55-6
	Fish:	
Invertebrate: EC50 48 h Daphnia magna >1000 mg/L [Static] EPA	Algae:	EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID
<u> </u>	Invertebrate:	EC50 48 h Daphnia magna >1000 mg/L [Static] EPA

Persistence and Degradability

No information available for the product.

Bioaccumulative Potential

No information available for the product.

Page 9 of 13 Issue date: 2018-05-17 Revision 2.0 Print date: 2018-10-04

Mobility

No information available for the product.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with federal, state, provincial, and local regulations. The responsibility for proper waste disposal lies with the owner of the waste. Hazardous Waste Number(s): D002.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components

Section 14 - TRANSPORT INFORMATION

US DOT Information:

Shipping Name: CORROSIVE LIQUIDS, TOXIC, N.O.S., (Contains: FORMALDEHYDE, GLUTARALDEHYDE)

Hazard Class: 8 UN/NA #: UN2922 Packing Group: III Required Label(s): 8, 6.1

Additional information: (MARINE POLLUTANT)

IATA Information:

Shipping Name: CORROSIVE LIQUID, TOXIC, N.O.S., (Contains: FORMALDEHYDE, GLUTARALDEHYDE)

Hazard Class: 8 UN#: UN2922 Packing Group: III Required Label(s): 8, 6.1

Additional information: (MARINE POLLUTANT)

ICAO Information:

Shipping Name: CORROSIVE LIQUID, TOXIC, N.O.S., (Contains: FORMALDEHYDE, GLUTARALDEHYDE)

Hazard Class: 8 UN#: UN2922 Packing Group: III Required Label(s): 8, 6.1

Additional information: (MARINE POLLUTANT)

IMDG Information:

Shipping Name: CORROSIVE LIQUID, TOXIC, N.O.S., (Contains: FORMALDEHYDE, GLUTARALDEHYDE)

Hazard Class: 8 UN#: UN2922 Packing Group: III Required Label(s): 8, 6.1

Additional information: (MARINE POLLUTANT)

TDG Information:

Shipping Name: CORROSIVE LIQUID, TOXIC, N.O.S., (Contains: FORMALDEHYDE, GLUTARALDEHYDE)

Hazard Class: 8 UN#: UN2922 Packing Group: III Required Label(s): 8, 6.1

Additional information: (MARINE POLLUTANT)

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Formaldehyde	50-00-0
SARA 302:	500 lb TPQ
SARA 313:	0.1 % de minimis concentration
CERCLA:	100 lb final RQ; 45.4 kg final RQ
OSHA (safety):	1000 lb TQ
SARA 304:	100 lb EPCRA RQ
Ethylene glycol	107-21-1
SARA 313:	1 % de minimis concentration
CERCLA:	5000 lb final RQ ; 2270 kg final RQ
Methyl alcohol	67-56-1
SARA 313:	1 % de minimis concentration
CERCLA:	5000 lb final RQ; 2270 kg final RQ

SARA Section 311/312 (40 CFR 370 Subparts B and C)

Acute Health: Yes Chronic Health: Yes Fire: Yes Reactivity: No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Formaldehyde	50-00-0	Yes	Yes	Yes	Yes	Yes
Polyethylene glycol	25322-68-3	No	No	Yes	No	No
Ethylene glycol	107-21-1	Yes	Yes	Yes	Yes	Yes
Glutaraldehyde	111-30-8	Yes	Yes	Yes	Yes	Yes
Methyl alcohol	67-56-1	Yes	Yes	Yes	Yes	Yes
1,2-Propanediol	57-55-6	No	No	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects

Formaldehyde	50-00-0
Carc:	carcinogen , 1/1/1988 (gas)
Ethylene glycol	107-21-1

Page 11 of 13 Issue date: 2018-05-17 Revision 2.0 Print date: 2018-10-04

Repro/Dev. Tox	developmental toxicity, 6/19/2015 (ingested)	
Methyl alcohol	67-56-1	
Repro/Dev. Tox	developmental toxicity, 3/16/2012	

Canada Regulations

Canadian WHMIS Ingredient Disclosure List (IDL)

Components of this material have been checked against the Canadian WHMIS Ingredients Disclosure List. The List is composed of chemicals which must be identified on MSDSs if they are included in products which meet WHMIS criteria specified in the Controlled Products Regulations and are present above the threshold limits listed on the IDL

Formaldehyde	50-00-0	0.1 %
Methyl alcohol	67-56-1	1 %
1,2-Propanediol	57-55-6	1 %
Glutaraldehyde	111-30-8	1 %
Ethylene glycol	107-21-1	1 %

Component Analysis - Inventory

Formaldehyde (50-00-0)

US	CA	EU	AU	РН		JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR -REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

Polyethylene glycol (25322-68-3)

US	CA	EU	AU	РН	0.2		KR KECI - Annex 1	KR KECI - Annex 2	KR -REACH CCA	CN	NZ	MX	TW
Yes	DSL	No	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Yes

Ethylene glycol (107-21-1)

US	CA	EU	AU	РН	0.2	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR -REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes

Glutaraldehyde (111-30-8)

US	CA	EU	AU	PH		JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR -REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes

Methyl alcohol (67-56-1)

US	CA	EU	AU	РН		JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR -REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes

1,2-Propanediol (57-55-6)

US	CA	EU	AU	РН	l	JP - ISHL	KR KECI - Annex 1	KR KECI - Annex 2	KR -REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes

Water (7732-18-5)

US	CA	EU	AU	РН		JP - ISHL	KR KECI - Annex 1		KR-REACH CCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	No	No	Yes	No	No	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

NFPA Ratings

Health: 3 Fire: 2 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Summary of Changes

New SDS: April 28, 2016 / SDS Update Rev 1: October 10, 2016 / SDS Update Rev 2: May 17, 2018

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA -California/Massachusetts/Minnesota/New Jersey/Pennsylvania*; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations (US); CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP -Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH -Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KECI - Korea Existing Chemicals Inventory; KECL - Korea Existing Chemicals List; KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of ListsTM - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL -Maximum Exposure Limits; MX - Mexico; NDSL - Non-Domestic Substance List (Canada); NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorization, and restriction of Chemicals; RID - European Rail Transport; SARA -Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); WHMIS - Workplace Hazardous Materials Information System (Canada).

Other Information

Disclaimer:

Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights.

Page 13 of 13 Issue date: 2018-05-17 Revision 2.0 Print date: 2018-10-04