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Note: The CHEMTREC phone number is only for emergencies involving spills, leaks, fire, exposure or accident. Please direct all other inquiries to our customer service phone number.

Section I - Product Identification

A solution of reagent alcohol, formaldehyde and acetic acid in water.

Section II - Hazards Identification

Danger: Highly flammable liquid and vapor. Keep away from heat, sparks, open flames and hot surfaces. No smoking. Keep container tightly closed. Use only non-sparking tools. Take precautions against static discharge. Wear protective clothes and eye protection. In case of skin contact immediately remove all contaminated clothing. Rinse with water or shower. In case of fire, use fire extinguishers approved for alcohol fires. Formaldehyde is a known human carcinogen.

Safety Ratings

Health: Hazardous *Flammability:* Very flammable liquid and vapor *Reactivity:* Slight *Contact:* Slight

Recommended safety equipment: safety goggles, lab coat and proper gloves

Storage: Keep cool, away from sources of ignition in a well ventilated area.

NFPA Ratings

Health = 2 Flammability = 4 Reactivity = 0



Potential Health Effects

The toxicology of this compound have not been completely examined. It is presumed that the toxicity of this item is similar to other aliphatic alcohols. Inhalation of formaldehyde can lead to congestion, coughing and shortness of breath. Frequent skin contact leads to drying and scaling. Ingestion will damage the throat, stomach and intestines resulting in nausea, vomiting, abdominal pain and diarrhea. Lowered blood pressure, spontaneous abortion, loss of consciousness and kidney damage may result. Inhalation of high concentrations of vapor (14 ppm) have caused cancer in laboratory animals. Genetic damage in bacteria has been demonstrated.

Inhalation: Can cause irritation and chemical burns to the mouth, throat, esophagus and stomach. Can also cause nausea, vomiting, diarrhea, etc.

Ingestion: Ingestion will produce CNS disturbance, dizziness, photophobia, headache, stupor, coma and death.

Skin contact: Alcohols are absorbed through the skin. Repeated contact causes defatting of the skin with resultant irritation and flaking. May cause skin irritation or aggravation of existing dermatitis. May cause temporary discoloration of the skin.

Eye contact: Vapors may cause stinging sensation and tearing. Solution contact can cause corneal injury which can cause visual impairment if not dealt with immediately.

Chronic Exposure: Unknown

Aggravation of preexisting conditions: Impaired kidney and liver function may be aggravated by exposure to alcohols. Preexisting eye, skin, and respiratory conditions may also be aggravated. Methanol has shown genetic toxicity in some animals. May aggravate preexisting asthma and other lung diseases.

Section III - Composition/Information on Components

Ingredients	CAS#	OSHA Pel	ACGIH TLV	Other Limits	%
Ethanol	64-17-5	1000 ppm (TWA)	1000 ppm (TWA)		56% v/v
Isopropanol	67-63-0	400 ppm (TWA)	400 ppm (STEL)		3.1% v/v
Methyl alcohol	67-56-1	200 ppm (TWA)	200 ppm (TWA)		4.1% v/v
Formaldehyde	50-00-0	0.75 ppm (TWA)	0.3 ppm (CEIL)		4% w/v
Acetic acid	64-19-7	25 mg/m ³ TWA	25 mg/m ³ TWA		6.5% w/v

Section IV - First Aid Measures

Inhalation: Remove from source of exposure and get medical attention for any breathing difficulty.

Ingestion: Drink large quantities of fluids and call a physician immediately. Administer activated charcoal or other adsorbent if available. Get immediate medical attention even if symptoms improve.

Skin Contact: In case of skin contact, remove contaminated clothing and flush with water. Wash affected area with soap and water. Get medical advice if irritation develops.

Eye Contact: In case of eye contact, flush with water for at least 15 minutes and get immediate medical attention.

Section V - Fire Fighting Measures

Flash point: 21°C (70°F) TCC

Flammable Limits (for ethanol): LEL 3% UEL 19%

Fire: Water is ineffective against alcohol fires but may be used to cool adjacent containers.

Fire Extinguishing Media: Alcohol foam, carbon dioxide or dry chemical.

Special information: Pyrolysis will release toxic carbon monoxide.

Section VI - Accidental Release Measures

Remove all sources of ignition, absorb with a suitable absorbent (such as paper towels) and dispose.

Section VII - Handling and Storage

Store in a cool, well ventilated place. Store in a closed container, away from open flames or other sources of ignition.

Section VIII - Exposure Control/Personal Protection

Airborne Exposure Limits: See section III.

Ventilation System: Use appropriate ventilation. Laboratory fume hoods or similar apparatus are recommended for handling formaldehyde solutions. When required, Refer to the ACGIH document, "Industrial Ventilation, a Manual of Recommended Practices" for details about ventilation.

Personal Respirator: Required if threshold limit value for formaldehyde is exceeded. In case of emergency, or when exposure levels are unknown, use a half face or full face respirator with organic vapor cartridges.

Skin protection: Chemical resistant gloves are recommended.

Eye Protection: Laboratory safety goggles, safety glasses or face shield are required.

People who regularly work with formaldehyde are required to have regular medical surveillance.

Section IX - Physical and Chemical Properties

Boiling Point: 183°F

Vapor pressure (mm Hg): 40 @ 19°C

Vapor Density (air = 1): 1.6

Appearance and Odor: A clear colorless liquid with the characteristic odor of alcohol.

Density: 0.89 g/ml

Evaporation Rate (Ethanol = 1): 1

Solubility: Infinitely miscible with water

Section X - Stability and Reactivity

Stability: Freezes only at very low temperature.

Hazardous Decomposition Products: Nothing unusual.

Hazardous polymerization: Will not occur.

Incompatibilities: Oxidizers.

Conditions to avoid: heat, flame and sources of ignition.

Section XI - Toxicological Information

Chronic consumption of ethanol is believed to be linked to liver disease, cancer and birth defects.

Cancer lists

<u>Ingredient</u>	<u>Known Carcinogenicity?</u>	<u>NTP?</u>	<u>Anticipated?</u>	<u>IARC Category</u>
Formaldehyde	Yes	no	yes	2A
Ethanol	no	no	no	none
Isopropanol	no	no	no	3
Methanol	no	no	no	none

Section XII - Ecological Information

Environmental Fate: Biodegradable

Environmental Toxicity: Formaldehyde is expected to be toxic to fish.

Ethanol evaporates quickly and is not expected to bioaccumulate. The material is removed from the air by dry and liquid adsorption. The half-life for ethanol in the atmosphere is one to ten days.

Section XIII - Disposal Considerations

The preferred disposal method is incineration. Local governments may restrict the amounts of alcohol or formaldehyde that may be flushed down drain. Dispose of contents and container in accord with all applicable regulations.

Section XIV - Transportation information

DOT/IATA Shipping name: Ethanol Solution Hazard Class: 3 Packaging Group II

Hazard Label: Flammable liquid UN Identification Number: UN1170

Bottles smaller than 32 Fl. Oz. are eligible to be shipped under ORM-D or limited quantity exemptions [49 CFR section 173.150(b)(2), 173.150(C) and IATA Y341].

Section XV - Regulatory Information

Chemical Inventory Status

<u>Ingredient</u>	<u>TSCA</u>	<u>EC</u>
Acetic acid	Yes	Yes
Ethanol	Yes	Yes
Formaldehyde	Yes	Yes
Isopropanol	Yes	Yes
Methanol	Yes	Yes

Federal, State and International Regulations

<u>Ingredient</u>	<u>SARA 302</u>		<u>SARA 313</u>		<u>RCRA</u>	<u>TSCA</u>	<u>Ca. Prop. 65</u>
	<u>RQ</u>	<u>TPQ</u>	<u>List</u>	<u>Category</u>	<u>261.33</u>	<u>8(D)</u>	
Acetic acid	No	No	No	No	No	No	No
Ethanol	No	No	No	No	No	No	No
Formaldehyde	100	500	Yes	No	U122	No	Yes
Isopropanol	No	No	Yes	No	No	No	No
Methanol	No	No	Yes	No	U154	No	Yes

Chemical Weapons Convention: No TSCA 12(b): No CDTA: Yes

SARA 311/312: Acute: Yes, Chronic: Yes

Section XVI - Other Information

This information is believed to be correct but is not warranted as such, nor does it purport to be all inclusive.

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