MEDICAL CHEMICAL CORPORATION
SINCE 1954

SDS for Alcoholic Bouin's Fixative
Catalog # 457A

Medical Chemical Corp.
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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

An aqueous solution of reagent alcohol, formaldehyde, acetic acid and picric acid.

Section II - Hazards Identification

Danger: Extremely 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. Picric acid is explosive when dry. Formaldehyde is a human carcinogen.

Safety Ratings

Health: Hazardous *Flammability:* Severely flammable liquid and vapor *Reactivity:* Slight *Contact:* Slight
Recommended safety equipment: safety goggles, lab coat and proper gloves

Storage: Store in a well ventilated, cool place.

NFPA Ratings

Health = 2 Flammability = 4 Reactivity = 2

Potential Health Effects

Inhalation: Inhalation of formaldehyde can lead to congestion, coughing and shortness of breath. Frequent skin contact leads to drying and scaling. Inhalation of high concentrations of vapor (14 ppm) have caused cancer in laboratory animals. Genetic damage in bacteria has been demonstrated. Alcohols are absorbed through the mucous membranes and will produce irritation as well as the same effects as ingestion.

Irritating to respiratory tract. May cause asthma like symptoms in sensitive individuals.

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

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

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.

Aggravation of preexisting conditions: May aggravate 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)		54% v/v
Formaldehyde	50-00-0	0.75 ppm	1 ppm STEL		10% w/v
Acetic acid	64-19-7	25 mg/m3	25 mg/m3 TWA		5.2% w/v
Methanol	67-56-1	200 ppm	200 ppm STEL		3% v/v
Isopropanol	67-63-0	400 ppm (TWA)	400 ppm (STEL)		3% v/v
Picric acid	88-89-1	0.1 mg/m3	0.1 mg/m3 TWA		0.75% w/v

Section IV - First Aid Measures

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

Ingestion: Do not induce vomiting. Drink large quantities of fluids and call a physician immediately. Administer activated charcoal or other adsorbent if available.

Skin Contact: Wash affected area with soap and water. Get medical advice if irritation develops.

Eye Contact: Immediately flush thoroughly with running water for at least 15 minutes. Get immediate medical advice.

Section V - Fire Fighting Measures

Flash point: 22°C (72°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

Wear appropriate protective gear such as gloves, apron and protective eye wear. Absorb with a suitable absorbent (such as paper towels) and store in a suitable container for disposal. Large spills may be neutralized with formalin neutralizers.

Section VII - Handling and Storage

Store in a closed container at controlled room temperature, 59°F to 86°F (15°C to 30°C).

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

Density: 0.89 g/ml

Evaporation Rate (Ethanol = 1): 1

Solubility: Infinitely miscible with water

Appearance and odor: A clear yellow liquid with the odors of vinegar, alcohol and formaldehyde.

Section X - Stability and Reactivity

Stability: Freezes only at very low temperature.

Hazardous Decomposition Products: Nothing unusual.

Hazardous polymerization: Will not occur.

Incompatibilities: Nothing unusual.

Conditions to avoid: Excessive cold/heat and light.

Section XI - Toxicological Information

Toxicity: The chronic toxicity of this product is unknown but may include sensitization in sensitive individuals. Formaldehyde is a known human carcinogen. Chronic consumption of ethanol is believed to be linked to liver disease, cancer and birth defects.

Cancer lists

Ingredient	*Known Carcinogenicity?*	*Anticipated?*	*IARC Category*
Formaldehyde	yes	yes	2A
Acetic acid	no	no	none
Picric acid	no	no	none
Ethanol	no	no	none
Methanol	no	no	none
Isopropanol	no	no	3

Section XII - Ecological Information

Environmental Fate: Not biodegradable.
Environmental Toxicity: Formaldehyde is expected to be toxic to fish.

Section XIII - Disposal Considerations

Incineration is the preferred disposal method for formaldehyde. Local governments often restrict the disposal of alcohols, aldehydes and/or carcinogens that may be flushed down drain. Insure compliance with all government regulation

Section XIV - Transportation Information

DOT Shipping name: Ethyl alcohol solution *Hazard Class:* 3 *Packaging Group:* II
Hazard Label: Flammable liquid *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) and 173.150(C)].

Section XV - Regulatory Information

Chemical Inventory Status

Ingredient	TSCA	EC
Formaldehyde	Yes	Yes
Acetic acid	Yes	Yes
Picric acid	Yes	Yes
Ethanol	Yes	Yes
Methanol	Yes	Yes
Isopropanol	Yes	Yes

Federal, State and International Regulations

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

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 waranteed as such, nor does it purport to be all inclusive.
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