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## Section I - Product Identification

*Product:* An aqueous solution of zinc sulfate, formaldehyde and sodium acetate.

*Intended Uses:* An in-vitro diagnostic reagent intended to be used as a laboratory fixative.

*Uses advised against:* Only for use by laboratory professionals.

### Manufacturer Identification

Medical Chemical Corp.  
19430 Van Ness Ave.  
Torrance, CA 90501

Customer Service: Phone (310)787-6800  
Email: Christinaavena@med-chem.com  
FAX (310)787-4464



### 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)

**Skin corrosion/irritation:** Category 2 (H315). Causes skin corrosion/irritation.

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

**Serious eye damage/eye Irritation:** Category 2A (H319). Causes serious eye irritation.

**Specific organ toxicity:** Category 2 (H335). May cause respiratory irritation.

**Mutagen:** Category 2 (H341). Suspected of causing genetic defects.

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

**Specific organ toxicity:** Category 2 (H371). May cause damage to organs.

**Signal word:** Danger.

### Hazard statements

According to the harmonized classification and labeling required by OSHA and the European Union, this substance is toxic if swallowed and in contact with the skin. It can cause skin burns and eye damage as well as an allergic skin reaction. It is toxic if inhaled and may cause cancer. It is suspected of causing genetic defects.

### Precautionary Statements

P261 Avoid breathing 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.

P281 Use personal protective equipment as required.

P285 In case of inadequate ventilation wear respiratory protection.

### Safety Ratings

Health: Hazardous *Flammability:* None *Reactivity:* Stable *Contact:* Slight

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

Storage: General storage

### NFPA Ratings

Health = 2 Flammability = 0 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 result-

ing 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. | % w/w    |
|--------------------------|-----------|-------------|----------|
| Formaldehyde             | 50-00-0 2 | 31.791-2    | 11% w/w  |
| Zinc sulfate             | 7446-20-0 | 616-097-3   | 0.2% w/w |
| Methanol                 | 67-56-1 2 | 00-001-8    | 1% w/w   |
| Anhydrous sodium acetate | 127-09-3  | 204-823-8   | 0.1% w/w |

### 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.

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

*Eye Contact:* Immediately flush thoroughly with running water for several minutes. Get immediate medical advice.

### Section V - Fire Fighting Measures

*Flash point:* Not applicable.

*Flammable Limits:* Not applicable.

*Fire:* Not normally a fire hazard,

*Explosion:* Not normally an explosion hazard.

*Fire Extinguishing Media:* Any means suitable for surrounding fire.

*Special information:* Pyrolysis will release corrosive oxides.

### 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+P233+P403. Store in a closed container. Store in a well ventilated area 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     |

|                          |               |               |          |
|--------------------------|---------------|---------------|----------|
| Zinc sulfate             | No Data       | No Data       | No Data  |
| Methyl alcohol           | 200 ppm (TWA) | 200 ppm (TWA) | 6000 ppm |
| Anhydrous sodium acetate | No Data       | No Data       | No Data  |

### 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 recommended as part of good laboratory practice.

### Section IX - Physical and Chemical Properties

**Boiling Point:** 98 - 99 °C

**Vapor pressure (mm Hg):** 24 @ 25 °C

**Vapor Density (air = 1):** 0.6

**Appearance and Odor:** A clear colorless liquid with the acrid odor of formaldehyde.

**Density:** 1.01 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:** Will not occur.

**Incompatibilities:** Oxidizers.

**Conditions to avoid:** Nothing unusual.

### 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) |
| Zinc sulfate              | 2150 mg/kg (Rat) | No data               | No data             |
| Methyl alcohol            | 5628 mg/kg (Rat) | 15,800 mg/kg (Rabbit) | 131 mg/l/4h (Rat)   |
| Sodium acetate, anhydrous | 3.5 g/kg (Rat)   | >10 g/kg (Rabbit)     | No data             |

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             |
| Zinc sulfate             | No                     | No   | No           | None          |
| Methanol                 | No                     | No   | No           | 3             |
| Anhydrous sodium acetate | 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. The components biodegrades quickly and are not expected to be endocrine disrupters, persistent organic pollutants or ozone depleters.

**Soil Mobility:** Unknown.

**Environmental Fate:** Biodegradable.

**Environmental Toxicity:** 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 |
| Zinc sulfate             | LC50 1 - 10 mg/l 96 h | No Data             | No Data              |
| Methanol                 | LC50 g/l 96 h         | EC50 10 g/l 24 h    | No Data              |
| Anhydrous sodium acetate | No Data               | No Data             | No Data              |

### Section XIII - Disposal Considerations

Disposal 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

Formalin solutions with less than 10% formaldehyde are not regulated by DOT or IATA.

### Section XV - Regulatory Information

#### Chemical Inventory Status


| Ingredient     | TSCA | EC  |
|----------------|------|-----|
| Formaldehyde   | Yes  | Yes |
| Zinc Sulfate   | Yes  | Yes |
| Methanol       | Yes  | Yes |
| Sodium acetate | Yes  | Yes |

#### Federal and, State Regulations

| Ingredient     | SARA 302 |     | SARA 313 |          | RCRA TSCA |      |             |
|----------------|----------|-----|----------|----------|-----------|------|-------------|
|                | RQ       | TPQ | List     | Category | 261.33    | 8(D) | Ca. Prop 65 |
| Formaldehyde   | 100      | 500 | Yes      | No       | U122      | No   | Yes         |
| Zinc Sulfate   | No       | No  | No       | No       | No        | No   | No          |
| Methanol       | No       | No  | Yes      | No       | U154      | No   | Yes         |
| Sodium acetate | No       | No  | No       | No       | No        | No   | No          |

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

SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No Reactivity: No

 Warning: This product contains formaldehyde and methanol which are known to the state of California to cause cancer, birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://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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