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Section I - Product Identification

Product: An aqueous solution of formaldehyde with methanol. Formaldehyde is a gas at room temperature and one atm of pressure. The 37% solution is a saturated solution of formaldehyde in water and is properly called formalin. The methanol is present to prevent the polymerization to paraformaldehyde.

Intended Uses: Intended for use as a general laboratory reagent.

Uses advised against: For professional use only by trained laboratory personnel.

Manufacturer Identification

Medical Chemical Corp.
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Emergency Telephone Number

CHEMTREC Emergency Response Telephone Number: (800)424-9300. 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 II - Hazard Identification

This item is considered hazardous by 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity, oral: Category 3 (H301). Toxic if swallowed

Acute Toxicity, dermal: Category 3 (H311). Toxic in contact with skin.

Acute Toxicity, inhalation: Category 3 (H331). Toxic if inhaled.

Serious eye damage/eye Irritation: Category 1B (H314). Causes severe skin burns and eye damage. .

Skin sensitization: Category 1 (H317). May cause an allergic skin reaction.

Carcinogenicity: Category: 1B (H350). May cause cancer.

Germ cell mutagenicity: Category 2 (H341). Suspected of causing genetic defects

Signal word: Danger

Hazard statements: Danger. According to the harmonized classification and labeling approved by the European Union: this substance is toxic if swallowed, is toxic in contact with skin, causes skin burns and eye damage. Toxic if inhaled. Formaldehyde may cause cancer and is suspected of causing genetic defects. It may also cause allergic skin reactions.

Precautionary Statements

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

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

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

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

Safety Ratings

Health: Extremely hazardous *Flammability:* Flammable *Reactivity:* zero *Contact:* Corrosive

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

NFPA Ratings

Health = 3 Flammability = 2 Reactivity = 0

Potential Health Effects

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: 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 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.

Aggravation of preexisting conditions: May aggravate preexisting asthma and other lung diseases.

Section III - Composition/Information on Components

Ingredients	CAS#	EC/List No.	%
Formaldehyde	50-00-02	31.791-2	35 - 40% w/w
Methanol	67-56-12	00-001-8	10% w/w

Section IV - First Aid Measures

Eye contact: If this chemical contacts the eyes immediately wash the eyes with large amounts of water lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

Skin contact: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention.

Inhalation: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.

Ingestion: If this chemical has been swallowed, get medical attention immediately. If conscious drink large quantities of fluids and call a physician immediately. Administer activated charcoal or other adsorbent if available. Never give anything by mouth to an unconscious person.

Section V - Fire Fighting Measures

Flash point: 133 °F (56 °C)

Flammable Limits: LEL 7%, UEL 73%

Fire: Formaldehyde gas is flammable and easily released from solution.,

Explosion: Not normally an explosion hazard.

Fire Extinguishing Media: Any means suitable for surrounding fire.

Special information: Pyrolysis will release formaldehyde.

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. Should not be released into the environment.

Section VII - Handling and Storage

P102+P403+P102. Keep out of reach of children. Store in a closed container in a well ventilated room at controlled room temperature, 59 °F to 86 °F (15 °C to 30 °C).

Section VIII - Exposure Control/Personal Protection

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Formaldehyde	0.75 ppm (TWA)	0.3 ppm (CEIL)	20 ppm
Methyl alcohol	200 ppm (TWA)	200 ppm (TWA)	6000 ppm

Legend

ACGIH: American Conference of Governmental Industrial Hygienists.

OSHA: Occupational Safety and Health Administration.

NIOSH: National Institute for Occupational Safety and Health.

IDLH: Immediately dangerous to life or health.

Ventilation System: Local exhaust such as explosion proof chemical fume hoods are recommended. When required, Refer to the ACGIH document, "Industrial Ventilation, a Manual of Recommended Practices" for details about ventilation.

Personal Respirator: Usually not required. In case of emergency, or when exposure levels are unknown, use a positive pressure, full face piece, air supplied respirator.

Skin protection: Protective gloves are recommended as part of good laboratory practice.

Eye Protection: Laboratory safety goggles or similar products are not required but recommended as part of good laboratory practice.

Section IX - Physical and Chemical Properties

Boiling Point: 101 °C

Vapor pressure (mm Hg): 1.3 @ 20 °C

Vapor Density: 1.27 g/l

Appearance and Odor: A clear colorless, or slightly cloudy, liquid with the acrid odor of formaldehyde.

Density: 1.08 g/ml @ 22.5 °C

Evaporation Rate (water = 1): 1

Solubility: Infinitely miscible with water

Section X - Stability and Reactivity

Stability: Stable under normal conditions.

Hazardous Decomposition Products: Nothing unusual.

Hazardous polymerization: Formaldehyde easily polymerizes to paraformaldehyde but the reaction is not exothermic and not expected to be hazardous.

Incompatibilities: Oxidizers.

Conditions to avoid: Excessive cold, heat and light.

Section XI - Toxicological Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Formaldehyde	500 mg/kg (Rat)	270 mg/kg (Rat)	0.578 mg/l/4h (Rat)
Methyl alcohol	5628 mg/kg (Rat)	15,800 mg/kg (Rabbit)	131 mg/l/4h (Rat)

Toxic by ingestion or inhalation. The chronic toxicity of this product is unknown but may include sensitization in sensitive individuals. Formaldehyde is a known human carcinogen

Cancer lists

Ingredient	Known Carcinogenicity?	NTP?	Anticipated?	IARC Category
Formaldehyde	yes	no	yes	1
Methanol	no	no	no	none

Section XII - Ecological Information

Methanol and formaldehyde are not expected to bioaccumulate. The material is removed from the air by dry and liquid adsorption. Both chemicals biodegrade quickly and are not expected to be endocrine disrupters, persistent organic pollutants or ozone depleters.

Soil Mobility: Unknown

Environmental Fate: Biodegradable.

Environmental Toxicity: Category 2 (H402). Harmful to aquatic life

Component	Freshwater Fish	Water Flea	Freshwater algae
Formaldehyde	LC50 = 15 mg/l 96 h	EC50 = 20 mg/L 96 h	EC50 = 4.9 mg/l 72 h
Methanol	LC50 g/l 96 h	EC50 10 g/l 24 h	No Data

Section XIII - Disposal Considerations

Incineration at a licensed chemical disposal facility is the preferred disposal method for formaldehyde. Because formaldehyde is a known human carcinogen, local and state governments often restrict the amount that may be flushed down the drain without neutralization. Neutralization may be achieved with glycine, bisulfite or ammonia. There are also proprietary products that are authorized for formaldehyde. Dispose of contents and container in accord with all applicable regulations.

Section XIV - Transportation Information

DOT Shipping name: Formaldehyde solution
 DOT Hazard Label: Corrosive

DOT Hazard Class: 8 Packing Group: III
 DOT Identification Number: UN2209

Bottles smaller than 32 Fl. Oz. are eligible to be shipped under limited quantity exemptions [49 CFR section 173.154(b) and 173.154(C)]. Formalin solutions with less than 10% formaldehyde are not regulated by DOT or IATA.

Section XV - Regulatory Information

Chemical Inventory Status


<u>Ingredient</u>	<u>TSCA</u>	<u>EC</u>
Formaldehyde	Yes	Yes
Methanol	Yes	Yes

Federal and State 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>	
Formaldehyde	100	500	Yes	No	U122	No	Yes
Methanol	No	No	Yes	No	U154	No	Yes

<u>Ingredient</u>	<u>Chemical Weapons Convention</u>	<u>TSCA 12(b)</u>	<u>CDTA</u>
Formaldehyde	No	No	No
Methanol	No	No	No

<u>Ingredient</u>	<u>SARA 311/312</u>	
	<u>Acute?</u>	<u>Chronic?</u>
Formaldehyde	Yes	Yes
Methanol	Yes	Yes

 Warning: This product contains formaldehyde which is known to the state of California to cause cancer, birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov

Section XVI - Other Information

This information is believed to be correct at the time of publication but is not guaranteed as such, nor does it purport to be all inclusive. Medical Chemical Corp. assumes no liability for the accuracy or completeness of the information. The user assumes all responsibility for compliance with federal, state and local laws.

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