

Section 1 Chemical Product and Company Identification

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HOME SCIENCE TOOLS

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Billings, MT 59102
800-860-6272
www.homesciencetools.com

CHEMTREC 24 Hour Emergency USA
Phone Number (800) 424-9300
1 703-741-5500 (from anywhere in the world).
For laboratory and industrial use only.
Not for drug, food or household use.

Product NUTRIENT AGAR**Synonyms** Not applicable

Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: Not classified**Pictograms:** Not classified**Target organs:** None known**GHS Classification:** Not classified**GHS Label information:****Hazard statement:** Not classified**Precautionary statement:** Not classified**Supplemental information:**

Agar is a dried hydrophilic colloidal substance obtained from various species of algae and, as such, presents a low hazard for normal laboratory handling. Dust may cause skin and eye irritation. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Agar	9002-18-0	62.50%	232-658-1
Peptone, bacteriological	None assigned	21.75%	None assigned
Beef extract, bacteriological	None assigned	13.05%	None assigned

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE TRANSIENT IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust dispersed in air is capable of creating a dust explosion when exposed to an ignition source. Avoid dispersion of dust in air.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Agar	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, tan powder.

Odor: Characteristic odor of cooked meat.

Odor threshold: Data not available.

pH: Data not available.

Melting / Freezing point: Data not available

Boiling point: Data not available

Flash point: Data not available

Evaporation rate (= 1): Data not available

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available

Vapor pressure (mm Hg): Negligible

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): Data not available

Solubility(ies): Soluble in water.

Partition coefficient: Data not available

Auto-ignition temperature: Data not available

Decomposition temperature: Data not available.

Viscosity: Data not available.

Molecular formula: Mixture

Molecular weight: Mixture

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizers, alkalies.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 1100 mg/kg [Agar CAS # 9002-18-0]

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: No specific hazard known.

Ingestion: No specific hazard known.

Skin: No specific hazard known.

Eyes: Contact with eyes may cause irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: AW7950000 [Agar]

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2016 ERG Guide # Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Agar	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

SAFETY DATA SHEET



www.ranaco.com

FORMALIN FIXED SPECIMENS IN PRESERVED HOLDING SOLUTION – EXCLUDING FETAL PIGS, CATS, GRASSFROGS, BULLFROGS, RABBITS, RATS, MINK

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formalin Fixed Specimens In Preserved Holding Solution – Excluding Fetal Pigs, Cats, Grassfrogs, Bullfrogs, Rabbits, Rats, Mink
Recommended Use: Science education applications
Synonyms: None
Manufacturer/Supplier: Ranaco Corporation, 4345 E Irvington Road, Tucson, AZ 85714
General Information: 800-528-7023
Transportation Emergency Number: 800-424-9300 Chemtrec – 24 hours assistance

SECTION 2: HAZARD IDENTIFICATION

DANGER



Targeted organs:


Eyes, Skin, Central Nervous System, Respiratory Tract

GHS Classification:

Acute Toxicity, oral (Category 4)
Acute Toxicity, dermal (Category 4)
Skin Irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Acute toxicity, inhalation (Category 4)
Carcinogenicity (Category 2)

Hazard Statements:

Maybe harmful if swallowed.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Precautionary Statements:

Obtain special instructions before use.
Wear protective gloves and eye protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or physician
IF exposed or concerned: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	%
Formaldehyde	50-00-0	> 0.1% - ≤ 0.6%
Methanol	67-56-1	≤ 0.03%
Propylene Glycol	57-55-6	≤ 9%
Ethylene Glycol Monophenyl Ether	122-99-6	≤ 1%
Water	7732-18-5	Balance

SECTION 4: FIRST AID MEASURES

SKIN CONTACT: Wash affected area with soap and water. Seek medical attention if symptoms develop.

EYE CONTACT: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Seek medical attention if irritation persists.

INHALATION: Remove to fresh air. Get medical treatment if symptoms persist.

INGESTION: Immediately call a POISON CENTER or physician. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of skin, eyes, respiratory tract. Repeated exposure may cause dermatitis or other allergic reactions.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use dry chemical, CO₂, water spray (fog) or alcohol foam.

FIRE FIGHTING METHODS AND PROTECTION: Firefighters should wear self-contained breathing apparatus and wear full protective equipment.

FIRE AND/OR EXPLOSION HAZARDS: During a fire, smoke generated can be irritating or toxic.

HAZARDOUS COMBUSTION PRODUCTS: Products of combustion include but are not limited to carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid breathing vapors. Use gloves and eye protection to clean up spills.

EMERGENCY PROCEDURES: Ventilate area of spill. Eliminate all sources of ignition. Remove non-essential personnel.

ENVIRONMENTAL PRECAUTIONS: No special hazards. Follow applicable federal, state, provincial and local regulations regarding releases.

METHODS FOR CONTAINMENT AND CLEAN-UP: Absorb with liquid binding material and place in a sealed container. Dispose of waste in accordance with federal, state, provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not eat, drink or smoke when using this product. Avoid breathing vapors. Avoid direct skin or eye contact with liquids. Do not ingest. Wash hands with soap and water after use or handling of product.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store at room temperature in a dry well ventilated area. Keep specimen container tightly closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Formaldehyde	C 0.3 ppm / C 0.37 mg/m ³	TWA: 0.75 ppm / STEL: 2ppm	TWA: 0.016 ppm / STEL: 0.1 ppm
Methanol	TWA: 200 ppm / STEL: 250 ppm	TWA: 200 ppm / STEL: 260 ppm	TWA: 200 ppm / STEL: 250 ppm
Ethylene Glycol Monophenyl Ether	Not available	Not available	Not available
	WEEL		
Propylene Glycol	TWA 10 mg/m ³ Aerosol	Not available	Not available

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility, a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles or face shield, apron and appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory Protection: None should be needed in normal handling and room temperatures. If use conditions generate fumes above the OSHA regulations, use of a NIOSH/MSHA approved respirator is required.

ACGIH: American Conference of Industrial Hygienists, OSHA: U.S. Occupational Safety and Health Administration, NIOSH: U.S. National Institute for Occupational Safety and Health, PEL: Permissible Exposure Limit, TWA: Time Weighted Average, STEL: Short Term Exposure Limit, REL: Recommended Exposure Limit, WEEL: Workplace Environmental Exposure Limit

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: Specimen with/without clear colorless liquid

Odor: Mild pungent odor

Odor Threshold: Data not available

pH: Data not available

Melting/Freezing Point: Data not available

Boiling Point: Data not available

Flash Point: Data not available

Evaporation Rate (Water = 1) : >1

Flammability (solid/gas): Data not available

Explosion Limits: Lower/Upper: Data not available

Vapor Pressure (mmHg): Data not available

Vapor Density: Data not available

Relative Density (Specific Gravity): >1

Solubility(ies): Complete in water

Partition Coefficient: Data not available

Auto-ignition Temperature: Data not available

Decomposition Temperature: Data not available

Viscosity: Data not available

Molecular Formula: Mixture

Molecular Weight: Mixture

SECTION 10: STABILITY & REACTIVITY

Reactivity: None under normal conditions.

Chemical Stability: Stable

Conditions to Avoid: Excessive temperatures which cause evaporation.

Incompatible Materials: Strong acids, phenol, strong oxidizers, strong bases, hydrochloric acid, ammonia, iodine, alkalies, tannin, iron products, gelatin, bisulfate

Hazardous Polymerization: None under normal conditions.

Hazardous Decomposition Products: May include, but are not limited to carbon monoxide, carbon dioxide, gaseous formaldehyde, aldehydes, ketones, alcohols, ethers and organic acids

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Formalin Fixed Specimens in Preserved Holding Solution have not been tested as a mixture. Information about individual components is supplied.

Formaldehyde – Oral-rat LD50: 100 mg/kg; Inhalation-rat LC50: 250 ppm/4 hours; Dermal-rat: 270 mg/kg

Methanol - Oral-rat LD50: 5,600 mg/kg; Inhalation-rat LC50: 6,400 ppm/4 hours, 145,000 ppm/ 1 hour; Dermal-rat: 15,800 mg/kg

Propylene Glycol – Ingestion-rat LD50: > 20,000 mg/kg; Skin absorption-rabbit LD50: > 20,000 mg/kg

Ethylene Glycol Monophenyl Ether- Oral-rat LD50: 1,840 mg/kg; Dermal-rabbit: >2,214 mg/kg

Chronic Effects: Data not available.

Skin Corrosion/Irritation:

Causes skin irritation. May cause an allergic skin reaction.

Serious Eye Damage/Irritation:

Causes eye irritation or damage.

Respiratory or Skin Sensitization:

May cause sensitization by skin contact

Germ Cell Mutagenicity: Data not available.

Carcinogenicity: Data not available. Information about individual components is supplied.

Formaldehyde – Classified as a carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) and OSHA. CA Prop 65: Formaldehyde is known to the State of California to cause cancer.

Reproductive Toxicity: Data not available. Information about individual components is supplied.

Methanol - CA Prop 65: This chemical is known to the State of California to cause birth defects or other reproductive harm.

Specific Target Organ Toxicity – Single exposure: Data not available.

Specific Target Organ Toxicity– Repeated exposure: Data not available.

Aspiration Hazard: Data not available.

Potential Health Effects:

Inhalation: May cause respiratory irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause skin irritation. May cause an allergic skin reaction.

Eyes: May cause eye irritation or damage.

Signs and Symptoms of Exposure:

The chemical, physical and toxicological properties have not been thoroughly investigated for this product/mixture. Specific data is not available. Exercise appropriate procedures to minimize hazards.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish: No data available.

Toxicity to daphnia and other aquatic invertebrates: No data available.

Toxicity to algae: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORTATION INFORMATION (US DOT /CANADA TDG)

UN/NA Number: Not applicable

Shipping Name: Not regulated

Hazard Class: Not applicable

Packing Group: Not applicable

Reportable Quantity: No

Marine Pollutant: No

Exceptions: Not applicable

2012 ERG Guide#: Not applicable

SECTION 15: REGULATORY INFORMATION

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Component	TSCA	CERLCA (RQ)	RCRA CODE	DSL	NDSL	WHMIS CLASSIFICATION
Formaldehyde	Listed	100 lbs (45.4 kg)	U122	Listed	Not Listed	D1A; D2A; D2B
Methanol	Listed	5,000 lbs (2,270 kg)	U154	Listed	Not Listed	B2; D1B; D2A; D2B
Propylene Glycol	Listed	None	None	Listed	Not Listed	None
Ethylene Glycol Monophenyl Ether	Listed	None	None	Listed	Not Listed	B3

California Proposition 65 Information:

⚠ **WARNING:** This product can expose you to chemicals including 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.

SECTION 16: OTHER INFORMATION

Date Prepared: July 23, 2018

Supersedes: April 24, 2018

RANACO disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein. All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, RANACO makes no representations as to its accuracy or sufficiency. Conditions of use are beyond RANACO's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling and disposal of the product or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

SAFETY DATA SHEET



www.ranaco.com

FORMALIN FIXED SPECIMENS IN PRESERVED HOLDING SOLUTION – EXCLUDING FETAL PIGS, CATS, GRASSFROGS, BULLFROGS, RABBITS, RATS, MINK

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formalin Fixed Specimens In Preserved Holding Solution – Excluding Fetal Pigs, Cats, Grassfrogs, Bullfrogs, Rabbits, Rats, Mink
Recommended Use: Science education applications
Synonyms: None
Manufacturer/Supplier: Ranaco Corporation, 4345 E Irvington Road, Tucson, AZ 85714
General Information: 800-528-7023
Transportation Emergency Number: 800-424-9300 Chemtrec – 24 hours assistance

SECTION 2: HAZARD IDENTIFICATION

DANGER



Targeted organs:

Eyes, Skin, Central Nervous System, Respiratory Tract

GHS Classification:

Acute Toxicity, oral (Category 4)
Acute Toxicity, dermal (Category 4)
Skin Irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Acute toxicity, inhalation (Category 4)
Carcinogenicity (Category 2)

Hazard Statements:

Maybe harmful if swallowed.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Precautionary Statements:

Obtain special instructions before use.
Wear protective gloves and eye protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or physician
IF exposed or concerned: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	%
Formaldehyde	50-00-0	> 0.1% - ≤ 0.6%
Methanol	67-56-1	≤ 0.03%
Propylene Glycol	57-55-6	≤ 9%
Ethylene Glycol Monophenyl Ether	122-99-6	≤ 1%
Water	7732-18-5	Balance

SECTION 4: FIRST AID MEASURES

SKIN CONTACT: Wash affected area with soap and water. Seek medical attention if symptoms develop.

EYE CONTACT: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Seek medical attention if irritation persists.

INHALATION: Remove to fresh air. Get medical treatment if symptoms persist.

INGESTION: Immediately call a POISON CENTER or physician. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of skin, eyes, respiratory tract. Repeated exposure may cause dermatitis or other allergic reactions.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use dry chemical, CO₂, water spray (fog) or alcohol foam.

FIRE FIGHTING METHODS AND PROTECTION: Firefighters should wear self-contained breathing apparatus and wear full protective equipment.

FIRE AND/OR EXPLOSION HAZARDS: During a fire, smoke generated can be irritating or toxic.

HAZARDOUS COMBUSTION PRODUCTS: Products of combustion include but are not limited to carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid breathing vapors. Use gloves and eye protection to clean up spills.

EMERGENCY PROCEDURES: Ventilate area of spill. Eliminate all sources of ignition. Remove non-essential personnel.

ENVIRONMENTAL PRECAUTIONS: No special hazards. Follow applicable federal, state, provincial and local regulations regarding releases.

METHODS FOR CONTAINMENT AND CLEAN-UP: Absorb with liquid binding material and place in a sealed container. Dispose of waste in accordance with federal, state, provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not eat, drink or smoke when using this product. Avoid breathing vapors. Avoid direct skin or eye contact with liquids. Do not ingest. Wash hands with soap and water after use or handling of product.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store at room temperature in a dry well ventilated area. Keep specimen container tightly closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Formaldehyde	C 0.3 ppm / C 0.37 mg/m ³	TWA: 0.75 ppm / STEL: 2ppm	TWA: 0.016 ppm / STEL: 0.1 ppm
Methanol	TWA: 200 ppm / STEL: 250 ppm	TWA: 200 ppm / STEL: 260 ppm	TWA: 200 ppm / STEL: 250 ppm
Ethylene Glycol Monophenyl Ether	Not available	Not available	Not available
	WEEL		
Propylene Glycol	TWA 10 mg/m ³ Aerosol	Not available	Not available

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility, a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles or face shield, apron and appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory Protection: None should be needed in normal handling and room temperatures. If use conditions generate fumes above the OSHA regulations, use of a NIOSH/MSHA approved respirator is required.

ACGIH: American Conference of Industrial Hygienists, OSHA: U.S. Occupational Safety and Health Administration, NIOSH: U.S. National Institute for Occupational Safety and Health, PEL: Permissible Exposure Limit, TWA: Time Weighted Average, STEL: Short Term Exposure Limit, REL: Recommended Exposure Limit, WEEL: Workplace Environmental Exposure Limit

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: Specimen with/without clear colorless liquid

Odor: Mild pungent odor

Odor Threshold: Data not available

pH: Data not available

Melting/Freezing Point: Data not available

Boiling Point: Data not available

Flash Point: Data not available

Evaporation Rate (Water = 1) : >1

Flammability (solid/gas): Data not available

Explosion Limits: Lower/Upper: Data not available

Vapor Pressure (mmHg): Data not available

Vapor Density: Data not available

Relative Density (Specific Gravity): >1

Solubility(ies): Complete in water

Partition Coefficient: Data not available

Auto-ignition Temperature: Data not available

Decomposition Temperature: Data not available

Viscosity: Data not available

Molecular Formula: Mixture

Molecular Weight: Mixture

SECTION 10: STABILITY & REACTIVITY

Reactivity: None under normal conditions.

Chemical Stability: Stable

Conditions to Avoid: Excessive temperatures which cause evaporation.

Incompatible Materials: Strong acids, phenol, strong oxidizers, strong bases, hydrochloric acid, ammonia, iodine, alkalies, tannin, iron products, gelatin, bisulfate

Hazardous Polymerization: None under normal conditions.

Hazardous Decomposition Products: May include, but are not limited to carbon monoxide, carbon dioxide, gaseous formaldehyde, aldehydes, ketones, alcohols, ethers and organic acids

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Formalin Fixed Specimens in Preserved Holding Solution have not been tested as a mixture. Information about individual components is supplied.

Formaldehyde – Oral-rat LD50: 100 mg/kg; Inhalation-rat LC50: 250 ppm/4 hours; Dermal-rat: 270 mg/kg

Methanol - Oral-rat LD50: 5,600 mg/kg; Inhalation-rat LC50: 6,400 ppm/4 hours, 145,000 ppm/ 1 hour; Dermal-rat: 15,800 mg/kg

Propylene Glycol – Ingestion-rat LD50: > 20,000 mg/kg; Skin absorption-rabbit LD50: > 20,000 mg/kg

Ethylene Glycol Monophenyl Ether- Oral-rat LD50: 1,840 mg/kg; Dermal-rabbit: >2,214 mg/kg

Chronic Effects: Data not available.

Skin Corrosion/Irritation:

Causes skin irritation. May cause an allergic skin reaction.

Serious Eye Damage/Irritation:

Causes eye irritation or damage.

Respiratory or Skin Sensitization:

May cause sensitization by skin contact

Germ Cell Mutagenicity: Data not available.

Carcinogenicity: Data not available. Information about individual components is supplied.

Formaldehyde – Classified as a carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) and OSHA. CA Prop 65: Formaldehyde is known to the State of California to cause cancer.

Reproductive Toxicity: Data not available. Information about individual components is supplied.

Methanol - CA Prop 65: This chemical is known to the State of California to cause birth defects or other reproductive harm.

Specific Target Organ Toxicity – Single exposure: Data not available.

Specific Target Organ Toxicity– Repeated exposure: Data not available.

Aspiration Hazard: Data not available.

Potential Health Effects:

Inhalation: May cause respiratory irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause skin irritation. May cause an allergic skin reaction.

Eyes: May cause eye irritation or damage.

Signs and Symptoms of Exposure:

The chemical, physical and toxicological properties have not been thoroughly investigated for this product/mixture. Specific data is not available. Exercise appropriate procedures to minimize hazards.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish: No data available.

Toxicity to daphnia and other aquatic invertebrates: No data available.

Toxicity to algae: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORTATION INFORMATION (US DOT /CANADA TDG)

UN/NA Number: Not applicable

Shipping Name: Not regulated

Hazard Class: Not applicable

Packing Group: Not applicable

Reportable Quantity: No

Marine Pollutant: No

Exceptions: Not applicable

2012 ERG Guide#: Not applicable

SECTION 15: REGULATORY INFORMATION

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Component	TSCA	CERLCA (RQ)	RCRA CODE	DSL	NDSL	WHMIS CLASSIFICATION
Formaldehyde	Listed	100 lbs (45.4 kg)	U122	Listed	Not Listed	D1A; D2A; D2B
Methanol	Listed	5,000 lbs (2,270 kg)	U154	Listed	Not Listed	B2; D1B; D2A; D2B
Propylene Glycol	Listed	None	None	Listed	Not Listed	None
Ethylene Glycol Monophenyl Ether	Listed	None	None	Listed	Not Listed	B3

California Proposition 65 Information:

⚠ **WARNING:** This product can expose you to chemicals including 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.

SECTION 16: OTHER INFORMATION

Date Prepared: July 23, 2018

Supersedes: April 24, 2018

RANACO disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein. All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, RANACO makes no representations as to its accuracy or sufficiency. Conditions of use are beyond RANACO's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling and disposal of the product or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

SAFETY DATA SHEET

FORMALIN FIXED GRASSFROGS AND BULLFROGS IN PRESERVED HOLDING SOLUTION



www.ranaco.com

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formalin Fixed Grassfrogs and Bullfrogs In Preserved Holding Solution
Recommended Use: Science education applications
Synonyms: None
Manufacturer/Supplier: Ranaco Corporation, 4345 E Irvington Road, Tucson, AZ 85714
General Information: 800-528-7023
Transportation Emergency Number: 800-424-9300 Chemtrec – 24 hours assistance

SECTION 2: HAZARD IDENTIFICATION

DANGER



Targeted organs:

Eyes, Skin, Central Nervous System,
Respiratory Tract

GHS Classification:

Acute Toxicity, oral (Category 4)
Acute Toxicity, dermal (Category 4)
Skin Irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Acute toxicity, inhalation (Category 4)
Carcinogenicity (Category 2)

Hazard Statements:

Maybe harmful if swallowed.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.

Precautionary Statements:

Obtain special instructions before use.
Wear protective gloves and eye protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or physician
IF exposed or concerned: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national regulations.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	%
Formaldehyde	50-00-0	All concentrations are withheld due to Trade Secret
Methanol	67-56-1	
Propylene Glycol	57-55-6	
Ethylene Glycol Monophenyl Ether	122-99-6	
Acetone	67-64-1	
Glutaraldehyde	111-30-8	
BHT Butylated Hydroxytoluene	128-37-0	
Polysorbate 80	9005-65-6	
Water	7732-18-5	Balance

SECTION 4: FIRST AID MEASURES

SKIN CONTACT: Wash affected area with soap and water. Seek medical attention if symptoms develop.

EYE CONTACT: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Seek medical attention if irritation persists.

INHALATION: Remove to fresh air. Get medical treatment if symptoms persist.

INGESTION: Immediately call a POISON CENTER or physician. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of skin, eyes, respiratory tract. Repeated exposure may cause dermatitis or other allergic reactions.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use dry chemical, CO₂, water spray (fog) or alcohol foam.

FIRE FIGHTING METHODS AND PROTECTION: Firefighters should wear self-contained breathing apparatus and wear full protective equipment.

FIRE AND/OR EXPLOSION HAZARDS: During a fire, smoke generated can be irritating or toxic.

HAZARDOUS COMBUSTION PRODUCTS: Products of combustion include but are not limited to carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid breathing vapors. Use gloves and eye protection to clean up spills.

EMERGENCY PROCEDURES: Ventilate area of spill. Eliminate all sources of ignition. Remove non-essential personnel.

ENVIRONMENTAL PRECAUTIONS: No special hazards. Follow applicable federal, state, provincial and local regulations regarding releases.

METHODS FOR CONTAINMENT AND CLEAN-UP: Absorb with liquid binding material and place in a sealed container. Dispose of waste in accordance with federal, state, provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not eat, drink or smoke when using this product. Avoid breathing vapors. Avoid direct skin or eye contact with liquids. Do not ingest. Wash hands with soap and water after use or handling of product.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store at room temperature in a dry well ventilated area. Keep specimen container tightly closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Formaldehyde	C 0.3 ppm / C 0.37 mg/m ³	TWA: 0.75 ppm / STEL: 2ppm	TWA: 0.016 ppm / STEL: 0.1 ppm
Methanol	TWA: 200 ppm / STEL: 250 ppm	TWA: 200 ppm / STEL: 260 ppm	TWA: 200 ppm / STEL: 250 ppm
Ethylene Glycol Monophenyl Ether	Not available	Not available	Not available
Glutaraldehyde	C 0.05 ppm / C 0.2 mg/m ³	Not available	C 0.2 ppm / C 0.8 mg/m ³
Acetone	TWA: 250 ppm / STEL: 500 ppm	TWA: 1000 ppm	TWA: 250 ppm
BHT Butylated Hydroxytoluene	2 mg/m ³ Vapor	5 mg/m ³ Nuisance Dust	TWA 10 mg/m ³
Polysorbate 80	None	None	None
	WEEL		
Propylene Glycol	TWA 10 mg/m ³ Aerosol	Not available	Not available

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility, a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles or face shield, apron and appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory Protection: None should be needed in normal handling and room temperatures. If use conditions generate fumes above the OSHA regulations, use of a NIOSH/MSHA approved respirator is required.

ACGIH: American Conference of Industrial Hygienists, OSHA: U.S. Occupational Safety and Health Administration, NIOSH: U.S. National Institute for Occupational Safety and Health, PEL: Permissible Exposure Limit, TWA: Time Weighted Average, STEL: Short Term Exposure Limit, REL: Recommended Exposure Limit, WEEL: Workplace Environmental Exposure Limit

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: Specimen with/without clear colorless liquid

Odor: Mild pungent or sweet odor

Odor Threshold: Data not available

pH: Data not available

Melting/Freezing Point: Data not available

Boiling Point: Data not available

Flash Point: Data not available

Evaporation Rate (Water = 1) : >1

Flammability (solid/gas): Data not available

Explosion Limits: Lower/Upper: Data not available

Vapor Pressure (mmHg): Data not available

Vapor Density: Data not available

Relative Density (Specific Gravity): >1

Solubility(ies): Complete in water

Partition Coefficient: Data not available

Auto-ignition Temperature: Data not available

Decomposition Temperature: Data not available

Viscosity: Data not available

Molecular Formula: Mixture

Molecular Weight: Mixture

SECTION 10: STABILITY & REACTIVITY

Reactivity: None under normal conditions.

Chemical Stability: Stable

Conditions to Avoid: Excessive temperatures which cause evaporation.

Incompatible Materials: Strong acids, phenol, strong oxidizers, strong bases, hydrochloric acid, ammonia, iodine, alkalies, tannin, iron products, gelatin, bisulfate

Hazardous Polymerization: None under normal conditions.

Hazardous Decomposition Products: May include, but are not limited to Carbon oxides, gaseous formaldehyde, aldehydes, ketones, alcohols, ethers and organic acids

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Formalin Fixed Grassfrogs and Bullfrogs in Preserved Holding Solution have not been tested as a mixture. Information about individual components is supplied.

Formaldehyde – Oral-rat LD50: 100 mg/kg; Inhalation-rat LC50: 250 ppm/4 hours; Dermal-rat: 270 mg/kg

Methanol - Oral-rat LD50: 5,600 mg/kg; Inhalation-rat LC50: 6,400 ppm/4 hours, 145,000 ppm/ 1 hour; Dermal-rat: 15,800 mg/kg

Propylene Glycol – Ingestion-rat LD50: > 20,000 mg/kg, Skin absorption-rabbit LD50: > 20,000 mg/kg

Ethylene Glycol Monophenyl Ether- Oral-rat LD50: 1,840 mg/kg; Dermal-rabbit: >2,214 mg/kg

Glutaraldehyde - Oral-rat LD50:200mg/kg; Dermal-rabbit LD50: 1,749 mg/kg

Acetone - Oral-rat LD50: 5,800 mg/kg; Inhalation-rat LC50: 50,100 mg/m³; Irritation eye-rabbit: standard draize, 20 mg

BHT Butylated Hydroxytoluene - Oral-rat LD50: >2,930 mg/kg; Dermal-rat: >2,000 mg/kg

Chronic Effects: Data not available.

Skin Corrosion/Irritation:

Causes skin irritation. May cause an allergic skin reaction.

Serious Eye Damage/Irritation:

Causes eye irritation or damage.

Respiratory or Skin Sensitization:

May cause sensitization by skin contact

Germ Cell Mutagenicity: Data not available.

Carcinogenicity: Data not available. Information about individual components is supplied.

Formaldehyde – Classified as a carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) and OSHA. CA Prop 65: Formaldehyde is known to the State of California to cause cancer.

Reproductive Toxicity: Data not available. Information about individual components is supplied.

Methanol - CA Prop 65: This chemical is known to the State of California to cause birth defects or other reproductive harm.

Specific Target Organ Toxicity – Single exposure: Data not available.

Specific Target Organ Toxicity– Repeated exposure: Data not available.

Aspiration Hazard: Data not available.

Potential Health Effects:

Inhalation: May cause respiratory irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause skin irritation. May cause an allergic skin reaction.

Eyes: May cause eye irritation or damage.

Signs and Symptoms of Exposure:

The chemical, physical and toxicological properties have not been thoroughly investigated for this product/mixture. Specific data is not available. Exercise appropriate procedures to minimize hazards.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish: No data available.

Toxicity to daphnia and other aquatic invertebrates: No data available.

Toxicity to algae: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORTATION INFORMATION (US DOT / CANADA TDG)

UN/NA Number: Not applicable

Shipping Name: Not regulated

Hazard Class: Not applicable

Packing Group: Not applicable

Reportable Quantity: No

Marine Pollutant: No

Exceptions: Not applicable

2012 ERG Guide#: Not applicable

SECTION 15: REGULATORY INFORMATION

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Component	TSCA	CERLCA (RQ)	RCRA CODE	DSL	NDSL	WHMIS CLASSIFICATION
Formaldehyde	Listed	100 lbs (45.4 kg)	U122	Listed	Not Listed	D1A; D2A; D2B
Methanol	Listed	5,000 lbs (2,270 kg)	U154	Listed	Not Listed	B2; D1B; D2A; D2B
Propylene Glycol	Listed	None	None	Listed	Not Listed	None
Ethylene Glycol Monophenyl Ether	Listed	None	None	Listed	Not Listed	B3
Acetone	Listed	5,000 lbs	U002	Listed	Not Listed	B2, D2B
Glutaraldehyde	Listed	None	None	Listed	Not Listed	D1A, D2B, E
BHT Butylated Hydroxytoluene	Listed	None	None	Listed	Not Listed	None
Polysorbate 80	Listed	None	None	Listed	Not Listed	None

California Proposition 65 Information:

⚠WARNING: This product can expose you to chemicals including 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.

SECTION 16: OTHER INFORMATION

Date Prepared: July 23, 2018

Supersedes: April 24, 2018

RANACO disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein. All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, **RANACO** makes no representations as to its accuracy or sufficiency. Conditions of use are beyond **RANACO**'s control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling and disposal of the product or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

NASCO-Guard® Preserved Specimens

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 05/21/2015 Date of issue: 05/21/2015 Supersedes Date: 01/02/2014

Version: 1.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: NASCO-Guard® Preserved Specimens

Intended Use of the Product

Science education applications.

Name, Address, and Telephone of the Responsible Party

Nasco
901 Janesville Ave.
Fort Atkinson, WI 53538-0901
800-558-9595

Emergency Telephone Number

Emergency Number: 800-558-9595 (7am-4pm CST, M-F)

24-Hour Emergency Contact — CHEMTREC 800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Classification of the Substance or Mixture

Classification (GHS-US)

Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Skin Sens. 1	H317
Carc. 2	H351

Full text of H-phrases: see section 16

Label Elements

GHS-US Labeling

Signal Word (GHS-US): **WARNING**

Hazard Pictograms (GHS-US):



Hazard Statements (GHS-US):

H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H351 - Suspected of causing cancer.

Precautionary Statements (GHS-US):

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.
P272 - Contaminated work clothing must not be allowed out of the workplace.
P280 - Wear protective gloves, protective clothing, and eye protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
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.
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

NASCO-Guard® Preserved Specimens

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According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Other Hazards

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

Unknown Acute Toxicity (GHS-US)

No data available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

Name	Product Identifier	%	Classification (GHS-US)
1,2-Propylene glycol	(CAS No) 57-55-6	< 50	Not classified
Water	(CAS No) 7732-18-5	Balance	Not classified
Phenol	(CAS No) 108-95-2	< 1	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Muta. 2, H341 STOT RE 2, H373 Aquatic Acute 3, H402
Formaldehyde	(CAS No) 50-00-0	0.1 - 0.5	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Carc. 2, H351 Aquatic Acute 2, H401

Full text of H-phrases: See section 16.

SECTION 4: FIRST AID MEASURES

Description of First-Aid Measures

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

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Gently wash skin with plenty of soap and water followed by rinsing with water for at least 15 minutes. Call a POISON CENTER or doctor if you feel unwell. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

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

Most Important Symptoms and Effects, Both Acute and Delayed

General Symptoms/Injuries: Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction.

Inhalation: May cause respiratory irritation. Suspected of causing cancer by inhalation. Formaldehyde has been classified as a known human carcinogen. The risk of injury depends on duration and level of exposure. This product contains a small amount of formaldehyde; exposures during expected use conditions are expected to be low.

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

Eye Contact: Causes serious eye irritation. Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Ingestion: Ingestion is likely to be harmful or have adverse effects. Ingestion of this product is unlikely, however, if ingested in sufficient quantities, it may cause metabolic acidosis.

NASCO-Guard® Preserved Specimens

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According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Chronic Symptoms: Suspected of causing cancer by inhalation. May cause an allergic skin reaction.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

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

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

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

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities:
Evacuate area.

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

Hazardous Combustion Products: Under expected usage conditions, hazardous decomposition products are not expected.

Hazardous decomposition products such as carbon monoxide, aldehydes, alcohols, ethers, organic acids, and other compounds may be generated when material is subjected to high temperatures or fires.

Other Information: Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, spray).

For Non-Emergency Personnel

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further disposal information refer to section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

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

Incompatible Products: Strong acids. Strong bases. Strong oxidizers.

Specific End Use(s) Science education applications.

NASCO-Guard® Preserved Specimens

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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), NIOSH (REL), or OSHA (PEL).

Formaldehyde (50-00-0)		
USA ACGIH	ACGIH Ceiling (ppm)	0.3 ppm
USA ACGIH	ACGIH chemical category	Sensitizer, Suspected Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (ppm)	0.016 ppm
USA NIOSH	NIOSH REL (ceiling) (ppm)	0.1 ppm
USA IDLH	US IDLH (ppm)	20 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	0.75 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	2 ppm (see 29 CFR 1910.1048)
Phenol (108-95-2)		
USA ACGIH	ACGIH TWA (ppm)	5 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Not Classifiable as a Human Carcinogen
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	19 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	5 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	60 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	15.6 ppm
USA IDLH	US IDLH (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	19 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	5 ppm
USA OSHA	Limit value category (OSHA)	prevent or reduce skin absorption

Exposure Controls

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

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



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical safety goggles.

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.

Environmental Exposure Controls: Do not allow the product to be released into the environment.

Consumer Exposure Controls: Do not eat, drink, or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State: Liquid.

Appearance: Clear, colorless liquid.

Odor: Faint disinfectant-like odor.

Odor Threshold: No data available.

pH: No data available.

Evaporation Rate: No data available.

NASCO-Guard® Preserved Specimens

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According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Melting Point:	No data available.
Freezing Point:	No data available.
Boiling Point:	No data available.
Flash Point:	No data available.
Auto-ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Flammability (solid, gas):	No data available.
Vapor Pressure:	No data available.
Relative Vapor Density at 20° C:	No data available.
Relative Density:	No data available.
Solubility:	No data available.
Partition Coefficient; N-Octanol/Water:	No data available.
Viscosity:	No data available.

Other Information No additional information available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

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. Ignition sources. Incompatible materials.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Under expected usage conditions, hazardous decomposition products are not expected.

Hazardous decomposition products such as carbon monoxide, aldehydes, alcohols, ethers, organic acids, and other compounds may be generated when material is subjected to high temperatures or fires.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity: Not classified.

1,2-Propylene glycol (57-55-6)	
LD50 Oral Rat	20000 mg/kg
LD50 Dermal Rabbit	20800 mg/kg
Formaldehyde (50-00-0)	
LD50 Oral Rat	100 mg/kg
LD50 Dermal Rat	270 mg/kg
ATE (Gases)	700.00 ppmV/4h
Phenol (108-95-2)	
LD50 Oral Rat	340 mg/kg
LD50 Dermal Rabbit	630 mg/kg
LC50 Inhalation Rat	0.316 mg/l/4h (reported as 316 mg/m3/4h)
ATE (Oral)	100.00 mg/kg body weight
ATE (Gases)	700.00 ppmV/4h
ATE (Vapors)	0.32 mg/l/4h
ATE (Dust/Mist)	0.32 mg/l/4h

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye irritation.

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

Germ Cell Mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer.

NASCO-Guard® Preserved Specimens

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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.
Phenol (108-95-2)	
IARC group	3
National Toxicology Program (NTP) Status	Twelfth Report - Items under consideration.

Reproductive Toxicity: Not classified.

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

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

Aspiration Hazard: Not classified.

Inhalation Symptoms/Injuries: May cause respiratory irritation. Suspected of causing cancer by inhalation. Formaldehyde has been classified as a known human carcinogen. The risk of injury depends on duration and level of exposure. This product contains a small amount of formaldehyde; exposures during expected use conditions are expected to be low.

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

Eye Contact Symptoms/Injuries: Causes serious eye irritation. Redness, pain, swelling, itching, burning, tearing, and blurred vision.

Ingestion Symptoms/Injuries: Ingestion is likely to be harmful or have adverse effects. Ingestion of this product is unlikely, however, if ingested in sufficient quantities, it may cause metabolic acidosis.

Chronic Symptoms: Suspected of causing cancer by inhalation. May cause an allergic skin reaction.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

1,2-Propylene glycol (57-55-6)	
LC50 Fish 1	51600 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 1	10000 mg/l (Exposure time: 24 h - Species: Daphnia magna)
EC50 Daphnia 2	1000 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Formaldehyde (50-00-0)	
LC50 Fish 1	22.6 - 25.7 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	1510 µg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 2	11.3 - 18 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
Phenol (108-95-2)	
LC50 Fish 1	11.9 - 50.5 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	4.24 - 10.7 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
LC 50 Fish 2	20.5 - 25.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 2	10.2 - 15.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Persistence and Degradability No additional information available.

Bioaccumulative Potential

1,2-Propylene glycol (57-55-6)	
BCF fish 1	< 1
Log Pow	-0.92
Formaldehyde (50-00-0)	
Log Pow	0.35 (at 25 °C)
Phenol (108-95-2)	
BCF fish 1	(no significant bioaccumulation)
Log Pow	1.47

Mobility in Soil No additional information available.

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Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

SECTION 14: TRANSPORT INFORMATION

In Accordance with DOT Not regulated for transport.

In Accordance with IMDG Not regulated for transport.

In Accordance with IATA Not regulated for transport.

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

NASCO-Guard® Preserved Specimens

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard. Delayed (chronic) health hazard.
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1,2-Propylene glycol (57-55-6)

Listed on the United States TSCA (Toxic Substances Control Act) Inventory

EPA TSCA Regulatory Flag

Y2 - Y2 - indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

Formaldehyde (50-00-0)

Listed on the United States TSCA (Toxic Substances Control Act) Inventory

Listed on the United States SARA Section 302

Listed on United States SARA Section 313

SARA Section 302 Threshold Planning Quantity (TPQ) 500

SARA Section 311/312 Hazard Classes
Delayed (chronic) health hazard.
Immediate (acute) health hazard.
Fire hazard.

SARA Section 313 - Emission Reporting 0.1 %

Phenol (108-95-2)

Listed on the United States TSCA (Toxic Substances Control Act) Inventory.

Listed on the United States SARA Section 302.

Listed on United States SARA Section 313.

EPA TSCA Regulatory Flag

T - T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

SARA Section 302 Threshold Planning Quantity (TPQ) ≤ 10000

SARA Section 313 - Emission Reporting 1.0 %

Water (7732-18-5)

Listed on the United States TSCA (Toxic Substances Control Act) Inventory

US State Regulations

Formaldehyde (50-00-0)

U.S. - California - Proposition 65 - Carcinogens List
WARNING: This product contains chemicals known to the State of California to cause cancer.

1,2-Propylene glycol (57-55-6)

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Formaldehyde (50-00-0)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

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

Phenol (108-95-2)

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

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

Revision Date: 05/21/2015

Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

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 (Oral)	Acute Toxicity (oral) Category 3
Aquatic Acute 2	Hazardous to the Aquatic Environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the Aquatic Environment - Acute Hazard Category 3
Carc. 2	Carcinogenicity Category 2
Eye Dam. 1	Serious Eye Damage/Eye Irritation Category 1
Eye Irrit. 2A	Serious Eye Damage/Eye Irritation Category 2A
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 RE 2	Specific Target Organ Toxicity (repeated exposure) Category 2
H301	Toxic 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.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.

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.

SDS US (GHS HazCom)

NP069-15

SAFETY DATA SHEET



www.ranaco.com

FORMALIN FIXED SPECIMENS IN PRESERVED HOLDING SOLUTION – EXCLUDING FETAL PIGS, CATS, GRASSFROGS, BULLFROGS, RABBITS, RATS, MINK

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formalin Fixed Specimens In Preserved Holding Solution – Excluding Fetal Pigs, Cats, Grassfrogs, Bullfrogs, Rabbits, Rats, Mink
Recommended Use: Science education applications
Synonyms: None
Manufacturer/Supplier: Ranaco Corporation, 4345 E Irvington Road, Tucson, AZ 85714
General Information: 800-528-7023
Transportation Emergency Number: 800-424-9300 Chemtrec – 24 hours assistance

SECTION 2: HAZARD IDENTIFICATION

DANGER



Targeted organs:

Eyes, Skin, Central Nervous System, Respiratory Tract

GHS Classification:

Acute Toxicity, oral (Category 4)
Acute Toxicity, dermal (Category 4)
Skin Irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Acute toxicity, inhalation (Category 4)
Carcinogenicity (Category 2)

Hazard Statements:

Maybe harmful if swallowed.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Precautionary Statements:

Obtain special instructions before use.
Wear protective gloves and eye protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or physician
IF exposed or concerned: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	%
Formaldehyde	50-00-0	> 0.1% - ≤ 0.6%
Methanol	67-56-1	≤ 0.03%
Propylene Glycol	57-55-6	≤ 9%
Ethylene Glycol Monophenyl Ether	122-99-6	≤ 1%
Water	7732-18-5	Balance

SECTION 4: FIRST AID MEASURES

SKIN CONTACT: Wash affected area with soap and water. Seek medical attention if symptoms develop.

EYE CONTACT: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Seek medical attention if irritation persists.

INHALATION: Remove to fresh air. Get medical treatment if symptoms persist.

INGESTION: Immediately call a POISON CENTER or physician. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of skin, eyes, respiratory tract. Repeated exposure may cause dermatitis or other allergic reactions.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use dry chemical, CO₂, water spray (fog) or alcohol foam.

FIRE FIGHTING METHODS AND PROTECTION: Firefighters should wear self-contained breathing apparatus and wear full protective equipment.

FIRE AND/OR EXPLOSION HAZARDS: During a fire, smoke generated can be irritating or toxic.

HAZARDOUS COMBUSTION PRODUCTS: Products of combustion include but are not limited to carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid breathing vapors. Use gloves and eye protection to clean up spills.

EMERGENCY PROCEDURES: Ventilate area of spill. Eliminate all sources of ignition. Remove non-essential personnel.

ENVIRONMENTAL PRECAUTIONS: No special hazards. Follow applicable federal, state, provincial and local regulations regarding releases.

METHODS FOR CONTAINMENT AND CLEAN-UP: Absorb with liquid binding material and place in a sealed container. Dispose of waste in accordance with federal, state, provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not eat, drink or smoke when using this product. Avoid breathing vapors. Avoid direct skin or eye contact with liquids. Do not ingest. Wash hands with soap and water after use or handling of product.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store at room temperature in a dry well ventilated area. Keep specimen container tightly closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Formaldehyde	C 0.3 ppm / C 0.37 mg/m ³	TWA: 0.75 ppm / STEL: 2ppm	TWA: 0.016 ppm / STEL: 0.1 ppm
Methanol	TWA: 200 ppm / STEL: 250 ppm	TWA: 200 ppm / STEL: 260 ppm	TWA: 200 ppm / STEL: 250 ppm
Ethylene Glycol Monophenyl Ether	Not available	Not available	Not available
	WEEL		
Propylene Glycol	TWA 10 mg/m ³ Aerosol	Not available	Not available

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility, a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles or face shield, apron and appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory Protection: None should be needed in normal handling and room temperatures. If use conditions generate fumes above the OSHA regulations, use of a NIOSH/MSHA approved respirator is required.

ACGIH: American Conference of Industrial Hygienists, OSHA: U.S. Occupational Safety and Health Administration, NIOSH: U.S. National Institute for Occupational Safety and Health, PEL: Permissible Exposure Limit, TWA: Time Weighted Average, STEL: Short Term Exposure Limit, REL: Recommended Exposure Limit, WEEL: Workplace Environmental Exposure Limit

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: Specimen with/without clear colorless liquid

Odor: Mild pungent odor

Odor Threshold: Data not available

pH: Data not available

Melting/Freezing Point: Data not available

Boiling Point: Data not available

Flash Point: Data not available

Evaporation Rate (Water = 1) : >1

Flammability (solid/gas): Data not available

Explosion Limits: Lower/Upper: Data not available

Vapor Pressure (mmHg): Data not available

Vapor Density: Data not available

Relative Density (Specific Gravity): >1

Solubility(ies): Complete in water

Partition Coefficient: Data not available

Auto-ignition Temperature: Data not available

Decomposition Temperature: Data not available

Viscosity: Data not available

Molecular Formula: Mixture

Molecular Weight: Mixture

SECTION 10: STABILITY & REACTIVITY

Reactivity: None under normal conditions.

Chemical Stability: Stable

Conditions to Avoid: Excessive temperatures which cause evaporation.

Incompatible Materials: Strong acids, phenol, strong oxidizers, strong bases, hydrochloric acid, ammonia, iodine, alkalies, tannin, iron products, gelatin, bisulfate

Hazardous Polymerization: None under normal conditions.

Hazardous Decomposition Products: May include, but are not limited to carbon monoxide, carbon dioxide, gaseous formaldehyde, aldehydes, ketones, alcohols, ethers and organic acids

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Formalin Fixed Specimens in Preserved Holding Solution have not been tested as a mixture. Information about individual components is supplied.

Formaldehyde – Oral-rat LD50: 100 mg/kg; Inhalation-rat LC50: 250 ppm/4 hours; Dermal-rat: 270 mg/kg

Methanol - Oral-rat LD50: 5,600 mg/kg; Inhalation-rat LC50: 6,400 ppm/4 hours, 145,000 ppm/ 1 hour; Dermal-rat: 15,800 mg/kg

Propylene Glycol – Ingestion-rat LD50: > 20,000 mg/kg; Skin absorption-rabbit LD50: > 20,000 mg/kg

Ethylene Glycol Monophenyl Ether- Oral-rat LD50: 1,840 mg/kg; Dermal-rabbit: >2,214 mg/kg

Chronic Effects: Data not available.

Skin Corrosion/Irritation:

Causes skin irritation. May cause an allergic skin reaction.

Serious Eye Damage/Irritation:

Causes eye irritation or damage.

Respiratory or Skin Sensitization:

May cause sensitization by skin contact

Germ Cell Mutagenicity: Data not available.

Carcinogenicity: Data not available. Information about individual components is supplied.

Formaldehyde – Classified as a carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) and OSHA. CA Prop 65: Formaldehyde is known to the State of California to cause cancer.

Reproductive Toxicity: Data not available. Information about individual components is supplied.

Methanol - CA Prop 65: This chemical is known to the State of California to cause birth defects or other reproductive harm.

Specific Target Organ Toxicity – Single exposure: Data not available.

Specific Target Organ Toxicity– Repeated exposure: Data not available.

Aspiration Hazard: Data not available.

Potential Health Effects:

Inhalation: May cause respiratory irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause skin irritation. May cause an allergic skin reaction.

Eyes: May cause eye irritation or damage.

Signs and Symptoms of Exposure:

The chemical, physical and toxicological properties have not been thoroughly investigated for this product/mixture. Specific data is not available. Exercise appropriate procedures to minimize hazards.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish: No data available.

Toxicity to daphnia and other aquatic invertebrates: No data available.

Toxicity to algae: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORTATION INFORMATION (US DOT /CANADA TDG)

UN/NA Number: Not applicable

Shipping Name: Not regulated

Hazard Class: Not applicable

Packing Group: Not applicable

Reportable Quantity: No

Marine Pollutant: No

Exceptions: Not applicable

2012 ERG Guide#: Not applicable

SECTION 15: REGULATORY INFORMATION

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Component	TSCA	CERLCA (RQ)	RCRA CODE	DSL	NDSL	WHMIS CLASSIFICATION
Formaldehyde	Listed	100 lbs (45.4 kg)	U122	Listed	Not Listed	D1A; D2A; D2B
Methanol	Listed	5,000 lbs (2,270 kg)	U154	Listed	Not Listed	B2; D1B; D2A; D2B
Propylene Glycol	Listed	None	None	Listed	Not Listed	None
Ethylene Glycol Monophenyl Ether	Listed	None	None	Listed	Not Listed	B3

California Proposition 65 Information:

⚠WARNING: This product can expose you to chemicals including 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.

SECTION 16: OTHER INFORMATION

Date Prepared: July 23, 2018

Supersedes: April 24, 2018

RANACO disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein. All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, RANACO makes no representations as to its accuracy or sufficiency. Conditions of use are beyond RANACO's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling and disposal of the product or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.



SAFETY DATA SHEET

1. Identification

Product identifier **FORMALDEHYDE 37% 11-12%**
Other means of identification None.
Recommended use ALL PROPER AND LEGAL PURPOSES
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Manufacturer
 Company name Brenntag Great Lakes, Inc.
 Address 4420 N. Harley Davidson Ave.
 Wauwatosa, WI 53225
 Telephone 262-252-3550
 E-mail Not available.
Emergency phone number 800-424-9300 CHEMTREC

2. Hazard(s) identification

Physical hazards Flammable liquids Category 3
Health hazards Acute toxicity, oral Category 3
 Acute toxicity, dermal Category 3
 Acute toxicity, inhalation Category 2
 Skin corrosion/irritation Category 1
 Serious eye damage/eye irritation Category 1
 Sensitization, respiratory Category 1
 Sensitization, skin Category 1A
 Germ cell mutagenicity Category 2
 Carcinogenicity Category 1A
 Reproductive toxicity Category 1
 Specific target organ toxicity, single exposure Category 1
 Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Environmental hazards Not classified.
OSHA defined hazards Not classified.
Label elements



Signal word Danger
Hazard statement Flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Fatal if inhaled. May cause an allergic skin reaction. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation. Suspected of causing genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs.

Precautionary statement
 Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection.

Response	If swallowed: Immediately call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Immediately call a poison center/doctor. Specific treatment is urgent (see this label). If skin irritation or rash occurs: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
FORMALDEHYDE		50-00-0	37
METHANOL		67-56-1	11.5
Other components below reportable levels			51.5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician or poison control center immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. If swallowed, induce vomiting immediately as directed by medical personnel. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing. Difficulty in breathing.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe vapors or spray mist. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent entry into waterways, sewer, basements or confined areas. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. When using, do not eat, drink or smoke. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Wash contaminated clothing before reuse.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS). Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Components	Type	Value
FORMALDEHYDE (CAS 50-00-0)	STEL	2 ppm
	TWA	0.75 ppm
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)		
Components	Type	Value
METHANOL (CAS 67-56-1)	PEL	260 mg/m3
		200 ppm
US. ACGIH Threshold Limit Values		
Components	Type	Value
FORMALDEHYDE (CAS 50-00-0)	Ceiling	0.3 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
METHANOL (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
FORMALDEHYDE (CAS 50-00-0)	Ceiling	0.1 ppm
	TWA	0.016 ppm
METHANOL (CAS 67-56-1)	STEL	325 mg/m3
		250 ppm
	TWA	260 mg/m3 200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
METHANOL (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

METHANOL (CAS 67-56-1) Skin designation applies.

US - Tennessee OELs: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

METHANOL (CAS 67-56-1) Can be absorbed through the skin.

Appropriate engineering controls	Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
---	---

Individual protection measures, such as personal protective equipment

The following are recommendations for Personnel Protective Equipment (PPE). The employer/user of this product must perform a Hazard Assessment of the workplace according to OSHA regulations 29 CFR 1910.132 to determine the appropriate PPE for use while performing any task involving potential exposure to this product.

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations	Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.
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9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.

Color	CLEAR TO SLIGHTLY HAZY
Odor	PUNGENT
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-136.08 °F (-93.38 °C) estimated
Initial boiling point and boiling range	125.11 °F (51.73 °C) estimated
Flash point	133.0 °F (56.1 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	7.1 % estimated
Flammability limit - upper (%)	64.2 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	716.59 °F (380.33 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	9.16 lbs/gal
Explosive properties	Not explosive.
Flammability class	Combustible II estimated
Oxidizing properties	Not oxidizing.
Percent volatile	100 % estimated
Specific gravity	1.1
VOC	48.5 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Fatal if inhaled. May cause damage to organs by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	Toxic in contact with skin. Causes severe skin burns. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.

Ingestion	Toxic if swallowed. Causes digestive tract burns.	
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation. Coughing. Difficulty in breathing.	
Information on toxicological effects		
Acute toxicity	Fatal if inhaled. Toxic in contact with skin. Toxic if swallowed.	
Components	Species	Test Results
FORMALDEHYDE (CAS 50-00-0)		
<u>Acute</u>		
Inhalation		
LC50	Rat	0.48 mg/l, 4 Hours
Oral		
LD50	Rat	100 mg/kg
METHANOL (CAS 67-56-1)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	15800 mg/kg
Inhalation		
LC50	Cat	85.41 mg/l, 4.5 Hours
	Rat	64000 ppm, 4 Hours
		87.5 mg/l, 6 Hours
Oral		
LD50	Dog	8000 mg/kg
	Monkey	2 g/kg
	Mouse	7300 mg/kg
	Rabbit	14.4 g/kg
	Rat	5628 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
ACGIH sensitization		
FORMALDEHYDE (CAS 50-00-0)		Dermal sensitization
		Respiratory sensitization
Respiratory sensitization	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	Suspected of causing genetic defects.	
Carcinogenicity	May cause cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
FORMALDEHYDE (CAS 50-00-0)		1 Carcinogenic to humans.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)		
FORMALDEHYDE (CAS 50-00-0)		Cancer
US. National Toxicology Program (NTP) Report on Carcinogens		
FORMALDEHYDE (CAS 50-00-0)		Known To Be Human Carcinogen.
Reproductive toxicity	May damage fertility or the unborn child.	
Specific target organ toxicity - single exposure	Causes damage to organs. May cause respiratory irritation.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.	

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
FORMALDEHYDE (CAS 50-00-0)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia pulex</i>)	4.3 - 7.8 mg/l, 48 hours
Fish	LC50	Striped bass (<i>Morone saxatilis</i>)	10.302 - 16.743 mg/l, 96 hours
METHANOL (CAS 67-56-1)			
Aquatic			
Crustacea	EC50	Water flea (<i>Daphnia magna</i>)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	> 100 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

FORMALDEHYDE	0.35
METHANOL	-0.77

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN2209
UN proper shipping name	FORMALDEHYDE, SOLUTIONS
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
ERG number	132

Transport information on packaging may be different from that listed. Transportation information on packaging may be different from that listed.

IATA

UN number	UN2209
UN proper shipping name	FORMALDEHYDE, SOLUTIONS
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	132
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG
UN number UN1993
UN proper shipping name FLAMMABLE LIQUID, N.O.S. (METHANOL, FORMALDEHYDE), MARINE POLLUTANT
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant Yes
EmS F-E, S-E
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

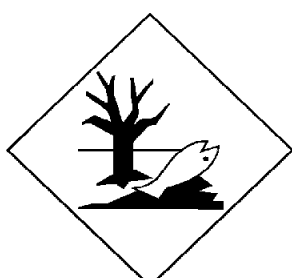
DOT; IATA



IMDG



Marine pollutant



General information IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
FORMALDEHYDE (CAS 50-00-0) Listed.
METHANOL (CAS 67-56-1) Listed.

SARA 304 Emergency release notification
FORMALDEHYDE (CAS 50-00-0) 100 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
FORMALDEHYDE (CAS 50-00-0) Cancer
Skin sensitization

Respiratory sensitization
 Eye irritation
 Skin irritation
 respiratory tract irritation
 Acute toxicity
 Flammability

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
FORMALDEHYDE	50-00-0	100	500		

SARA 311/312 Hazardous chemical

Classified hazard categories	Flammable (gases, aerosols, liquids, or solids) Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization Germ cell mutagenicity Carcinogenicity Reproductive toxicity Specific target organ toxicity (single or repeated exposure)
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SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
FORMALDEHYDE	50-00-0	37
METHANOL	67-56-1	11.5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

FORMALDEHYDE (CAS 50-00-0)
 METHANOL (CAS 67-56-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

FORMALDEHYDE (CAS 50-00-0)

Safe Drinking Water Act (SDWA) Not regulated.

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.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

FORMALDEHYDE (CAS 50-00-0) Listed: January 1, 1988

California Proposition 65 - CRT: Listed date/Developmental toxin

METHANOL (CAS 67-56-1) Listed: March 16, 2012

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

FORMALDEHYDE (CAS 50-00-0)
 METHANOL (CAS 67-56-1)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Toxic Chemical Substances (TCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	04-06-2015
Revision date	09-12-2018
Version #	09
HMIS® ratings	Health: 4* Flammability: 3 Physical hazard: 0
NFPA ratings	Health: 3 Flammability: 2 Instability: 0
Disclaimer	While Brenntag believes the information contained herein to be accurate, Brenntag makes no representation or warranty, express or implied, regarding, and assumes no liability for, the accuracy or completeness of the information. The Buyer assumes all responsibility for handling, using and/or reselling the Product in accordance with applicable federal, state, and local law. This SDS shall not in any way limit or preclude the operation and effect of any of the provisions of Brenntag's terms and conditions of sale.
Revision information	Physical and chemical properties: Odor

Section 1 Identification

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Nebraska Scientific
828 Crown Point Ave.
Omaha, Nebraska 68110
Phone: 800-228-7117 Fax: 402-346-2216
www.NebraskaScientific.com

CHEMTREC 24 Hour Emergency
Phone Number (800) 424-9300
For laboratory and industrial use only.
Not for drug, food or household use.

Product NEBANOL WORKING SOLUTION

Synonyms None

Section 2 Hazards identification

Signal word: WARNING

Pictograms: GHS07

Target organs: Eyes



GHS Classification:

Acute toxicity, oral (Category 4)

Eye irritation (Category 2A)

GHS Label information: Hazard statement:

H302: Harmful if swallowed.

H319: Causes serious eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P330: Rinse mouth.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	94.73%	231-791-2
Propylene glycol	57-55-6	3.84%	200-338-0
Phenoxyethanol	122-99-6	1.42%	204-589-7

Section 4 First aid measures

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This chemical reacts violently with strong oxidizers, generating a fire and explosion hazard. Reacts violently with strong bases, strong acids and many other compounds.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure controls / personal protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Phenoxyethanol	Not established	Not established	Not established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical and chemical properties

Appearance: Clear Colorless liquid	Evaporation rate (= 1): Data not available	Partition coefficient: Data not available
Odor: Mild odor	Flammability (solid/gas): Data not available	Auto-ignition temperature: Data not available
Odor threshold: Data not available	Explosion limits: Lower / Upper: Data not available	Decomposition temperature: Data not available
pH: Data not available	Vapor pressure (mm Hg): Negligible	Viscosity: Data not available
Melting / Freezing point: Approximately 0°C (32°F) (water)	Vapor density (Air = 1): Data not available	Molecular formula: Mixture
Boiling point: Approximately 100°C (212°F) (water)	Relative density (Specific gravity): 1.59	Molecular weight: Mixture
Flash point: Data not available	Solubility(ies): Soluble in water	

Section 10 Stability and reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures.

Incompatible materials: Strong oxidizers, galvanized metals, strong bases, strong acids

Hazardous decomposition products: Aldehydes, ketones, organic acids

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 500 mg/kg ; Inhalation-rat LC50: >1000 mg/m³ ; Dermal-rabbit LD50: 2214 mg/kg

Skin corrosion/irritation: Skin-rabbit - no irritation

Serious eye damage/irritation: Eyes-rabbit - irritating

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Not a respiratory sensitizer

Ingestion: Harmful if swallowed.

Skin: Prolonged contact may cause temporary irritation.

Eyes: Causes serious eye irritation.

Signs and symptoms of exposure: Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: Data not available

Section 12 Ecological information

Toxicity to fish: Pimephales promelas (fathead minnow), LC50 = 344 mg/L/96H

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = 500 mg/L/48H

Toxicity to algae: Desmodesmus subspicatus (Algae), EC50 = 500 mg/L/72H

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information

UN/NA number: Not applicable **Shipping name:** Not regulated **Hazard class:** Not applicable **Packing group:** Not applicable

Reportable Quantity: Not applicable **Marine pollutant:** Not applicable

Exceptions: Not applicable **2016 ERG Guide #** Not applicable

Section 15 Regulatory information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERCLA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Phenoxyethanol	Listed	Not Listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

SAFETY DATA SHEET



www.ranaco.com

FORMALIN FIXED SPECIMENS IN PRESERVED HOLDING SOLUTION – EXCLUDING FETAL PIGS, CATS, GRASSFROGS, BULLFROGS, RABBITS, RATS, MINK

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formalin Fixed Specimens In Preserved Holding Solution – Excluding Fetal Pigs, Cats, Grassfrogs, Bullfrogs, Rabbits, Rats, Mink
Recommended Use: Science education applications
Synonyms: None
Manufacturer/Supplier: Ranaco Corporation, 4345 E Irvington Road, Tucson, AZ 85714
General Information: 800-528-7023
Transportation Emergency Number: 800-424-9300 Chemtrec – 24 hours assistance

SECTION 2: HAZARD IDENTIFICATION

DANGER



Targeted organs:

Eyes, Skin, Central Nervous System, Respiratory Tract

GHS Classification:

Acute Toxicity, oral (Category 4)
Acute Toxicity, dermal (Category 4)
Skin Irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Acute toxicity, inhalation (Category 4)
Carcinogenicity (Category 2)

Hazard Statements:

Maybe harmful if swallowed.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Precautionary Statements:

Obtain special instructions before use.
Wear protective gloves and eye protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or physician
IF exposed or concerned: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	%
Formaldehyde	50-00-0	> 0.1% - ≤ 0.6%
Methanol	67-56-1	≤ 0.03%
Propylene Glycol	57-55-6	≤ 9%
Ethylene Glycol Monophenyl Ether	122-99-6	≤ 1%
Water	7732-18-5	Balance

SECTION 4: FIRST AID MEASURES

SKIN CONTACT: Wash affected area with soap and water. Seek medical attention if symptoms develop.

EYE CONTACT: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Seek medical attention if irritation persists.

INHALATION: Remove to fresh air. Get medical treatment if symptoms persist.

INGESTION: Immediately call a POISON CENTER or physician. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of skin, eyes, respiratory tract. Repeated exposure may cause dermatitis or other allergic reactions.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use dry chemical, CO₂, water spray (fog) or alcohol foam.

FIRE FIGHTING METHODS AND PROTECTION: Firefighters should wear self-contained breathing apparatus and wear full protective equipment.

FIRE AND/OR EXPLOSION HAZARDS: During a fire, smoke generated can be irritating or toxic.

HAZARDOUS COMBUSTION PRODUCTS: Products of combustion include but are not limited to carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid breathing vapors. Use gloves and eye protection to clean up spills.

EMERGENCY PROCEDURES: Ventilate area of spill. Eliminate all sources of ignition. Remove non-essential personnel.

ENVIRONMENTAL PRECAUTIONS: No special hazards. Follow applicable federal, state, provincial and local regulations regarding releases.

METHODS FOR CONTAINMENT AND CLEAN-UP: Absorb with liquid binding material and place in a sealed container. Dispose of waste in accordance with federal, state, provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not eat, drink or smoke when using this product. Avoid breathing vapors. Avoid direct skin or eye contact with liquids. Do not ingest. Wash hands with soap and water after use or handling of product.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store at room temperature in a dry well ventilated area. Keep specimen container tightly closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Formaldehyde	C 0.3 ppm / C 0.37 mg/m ³	TWA: 0.75 ppm / STEL: 2ppm	TWA: 0.016 ppm / STEL: 0.1 ppm
Methanol	TWA: 200 ppm / STEL: 250 ppm	TWA: 200 ppm / STEL: 260 ppm	TWA: 200 ppm / STEL: 250 ppm
Ethylene Glycol Monophenyl Ether	Not available	Not available	Not available
	WEEL		
Propylene Glycol	TWA 10 mg/m ³ Aerosol	Not available	Not available

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility, a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles or face shield, apron and appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory Protection: None should be needed in normal handling and room temperatures. If use conditions generate fumes above the OSHA regulations, use of a NIOSH/MSHA approved respirator is required.

ACGIH: American Conference of Industrial Hygienists, OSHA: U.S. Occupational Safety and Health Administration, NIOSH: U.S. National Institute for Occupational Safety and Health, PEL: Permissible Exposure Limit, TWA: Time Weighted Average, STEL: Short Term Exposure Limit, REL: Recommended Exposure Limit, WEEL: Workplace Environmental Exposure Limit

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: Specimen with/without clear colorless liquid

Odor: Mild pungent odor

Odor Threshold: Data not available

pH: Data not available

Melting/Freezing Point: Data not available

Boiling Point: Data not available

Flash Point: Data not available

Evaporation Rate (Water = 1) : >1

Flammability (solid/gas): Data not available

Explosion Limits: Lower/Upper: Data not available

Vapor Pressure (mmHg): Data not available

Vapor Density: Data not available

Relative Density (Specific Gravity): >1

Solubility(ies): Complete in water

Partition Coefficient: Data not available

Auto-ignition Temperature: Data not available

Decomposition Temperature: Data not available

Viscosity: Data not available

Molecular Formula: Mixture

Molecular Weight: Mixture

SECTION 10: STABILITY & REACTIVITY

Reactivity: None under normal conditions.

Chemical Stability: Stable

Conditions to Avoid: Excessive temperatures which cause evaporation.

Incompatible Materials: Strong acids, phenol, strong oxidizers, strong bases, hydrochloric acid, ammonia, iodine, alkalies, tannin, iron products, gelatin, bisulfate

Hazardous Polymerization: None under normal conditions.

Hazardous Decomposition Products: May include, but are not limited to carbon monoxide, carbon dioxide, gaseous formaldehyde, aldehydes, ketones, alcohols, ethers and organic acids

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Formalin Fixed Specimens in Preserved Holding Solution have not been tested as a mixture. Information about individual components is supplied.

Formaldehyde – Oral-rat LD50: 100 mg/kg; Inhalation-rat LC50: 250 ppm/4 hours; Dermal-rat: 270 mg/kg

Methanol - Oral-rat LD50: 5,600 mg/kg; Inhalation-rat LC50: 6,400 ppm/4 hours, 145,000 ppm/ 1 hour; Dermal-rat: 15,800 mg/kg

Propylene Glycol – Ingestion-rat LD50: > 20,000 mg/kg; Skin absorption-rabbit LD50: > 20,000 mg/kg

Ethylene Glycol Monophenyl Ether- Oral-rat LD50: 1,840 mg/kg; Dermal-rabbit: >2,214 mg/kg

Chronic Effects: Data not available.

Skin Corrosion/Irritation:

Causes skin irritation. May cause an allergic skin reaction.

Serious Eye Damage/Irritation:

Causes eye irritation or damage.

Respiratory or Skin Sensitization:

May cause sensitization by skin contact

Germ Cell Mutagenicity: Data not available.

Carcinogenicity: Data not available. Information about individual components is supplied.

Formaldehyde – Classified as a carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) and OSHA. CA Prop 65: Formaldehyde is known to the State of California to cause cancer.

Reproductive Toxicity: Data not available. Information about individual components is supplied.

Methanol - CA Prop 65: This chemical is known to the State of California to cause birth defects or other reproductive harm.

Specific Target Organ Toxicity – Single exposure: Data not available.

Specific Target Organ Toxicity– Repeated exposure: Data not available.

Aspiration Hazard: Data not available.

Potential Health Effects:

Inhalation: May cause respiratory irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause skin irritation. May cause an allergic skin reaction.

Eyes: May cause eye irritation or damage.

Signs and Symptoms of Exposure:

The chemical, physical and toxicological properties have not been thoroughly investigated for this product/mixture. Specific data is not available. Exercise appropriate procedures to minimize hazards.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish: No data available.

Toxicity to daphnia and other aquatic invertebrates: No data available.

Toxicity to algae: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORTATION INFORMATION (US DOT /CANADA TDG)

UN/NA Number: Not applicable

Shipping Name: Not regulated

Hazard Class: Not applicable

Packing Group: Not applicable

Reportable Quantity: No

Marine Pollutant: No

Exceptions: Not applicable

2012 ERG Guide#: Not applicable

SECTION 15: REGULATORY INFORMATION

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Component	TSCA	CERLCA (RQ)	RCRA CODE	DSL	NDSL	WHMIS CLASSIFICATION
Formaldehyde	Listed	100 lbs (45.4 kg)	U122	Listed	Not Listed	D1A; D2A; D2B
Methanol	Listed	5,000 lbs (2,270 kg)	U154	Listed	Not Listed	B2; D1B; D2A; D2B
Propylene Glycol	Listed	None	None	Listed	Not Listed	None
Ethylene Glycol Monophenyl Ether	Listed	None	None	Listed	Not Listed	B3

California Proposition 65 Information:

⚠ **WARNING:** This product can expose you to chemicals including 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.

SECTION 16: OTHER INFORMATION

Date Prepared: July 23, 2018

Supersedes: April 24, 2018

RANACO disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein. All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, RANACO makes no representations as to its accuracy or sufficiency. Conditions of use are beyond RANACO's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling and disposal of the product or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

SAFETY DATA SHEET



www.ranaco.com

FORMALIN FIXED SPECIMENS IN PRESERVED HOLDING SOLUTION – EXCLUDING FETAL PIGS, CATS, GRASSFROGS, BULLFROGS, RABBITS, RATS, MINK

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formalin Fixed Specimens In Preserved Holding Solution – Excluding Fetal Pigs, Cats, Grassfrogs, Bullfrogs, Rabbits, Rats, Mink
Recommended Use: Science education applications
Synonyms: None
Manufacturer/Supplier: Ranaco Corporation, 4345 E Irvington Road, Tucson, AZ 85714
General Information: 800-528-7023
Transportation Emergency Number: 800-424-9300 Chemtrec – 24 hours assistance

SECTION 2: HAZARD IDENTIFICATION

DANGER



Targeted organs:

Eyes, Skin, Central Nervous System, Respiratory Tract

GHS Classification:

Acute Toxicity, oral (Category 4)
Acute Toxicity, dermal (Category 4)
Skin Irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Acute toxicity, inhalation (Category 4)
Carcinogenicity (Category 2)

Hazard Statements:

Maybe harmful if swallowed.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Precautionary Statements:

Obtain special instructions before use.
Wear protective gloves and eye protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or physician
IF exposed or concerned: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	%
Formaldehyde	50-00-0	> 0.1% - ≤ 0.6%
Methanol	67-56-1	≤ 0.03%
Propylene Glycol	57-55-6	≤ 9%
Ethylene Glycol Monophenyl Ether	122-99-6	≤ 1%
Water	7732-18-5	Balance

SECTION 4: FIRST AID MEASURES

SKIN CONTACT: Wash affected area with soap and water. Seek medical attention if symptoms develop.

EYE CONTACT: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Seek medical attention if irritation persists.

INHALATION: Remove to fresh air. Get medical treatment if symptoms persist.

INGESTION: Immediately call a POISON CENTER or physician. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of skin, eyes, respiratory tract. Repeated exposure may cause dermatitis or other allergic reactions.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use dry chemical, CO₂, water spray (fog) or alcohol foam.

FIRE FIGHTING METHODS AND PROTECTION: Firefighters should wear self-contained breathing apparatus and wear full protective equipment.

FIRE AND/OR EXPLOSION HAZARDS: During a fire, smoke generated can be irritating or toxic.

HAZARDOUS COMBUSTION PRODUCTS: Products of combustion include but are not limited to carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid breathing vapors. Use gloves and eye protection to clean up spills.

EMERGENCY PROCEDURES: Ventilate area of spill. Eliminate all sources of ignition. Remove non-essential personnel.

ENVIRONMENTAL PRECAUTIONS: No special hazards. Follow applicable federal, state, provincial and local regulations regarding releases.

METHODS FOR CONTAINMENT AND CLEAN-UP: Absorb with liquid binding material and place in a sealed container. Dispose of waste in accordance with federal, state, provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not eat, drink or smoke when using this product. Avoid breathing vapors. Avoid direct skin or eye contact with liquids. Do not ingest. Wash hands with soap and water after use or handling of product.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store at room temperature in a dry well ventilated area. Keep specimen container tightly closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Formaldehyde	C 0.3 ppm / C 0.37 mg/m ³	TWA: 0.75 ppm / STEL: 2ppm	TWA: 0.016 ppm / STEL: 0.1 ppm
Methanol	TWA: 200 ppm / STEL: 250 ppm	TWA: 200 ppm / STEL: 260 ppm	TWA: 200 ppm / STEL: 250 ppm
Ethylene Glycol Monophenyl Ether	Not available	Not available	Not available
	WEEL		
Propylene Glycol	TWA 10 mg/m ³ Aerosol	Not available	Not available

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility, a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles or face shield, apron and appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory Protection: None should be needed in normal handling and room temperatures. If use conditions generate fumes above the OSHA regulations, use of a NIOSH/MSHA approved respirator is required.

ACGIH: American Conference of Industrial Hygienists, OSHA: U.S. Occupational Safety and Health Administration, NIOSH: U.S. National Institute for Occupational Safety and Health, PEL: Permissible Exposure Limit, TWA: Time Weighted Average, STEL: Short Term Exposure Limit, REL: Recommended Exposure Limit, WEEL: Workplace Environmental Exposure Limit

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: Specimen with/without clear colorless liquid

Odor: Mild pungent odor

Odor Threshold: Data not available

pH: Data not available

Melting/Freezing Point: Data not available

Boiling Point: Data not available

Flash Point: Data not available

Evaporation Rate (Water = 1) : >1

Flammability (solid/gas): Data not available

Explosion Limits: Lower/Upper: Data not available

Vapor Pressure (mmHg): Data not available

Vapor Density: Data not available

Relative Density (Specific Gravity): >1

Solubility(ies): Complete in water

Partition Coefficient: Data not available

Auto-ignition Temperature: Data not available

Decomposition Temperature: Data not available

Viscosity: Data not available

Molecular Formula: Mixture

Molecular Weight: Mixture

SECTION 10: STABILITY & REACTIVITY

Reactivity: None under normal conditions.

Chemical Stability: Stable

Conditions to Avoid: Excessive temperatures which cause evaporation.

Incompatible Materials: Strong acids, phenol, strong oxidizers, strong bases, hydrochloric acid, ammonia, iodine, alkalies, tannin, iron products, gelatin, bisulfate

Hazardous Polymerization: None under normal conditions.

Hazardous Decomposition Products: May include, but are not limited to carbon monoxide, carbon dioxide, gaseous formaldehyde, aldehydes, ketones, alcohols, ethers and organic acids

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Formalin Fixed Specimens in Preserved Holding Solution have not been tested as a mixture. Information about individual components is supplied.

Formaldehyde – Oral-rat LD50: 100 mg/kg; Inhalation-rat LC50: 250 ppm/4 hours; Dermal-rat: 270 mg/kg

Methanol - Oral-rat LD50: 5,600 mg/kg; Inhalation-rat LC50: 6,400 ppm/4 hours, 145,000 ppm/ 1 hour; Dermal-rat: 15,800 mg/kg

Propylene Glycol – Ingestion-rat LD50: > 20,000 mg/kg; Skin absorption-rabbit LD50: > 20,000 mg/kg

Ethylene Glycol Monophenyl Ether- Oral-rat LD50: 1,840 mg/kg; Dermal-rabbit: >2,214 mg/kg

Chronic Effects: Data not available.

Skin Corrosion/Irritation:

Causes skin irritation. May cause an allergic skin reaction.

Serious Eye Damage/Irritation:

Causes eye irritation or damage.

Respiratory or Skin Sensitization:

May cause sensitization by skin contact

Germ Cell Mutagenicity: Data not available.

Carcinogenicity: Data not available. Information about individual components is supplied.

Formaldehyde – Classified as a carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) and OSHA. CA Prop 65: Formaldehyde is known to the State of California to cause cancer.

Reproductive Toxicity: Data not available. Information about individual components is supplied.

Methanol - CA Prop 65: This chemical is known to the State of California to cause birth defects or other reproductive harm.

Specific Target Organ Toxicity – Single exposure: Data not available.

Specific Target Organ Toxicity– Repeated exposure: Data not available.

Aspiration Hazard: Data not available.

Potential Health Effects:

Inhalation: May cause respiratory irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause skin irritation. May cause an allergic skin reaction.

Eyes: May cause eye irritation or damage.

Signs and Symptoms of Exposure:

The chemical, physical and toxicological properties have not been thoroughly investigated for this product/mixture. Specific data is not available. Exercise appropriate procedures to minimize hazards.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish: No data available.

Toxicity to daphnia and other aquatic invertebrates: No data available.

Toxicity to algae: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORTATION INFORMATION (US DOT /CANADA TDG)

UN/NA Number: Not applicable

Shipping Name: Not regulated

Hazard Class: Not applicable

Packing Group: Not applicable

Reportable Quantity: No

Marine Pollutant: No

Exceptions: Not applicable

2012 ERG Guide#: Not applicable

SECTION 15: REGULATORY INFORMATION

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Component	TSCA	CERLCA (RQ)	RCRA CODE	DSL	NDSL	WHMIS CLASSIFICATION
Formaldehyde	Listed	100 lbs (45.4 kg)	U122	Listed	Not Listed	D1A; D2A; D2B
Methanol	Listed	5,000 lbs (2,270 kg)	U154	Listed	Not Listed	B2; D1B; D2A; D2B
Propylene Glycol	Listed	None	None	Listed	Not Listed	None
Ethylene Glycol Monophenyl Ether	Listed	None	None	Listed	Not Listed	B3

California Proposition 65 Information:

⚠WARNING: This product can expose you to chemicals including 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.

SECTION 16: OTHER INFORMATION

Date Prepared: July 23, 2018

Supersedes: April 24, 2018

RANACO disclaims all expressed or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein. All information appearing herein is based upon data obtained from the manufacturer and/or recognized technical sources. While the information is believed to be accurate, RANACO makes no representations as to its accuracy or sufficiency. Conditions of use are beyond RANACO's control and therefore users are responsible to verify this data under their own operating conditions to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling and disposal of the product or from the publication or use of, or reliance upon, information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

SAFETY DATA SHEET

FAA FIXED EARTHWORMS, WORMS, BOTANICALS AND OTHER SPECIMENS IN PRESERVED HOLDING SOLUTION



www.ranaco.com

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: FAA Fixed Earthworms, Worms, Botanicals And Other Specimens In Preserved Holding Solution
Recommended Use: Science education applications
Synonyms: None
Manufacturer/Supplier: Ranaco Corporation, 4345 E Irvington Road, Tucson, AZ 85714
General Information: 800-528-7023
Transportation Emergency Number: 800-424-9300 Chemtrec – 24 hours assistance

SECTION 2: HAZARD IDENTIFICATION

DANGER



Targeted organs:

Eyes, Skin, Central Nervous System,
Respiratory Tract

GHS Classification:


Acute Toxicity, oral (Category 4)
Acute Toxicity, dermal (Category 4)
Skin Irritation (Category 2)
Eye irritation (Category 2A)
Skin sensitization (Category 1)
Acute toxicity, inhalation (Category 4)
Carcinogenicity (Category 2)

Hazard Statements:

Maybe harmful if swallowed.
Causes skin irritation.
Causes eye irritation.
May cause an allergic skin reaction.
May cause respiratory irritation.
May cause cancer.

Precautionary Statements:

Obtain special instructions before use.
Wear protective gloves and eye protection.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or physician
IF exposed or concerned: Get medical advice/attention.
Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/container in accordance with local/regional/national regulations.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS #	%
Formaldehyde	50-00-0	≤ 0.1%
Methanol	67-56-1	≤ 0.03%
Propylene Glycol	57-55-6	≤ 9%
Ethylene Glycol Monophenyl Ether	122-99-6	≤ 2%
Isopropyl Alcohol	67-63-0	≤ 0.5%
Glacial Acetic Acid	64-19-7	≤ 0.05%
Water	7732-18-5	Balance

SECTION 4: FIRST AID MEASURES

SKIN CONTACT: Wash affected area with soap and water. Seek medical attention if symptoms develop.

EYE CONTACT: Rinse cautiously for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Seek medical attention if irritation persists.

INHALATION: Remove to fresh air. Get medical treatment if symptoms persist.

INGESTION: Immediately call a POISON CENTER or physician. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation of skin, eyes, respiratory tract. Repeated exposure may cause dermatitis or other allergic reactions.

SECTION 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Use dry chemical, CO₂, dry sand or alcohol foam.

FIRE FIGHTING METHODS AND PROTECTION: Firefighters should wear self-contained breathing apparatus and wear full protective equipment.

FIRE AND/OR EXPLOSION HAZARDS: During a fire, smoke generated can be irritating or toxic.

HAZARDOUS COMBUSTION PRODUCTS: Products of combustion include but are not limited to carbon monoxide and carbon dioxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Avoid breathing vapors. Use gloves and eye protection to clean up spills.

EMERGENCY PROCEDURES: Ventilate area of spill. Eliminate all sources of ignition. Remove non-essential personnel.

ENVIRONMENTAL PRECAUTIONS: No special hazards. Follow applicable federal, state, provincial and local regulations regarding releases.

METHODS FOR CONTAINMENT AND CLEAN-UP: Absorb with liquid binding material and place in a sealed container. Dispose of waste in accordance with federal, state, provincial and local regulations.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Do not eat, drink or smoke when using this product. Avoid breathing vapors. Avoid direct skin or eye contact with liquids. Do not ingest. Wash hands with soap and water after use or handling of product.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES: Store at room temperature in a dry well ventilated area. Keep specimen container tightly closed when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Formaldehyde	C 0.3 ppm / C 0.37 mg/m ³	TWA: 0.75 ppm / STEL: 2ppm	TWA: 0.016 ppm / STEL: 0.1 ppm
Methanol	TWA: 200 ppm / STEL: 250 ppm	TWA: 200 ppm / STEL: 260 ppm	TWA: 200 ppm / STEL: 250 ppm
Ethylene Glycol Monophenyl Ether	Not available	Not available	Not available
Isopropyl Alcohol	TWA: 200 ppm / STEL: 400 ppm	TWA 400 ppm: 980 mg/m ³	TWA 400 ppm: 980 mg/m ³
Glacial Acetic Acid	2 mg/m ³ Vapor	5 mg/m ³ Nuisance Dust	TWA 10 mg/m ³
	WEEL		
Propylene Glycol	TWA 10 mg/m ³ Aerosol	Not available	Not available

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility, a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles or face shield, apron and appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory Protection: None should be needed in normal handling and room temperatures. If use conditions generate fumes above the OSHA regulations, use of a NIOSH/MSHA approved respirator is required.

ACGIH: American Conference of Industrial Hygienists, OSHA: U.S. Occupational Safety and Health Administration, NIOSH: U.S. National Institute for Occupational Safety and Health, PEL: Permissible Exposure Limit, TWA: Time Weighted Average, STEL: Short Term Exposure Limit, REL: Recommended Exposure Limit, WEEL: Workplace Environmental Exposure Limit

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance: Specimen with/without clear colorless liquid

Odor: Mild odor

Odor Threshold: Data not available

pH: Data not available

Melting/Freezing Point: Data not available

Boiling Point: Data not available

Flash Point: Data not available

Evaporation Rate (Water = 1) : >1

Flammability (solid/gas): Data not available

Explosion Limits: Lower/Upper: Data not available

Vapor Pressure (mmHg): Data not available

Vapor Density: Data not available

Relative Density (Specific Gravity): >1

Solubility(ies): Complete in water

Partition Coefficient: Data not available

Auto-ignition Temperature: Data not available

Decomposition Temperature: Data not available

Viscosity: Data not available

Molecular Formula: Mixture

Molecular Weight: Mixture

SECTION 10: STABILITY & REACTIVITY

Reactivity: None under normal conditions.

Chemical Stability: Stable

Conditions to Avoid: Excessive temperatures, heat and sources ignition

Incompatible Materials: Inorganic acids, strong oxidizers, and halogens

Hazardous Polymerization: None under normal conditions.

Hazardous Decomposition Products: May include, but are not limited to Carbon oxides

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: FAA Fixed Specimens in Preserved Holding Solution have not been tested as a mixture. Information about individual components is supplied.

Formaldehyde – Oral-rat LD50: 100 mg/kg; Inhalation-rat LC50: 250 ppm/4 hour; Dermal-rat: 270 mg/kg

Methanol - Oral-rat LD50: 5,600 mg/kg; Inhalation-rat LC50: 6,400 ppm/4 hours, 145,000 ppm/ 1 hour; Dermal-rat: 15,800 mg/kg

Propylene Glycol – Ingestion-rat LD50: > 20,000 mg/kg; Skin absorption-rabbit LD50: > 20,000 mg/kg

Ethylene Glycol Monophenyl Ether- Oral-rat LD50: 1,840 mg/kg; Dermal-rabbit: >2,214 mg/kg

Isopropyl Alcohol - Oral-rat LD50: 5,000 mg/kg; Dermal-rabbit LD50: 12,800 mg/kg; Inhalation-rat LC50: 16,000 ppm; Irritation eye-rabbit: standard draize, 10 mg

Glacial Acetic Acid - Oral-rat LD50: 3,310 mg/kg; Dermal-rabbit LD50: 1.06 g/kg; Inhalation-mouse LC50: 5,620 ppm/1-hr

Chronic Effects: Data not available.

Skin Corrosion/Irritation:

Causes skin irritation. May cause an allergic skin reaction.

Serious Eye Damage/Irritation:

Causes eye irritation or damage.

Respiratory or Skin Sensitization:

May cause sensitization by skin contact

Germ Cell Mutagenicity: Data not available.

Carcinogenicity: Data not available. Information about individual components is supplied.

Formaldehyde – Classified as a carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) and OSHA. CA Prop 65: Formaldehyde is known to the State of California to cause cancer.

Reproductive Toxicity: Data not available. Information about individual components is supplied.

Methanol - CA Prop 65: This chemical is known to the State of California to cause birth defects or other reproductive harm.

Specific Target Organ Toxicity – Single exposure: Data not available.

Specific Target Organ Toxicity– Repeated exposure: Data not available.

Aspiration Hazard: Data not available.

Potential Health Effects:

Inhalation: May cause respiratory irritation.

Ingestion: May be harmful if swallowed.

Skin: May cause skin irritation. May cause an allergic skin reaction.

Eyes: May cause eye irritation or damage.

Signs and Symptoms of Exposure:

The chemical, physical and toxicological properties have not been thoroughly investigated for this product/mixture. Specific data is not available. Exercise appropriate procedures to minimize hazards.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish: No data available.

Toxicity to daphnia and other aquatic invertebrates: No data available.

Toxicity to algae: No data available.

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Mobility in soil: No data available.

PBT and vPvB assessment: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: DISPOSAL CONSIDERATIONS

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

SECTION 14: TRANSPORTATION INFORMATION (US DOT /CANADA TDG)

UN/NA Number: Not applicable

Shipping Name: Not regulated

Hazard Class: Not applicable

Packing Group: Not applicable

Reportable Quantity: No

Marine Pollutant: No

Exceptions: Not applicable

2012 ERG Guide#: Not applicable

SECTION 15: REGULATORY INFORMATION

Toxic Substances Control Act (TSCA): All components of this product are included on the TSCA inventory.

Component	TSCA	CERLCA (RQ)	RCRA CODE	DSL	NDSL	WHMIS CLASSIFICATION
Formaldehyde	Listed	100 lbs (45.4 kg)	U122	Listed	Not Listed	D1A; D2A; D2B
Methanol	Listed	5,000 lbs (2,270 kg)	U154	Listed	Not Listed	B2; D1B; D2A; D2B
Propylene Glycol	Listed	None	None	Listed	Not Listed	None
Ethylene Glycol Monophenyl Ether	Listed	None	None	Listed	Not Listed	B3
Isopropyl Alcohol	Listed	None	None	Listed	Not Listed	B2, D2B
Glacial Acetic Acid	Listed	5,000 lbs (2,270 kg)	None	Listed	Not Listed	B3, E

California Proposition 65 Information:

⚠WARNING: This product can expose you to chemicals including 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.

SECTION 16: OTHER INFORMATION

Date Prepared: July 23, 2018

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