

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: Buffered Zinc Formalin

Product Code: BFZ0115; BFZ0230; BFZ0460; BFZ0507; BFZ0507B; BFZ-1; BFZ-5

Synonyms: Buffered Zinc Formalin, Zinc Formalin

Intended Use of the Product

Tissue Fixation. For professional use only.

Name, Address, and Telephone of the Responsible Party

Company

StatLab Medical Products

2090 Commerce Drive

McKinney, TX 75069

800-442-3573

Fax 972-436-1369

www.statlab.com

Tech@statlab.com

Emergency Telephone Number

Emergency Number : CHEMTREC 800-424-9300 (USA & Canada)

CHEMTREC 703-527-3887 (International)

Non-transport 972-436-1010 (USA)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS-US/CA Classification

Acute Toxicity 4 (Oral) H302

Acute Toxicity 4 (Inhalation:gas) H332

Skin Irritation 2 H315

Eye Damage 1 H318

Skin Sensitization 1 H317

Germ Cell Mutagenicity 2 H341

Carcinogenicity 1A H350

Aquatic Acute 2 H401

Aquatic Chronic 2 H411

Full text of hazard classes and H-statements : see section 16

Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :



Signal Word (GHS-US/CA) :

Danger

Hazard Statements (GHS-US/CA) :

H302+H332 - Harmful if swallowed or if inhaled.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H318 - Causes serious eye damage.
 H341 - Suspected of causing genetic defects.
 H350 - May cause cancer.

Buffered Zinc Formalin

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Precautionary Statements (GHS-US/CA) :

- H401 - Toxic to aquatic life.
- H411 - Toxic to aquatic life with long lasting effects.
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P261 - Avoid breathing vapors, mist, or spray.
- P264 - Wash hands, forearms, and other exposed areas 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.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves, protective clothing, and eye protection.
- P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
- P302+P352 - IF ON SKIN: Wash with plenty of water.
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 - If exposed or concerned: Get medical advice/attention.
- P310 - Immediately call a POISON CENTER or doctor.
- P321 - Specific treatment (see section 4 on this SDS).
- P330 - Rinse mouth.
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P391 - Collect spillage.
- P405 - Store locked up.
- P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

Mixture

Name	Synonyms	Product Identifier	% *	GHS Ingredient Classification
Formaldehyde	Methanal / Formic aldehyde / Formalin / Formaldehyde solution / FORMALDEHYDE / Formaldehyde solution, flammable / Methaldehyde / Formaldehyde ...%	(CAS-No.) 50-00-0	3.432 – 4.056	Flammable Liquid 4, H227 Acute Toxicity 3 (Oral), H301 Acute Toxicity 3 (Dermal), H311 Acute Toxicity 3 (Inhalation:gas), H331 Skin Corrosion 1B, H314 Eye Damage 1, H318 Skin Sensitization 1, H317 Germ Cell Mutagenicity 2, H341 Carcinogen 1A, H350 Specific Target Organ Toxicity Single Exposure 3, H335 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Methanol	Methyl alcohol / Carbinol / Methyl hydroxide / Wood alcohol / METHYL ALCOHOL	(CAS-No.) 67-56-1	0.5 – 1.5**	Flammable Liquid 2, H225 Acute Toxicity 3 (Oral), H301 Acute Toxicity 3 (Dermal), H311 Acute Toxicity 3 (Inhalation: vapor), H331 Specific Target Organ Toxicity Single Exposure 1, H370

Buffered Zinc Formalin

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Zinc sulfate heptahydrate	Sulfuric acid, zinc salt (1:1), heptahydrate / Zinc sulfate heptahydrate (1:1:7) / Zinc sulphate heptahydrate / Zinc sulphate, heptahydrate / Zinc sulphate / Zinc sulfate / zinc sulfate heptahydrate	(CAS-No.) 7446-20-0	0.5 – 1.5**	Acute Toxicity 4 (Oral), H302 Eye Damage/ 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
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Full text of H-statements: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

** The actual concentration of ingredient(s) is withheld as a trade secret in accordance with the Hazardous Products Regulations (HPR) SOR/2015-17 and 29 CFR 1910.1200.

SECTION 4: FIRST AID MEASURES

Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.

Skin Contact: Remove contaminated clothing. Immediately drench affected area with water for at least 15 minutes. Obtain medical attention if irritation/rash develops or persists.

Eye Contact: Immediately rinse with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

Most Important Symptoms and Effects Both Acute and Delayed

General: Skin sensitization. Causes skin irritation. Causes serious eye damage. Harmful if swallowed. Harmful if inhaled. May cause cancer. Suspected of causing genetic defects.

Inhalation: Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness. May cause an allergic reaction in sensitive individuals.

Skin Contact: May cause an allergic skin reaction. Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Ingestion: This material is harmful orally and can cause adverse health effects or death in significant amounts. This material contains methanol, which, when ingested, may cause acidosis and ocular toxicity ranging from diminished visual capacity to complete blindness, and possible death.

Chronic Symptoms: May cause cancer. Suspected of causing genetic defects.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Hazardous reactions are not expected to occur under normal conditions. May react with: Strong oxidizing agents, caustics, strong alkalis, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Buffered Zinc Formalin

Safety Data Sheet

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Firefighting Instructions: Use water spray or fog for cooling exposed containers. Do not breathe fumes from fires or vapors from decomposition.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Sodium oxides. Oxides of zinc. Formaldehyde. Oxygen from the air can oxidize formaldehyde to formic acid, especially when heated. Formic acid is corrosive.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe vapor, mist or spray. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Low levels of formaldehyde vapors may be present in closed containers or in containers stored after processing. Take appropriate precautions to limit exposure. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers. This material contains methanol, which, when ingested, may cause acidosis and ocular toxicity ranging from diminished visual capacity to complete blindness, and possible death.

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe mist, spray, vapors, gas. Do not get in eyes, on skin, or on clothing. Handle empty containers with care because they may still present a hazard. Use only outdoors or in a well-ventilated area. Use appropriate personal protective equipment (PPE).

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool and well-ventilated place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.

Incompatible Materials: Strong oxidizing agents, caustics, strong alkalies, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

Buffered Zinc Formalin

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Specific End Use(s)

Tissue Fixation. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Formaldehyde (50-00-0)		
USA ACGIH	ACGIH OEL TWA [ppm]	0.1 ppm
USA ACGIH	ACGIH OEL STEL [ppm]	0.3 ppm
USA ACGIH	ACGIH chemical category	Confirmed Human Carcinogen,dermal sensitizer
USA OSHA	OSHA PEL (TWA) [2]	0.75 ppm
USA OSHA	OSHA PEL (STEL) [2]	2 ppm (see 29 CFR 1910.1048)
USA OSHA	OSHA Action Level/Excursion Limit	0.5 ppm (Action level, see 29 CFR 1910.1028)
USA NIOSH	NIOSH REL TWA [ppm]	0.016 ppm
USA NIOSH	NIOSH REL C [ppm]	0.1 ppm
USA IDLH	IDLH [ppm]	20 ppm
Alberta	OEL C	1.3 mg/m ³
Alberta	OEL Ceiling [ppm]	1 ppm
Alberta	OEL TWA	0.9 mg/m ³
Alberta	OEL TWA [ppm]	0.75 ppm
British Columbia	OEL STEL [ppm]	0.3 ppm
British Columbia	OEL TWA [ppm]	0.1 ppm
Manitoba	OEL STEL [ppm]	0.3 ppm
Manitoba	OEL TWA [ppm]	0.1 ppm
New Brunswick	OEL STEL [ppm]	1.5 ppm
New Brunswick	OEL TWA [ppm]	0.5 ppm
Newfoundland & Labrador	OEL STEL [ppm]	0.3 ppm
Newfoundland & Labrador	OEL TWA [ppm]	0.1 ppm
Nova Scotia	OEL STEL [ppm]	0.3 ppm
Nova Scotia	OEL TWA [ppm]	0.1 ppm
Nunavut	OEL Ceiling [ppm]	0.3 ppm
Northwest Territories	OEL Ceiling [ppm]	0.3 ppm
Ontario	OEL STEL [ppm]	1 ppm
Ontario	OEL TWA [ppm]	0.1 ppm
Prince Edward Island	OEL STEL [ppm]	0.3 ppm
Prince Edward Island	OEL TWA [ppm]	0.1 ppm
Québec	Plafond (OEL Ceiling)	3 mg/m ³
Québec	Plafond (OEL Ceiling) [ppm]	2 ppm
Saskatchewan	OEL Ceiling [ppm]	0.3 ppm
Yukon	OEL C	3 mg/m ³
Yukon	OEL Ceiling [ppm]	2 ppm
Methanol (67-56-1)		
USA ACGIH	ACGIH OEL TWA [ppm]	200 ppm
USA ACGIH	ACGIH OEL STEL [ppm]	250 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route
USA ACGIH	BEI (BLV)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: end of shift (background, nonspecific)
USA OSHA	OSHA PEL (TWA) [1]	260 mg/m ³
USA OSHA	OSHA PEL (TWA) [2]	200 ppm

Buffered Zinc Formalin

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

USA NIOSH	NIOSH REL (TWA)	260 mg/m ³
USA NIOSH	NIOSH REL TWA [ppm]	200 ppm
USA NIOSH	NIOSH REL (STEL)	325 mg/m ³
USA NIOSH	NIOSH REL STEL [ppm]	250 ppm
USA IDLH	IDLH [ppm]	6000 ppm
Alberta	OEL STEL	328 mg/m ³
Alberta	OEL STEL [ppm]	250 ppm
Alberta	OEL TWA	262 mg/m ³
Alberta	OEL TWA [ppm]	200 ppm
British Columbia	OEL STEL [ppm]	250 ppm
British Columbia	OEL TWA [ppm]	200 ppm
Manitoba	OEL STEL [ppm]	250 ppm
Manitoba	OEL TWA [ppm]	200 ppm
New Brunswick	OEL STEL	328 mg/m ³
New Brunswick	OEL STEL [ppm]	250 ppm
New Brunswick	OEL TWA	262 mg/m ³
New Brunswick	OEL TWA [ppm]	200 ppm
Newfoundland & Labrador	OEL STEL [ppm]	250 ppm
Newfoundland & Labrador	OEL TWA [ppm]	200 ppm
Nova Scotia	OEL STEL [ppm]	250 ppm
Nova Scotia	OEL TWA [ppm]	200 ppm
Nunavut	OEL STEL [ppm]	250 ppm
Nunavut	OEL TWA [ppm]	200 ppm
Northwest Territories	OEL STEL [ppm]	250 ppm
Northwest Territories	OEL TWA [ppm]	200 ppm
Ontario	OEL STEL [ppm]	250 ppm
Ontario	OEL TWA [ppm]	200 ppm
Prince Edward Island	OEL STEL [ppm]	250 ppm
Prince Edward Island	OEL TWA [ppm]	200 ppm
Québec	VECD (OEL STEL)	328 mg/m ³
Québec	VECD (OEL STEL) [ppm]	250 ppm
Québec	VEMP (OEL TWA)	262 mg/m ³
Québec	VEMP (OEL TWA) [ppm]	200 ppm
Saskatchewan	OEL STEL [ppm]	250 ppm
Saskatchewan	OEL TWA [ppm]	200 ppm
Yukon	OEL STEL	310 mg/m ³
Yukon	OEL STEL [ppm]	250 ppm
Yukon	OEL TWA	260 mg/m ³
Yukon	OEL TWA [ppm]	200 ppm

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Gas detectors should be used when toxic gases may be released. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

Buffered Zinc Formalin

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Clear, colorless liquid
Odor	: Formaldehyde
Odor Threshold	: 0.1 ppm formaldehyde
pH	: 5.6 – 5.8
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: 100 °C (212 °F)
Flash Point	: 93.3 °C (199.9 °F)
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: Not available
Relative Density	: 0.98 – 1.03 (water = 1)
Specific Gravity	: 0.98 - 1.03
Solubility	: Soluble
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions are not expected to occur under normal conditions. May react with: Strong oxidizing agents, caustics, strong alkalis, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials.

Incompatible Materials: Strong oxidizing agents, caustics, strong alkalis, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

Hazardous Decomposition Products: Thermal decomposition may produce: Carbon oxides (CO, CO₂). Sodium oxides. Oxides of zinc. Formaldehyde. Oxygen from the air can oxidize formaldehyde to formic acid, especially when heated. Formic acid is corrosive.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity (Oral): Harmful if swallowed.

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Harmful if inhaled.

LD50 and LC50 Data:

Buffered Zinc Formalin

Safety Data Sheet

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Zinc Formalin, Buffered	
ATE US/CA (oral)	1,893.15 mg/kg body weight
ATE US/CA (gas)	17,258.38 ppmV/4h

Skin Corrosion/Irritation: Causes skin irritation.

pH: 5.6 – 5.8

Eye Damage/Irritation: Causes serious eye damage.

pH: 5.6 – 5.8

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Suspected of causing genetic defects.

Carcinogenicity: May cause cancer.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness. May cause an allergic reaction in sensitive individuals.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction. Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: This material is harmful orally and can cause adverse health effects or death in significant amounts. This material contains methanol, which, when ingested, may cause acidosis and ocular toxicity ranging from diminished visual capacity to complete blindness, and possible death.

Chronic Symptoms: May cause cancer. Suspected of causing genetic defects.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Formaldehyde (50-00-0)	
LD50 Oral Rat	100 mg/kg
LD50 Dermal Rat	270 mg/kg
LC50 Inhalation Rat	< 463 ppm/4h
ATE US/CA (gas)	700.00 ppmV/4h

Methanol (67-56-1)	
LD50 Dermal Rabbit	15840 mg/kg
LC50 Inhalation Rat	22500 ppm (Exposure time: 8 h)
ATE US/CA (oral)	100.00 mg/kg body weight
ATE US/CA (dermal)	300.00 mg/kg body weight
ATE US/CA (vapors)	3.00 mg/l/4h

Zinc sulfate heptahydrate (7446-20-0)	
LD50 Oral Rat	1260 mg/kg

Formaldehyde (50-00-0)	
IARC Group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
OSHA Specifically Regulated Carcinogen List	In OSHA Specifically Regulated Carcinogen list.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Toxic to aquatic life with long lasting effects.

Formaldehyde (50-00-0)	
LC50 Fish 1	22.6 – 25.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	2 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	1510 µg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Buffered Zinc Formalin

Safety Data Sheet

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EC50 - Crustacea [2]	11.3 – 18 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
NOEC Chronic Crustacea	1 mg/l
Methanol (67-56-1)	
LC50 Fish 1	28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	1340 mg/l
LC50 Fish 2	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Zinc sulfate heptahydrate (7446-20-0)	
LC50 Fish 1	0.169 mg/l Oncorhynchus Mykiss at neutral/high pH and low hardness
EC50 - Crustacea [1]	0.068 ml/l (Exposure time: 48 h - Species: Daphnia magna)
NOEC Chronic Fish	≤ 0.0749 mg/l (Zinc)

Persistence and Degradability

Zinc Formalin, Buffered	
Persistence and Degradability	May cause long-term adverse effects in the environment.

Bioaccumulative Potential

Zinc Formalin, Buffered	
Bioaccumulative Potential	Not established.

Formaldehyde (50-00-0)	
Partition coefficient n-octanol/water (Log Pow)	0.35 (at 25 °C)
Methanol (67-56-1)	
BCF Fish 1	< 10
Partition coefficient n-octanol/water (Log Pow)	-0.77

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

In Accordance with DOT

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (Zinc sulfate heptahydrate; Formaldehyde)

Hazard Class : 9

Identification Number : UN3082

Label Codes : 9

Packing Group : III

Marine Pollutant : Marine pollutant

ERG Number : 171



In Accordance with IMDG

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc sulfate heptahydrate; Formaldehyde)

Hazard Class : 9

Identification Number : UN3082

Label Codes : 9

Packing Group : III



Buffered Zinc Formalin

Safety Data Sheet

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EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Marine pollutant : Marine pollutant

In Accordance with IATA

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc sulfate heptahydrate; Formaldehyde)

Hazard Class : 9
Identification Number : UN3082
Label Codes : 9



Packing Group : III
ERG Code (IATA) : 9L

In Accordance with TDG

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Zinc sulfate heptahydrate; Formaldehyde)

Hazard Class : 9
Identification Number : UN3082
Label Codes : 9



Packing Group : III
Marine Pollutant (TDG) : Marine pollutant

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Zinc Formalin, Buffered	
SARA Section 311/312 Hazard Classes	Health hazard - Carcinogenicity Health hazard - Respiratory or skin sensitization Health hazard - Skin corrosion or Irritation Health hazard - Germ cell mutagenicity Health hazard - Acute toxicity (any route of exposure) Health hazard - Serious eye damage or eye irritation
Formaldehyde (50-00-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
SARA Section 313 - Emission Reporting	0.1 %
Methanol (67-56-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
SARA Section 313 - Emission Reporting	1 %

US State Regulations

California Proposition 65

⚠ WARNING: This product can expose you to Formaldehyde, which is known to the State of California to cause cancer, and Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Formaldehyde (50-00-0)	X			
Methanol (67-56-1)		X		
Formaldehyde (50-00-0)				
U.S. - New Jersey - Right to Know Hazardous Substance List				

Buffered Zinc Formalin

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

U.S. - Pennsylvania - RTK (Right to Know) List
 U.S. - Massachusetts - Right To Know List
 U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
 U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Methanol (67-56-1)

U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - Pennsylvania - RTK (Right to Know) List
 U.S. - Massachusetts - Right To Know List
 U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Canadian Regulations

Formaldehyde (50-00-0)

Listed on the Canadian DSL (Domestic Substances List)

Methanol (67-56-1)

Listed on the Canadian DSL (Domestic Substances List)

Zinc sulfate heptahydrate (7446-20-0)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest Revision : 07/21/2021

Revision

Additional Data Sources : For OSHA substance technical guidelines for formalin, refer to 29 CFR 1910.1048 Appendix A.

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 3
Acute Tox. 3 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 4	Flammable liquids Category 4
Muta. 2	Germ cell mutagenicity Category 2
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapor
H227	Combustible liquid
H301	Toxic if swallowed

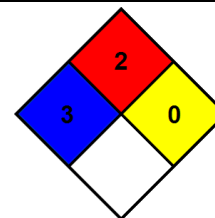
Buffered Zinc Formalin

Safety Data Sheet

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H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H331	Toxic if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H350	May cause cancer
H370	Causes damage to organs
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

- NFPA Health Hazard** : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
- NFPA Fire Hazard** : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.
- NFPA Reactivity Hazard** : 0 - Material that in themselves are normally stable, even under fire conditions.



HMIS III Rating

- Health** : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
* Chronic - Chronic (long-term) health effects may result from repeated overexposure

Flammability : 2 Moderate Hazard

Physical : 0 Minimal Hazard

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

NA GHS SDS 2015 (Can, US)