MEDICAL CHEMICAL CORPORATION
SINCE 1954

# SDS for Bayley's Fixative
# Catalog # 437A

**Creation date: 05-13-2015** **Revision date: 09-06-2024** **Revision number: 1.05**

## Section I - Product Identification

*Product*: A solution of mercuric chloride and potassium dichromate in water.

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

*Uses advised against*: Intended for laboratory use only.

*Country of origin*: United States

### Manufacturer Identification

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

Customer Service: Phone (310)787-6800
Email. customerservice@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)

**Eye damage/eye Irritation**: Category 2 (H314) Causes severe skin burns and eye damage.
**Acute toxicity (Oral)**: Category 2 (H300). Fatal if swallowed.
**Acute toxicity (Inhalation)**: Category 4 (H332). Harmful if inhaled.
**Acute toxicity (Dermal):** Category 2 (H314). Causes severe skin burns and eye damage.
**Specific organ toxicity (Repeated Exposure)**: Category 1 (H372). Causes damage to organs.
**Germ cell Mutagenicity**: Category 2 (H341). Suspected of causing genetic defects.
**Reproductive toxicity**: Category 2 (H361F). Suspected of damaging fertility.

**Signal word**: Danger

### Hazard statements

According to the harmonized classification and labeling recommended by OSHA and the EU, this substance causes serious eye damage. In case of skin contact immediately remove all contaminated clothing. Rinse with water or shower. Fatal if swallowed. Wash thoroughly after handling. Do not eat drink or smoke while using this product. If swallowed rinse mouth with water and immediately call a poison control center. Administer antidote for mercury poisoning if available. Mercury and chromium salts are cumulative poisons. Mercuric chloride and potassium chromate are experimental teratogens and mutagens.

### Precautionary statements

P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P262: Do not get in eyes, on skin, or on clothing
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
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P284: [In case of inadequate ventilation] Wear respiratory protection.
P301+P316: IF SWALLOWED: Get emergency medical help immediately.
P302+P352: IF ON SKIN: wash with plenty of water.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P316: Get emergency medical help immediately.
P319: Get medical help if you feel unwell.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
Safety Ratings

*Health*: Extremely hazardous *Flammability*: Non-flammable *Reactivity*: None *Contact*: Hazardous
Recommended safety equipment: safety goggles, lab coat and proper gloves

### NFPA Ratings

Health = 3. Can cause serious or permanent injury..
Flammability = 0. Will not burn.
Reactivity = 0. Normally stable, even under fire conditions.

**Potential Health Effects**

The toxicology of this compound has not been completely examined. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Pregnant women should be particularly vigilant when handling this item. Signs of overexposure include increased salivation, foul breath, abdominal pain, bloody diarrhea and inflammation and/or ulceration of the mucous membranes.

*Inhalation*: The vapor pressure of mercuric chloride and potassium dichromate is low and not likely to be volatile except in extreme conditions. Breathing the mist or spray is extremely hazardous.

*Ingestion:* Ingestion will produce coma and death. Mercuric chloride and potassium chromate are highly toxic cumulative poisons and extremely corrosive

*Skin contact*: Skin contact may result in burns and/or dermatitis. Repeated contact with mercuric chloride can cause systemic poisoning.

*Eye contact*: Irritating and corrosive. Even brief contact can cause irreversible eye damage

*Chronic Exposure*: Mercuric compounds are a cumulative poison..

*Aggravation of preexisting conditions:* Preexisting eye, skin, and respiratory conditions may also be aggravated.

## Section III - Composition/Information on Components

| Ingredient | CAS# | EC/List No. | % w/w |
|---|---|---|---|
| Mercuric chloride | 7487-94-7 | 231-299-8 | 1.5% |
| Potassium dichromate | 7778-50-9 | 231-906-6 | 1.5% |

## Section IV - First Aid Measures

*General Advice:* Get immediate medical attention..

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

*Ingestion*: Rinse mouth with water but do not induce vomiting. Aspiration of into the lungs may prove fatal. If the patient is conscious administer water or milk to dilute the poison and an absorbent such as activated charcoal. Specific antidotes for mercury poisoning are also 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. Launder clothing before reuse. Get medical advice.

*Eye Contact*: Remove contact lenses if feasible and flush with water for at least 15 minutes. Get medical attention.

## Section V - Fire Fighting Measures

*Explosion*: Not normally an explosion hazard

*Special information*: Pyrolysis will release toxic mercury compounds.

*Special protective gear and precaution*s: Self contained breathing apparatus and protective gear recommended.

## Section VI - Accidental Release Measures

Use personal protective gear, absorb with a suitable absorbent and dispose at a licensed disposal site. Should not be released into the environment.

## Section VII - Handling and Storage

P233+P102+P403+P405; Store in a well-ventilated place. Keep container tightly closed. Keep out of reach of children. Store locked up.

## Section VIII - Exposure Control/Personal Protection

| Component | ACGIH TLV | OSHA PEL | NIOSH | NIOSH IDLH |
|---|---|---|---|---|
| Potassium dichromate | 0.05 mg/m$^3$ TWA | 0.1 mg/m$^3$ Ceiling | | 15 mg/m$^3$ Cr VI |
| Mercuric Chloride | 0.025 mg/m$^3$ TWA | 0.1 mg/m$^3$ TWA | 0.05 mg/m$^3$ TWA | 10 mg/m$^3$ Hg |

**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 required.

Eye Protection: Laboratory safety goggles or similar products are required.

## Section IX - Physical and Chemical Properties

*Appearance and Odor:* A clear orange liquid.

*Flash point*: Not applicable.
*Auto ignition temperature*: Not applicable
*Boiling point range*: No data
*Decomposition temperature:* No data
*Melting point*: ~0 °C (~32 °F)
*pH:* 5.7 @ 25 °C
*Vapor pressure* (mm Hg): 18 @ 20 °C
*Viscosity:* ~0.01 poise

*Flammable Limits*: Not applicable.
*Boiling Point*: ~100 °C (212 °F)
*Density*: 1.02 g/ml @ 22.5 °C
*Evaporation Rate (Water = 1)*: 1
*Partition coefficient (n-Octanol/Water)*: No data
*Solubility*: Miscible with water
Vapor density (air = 1): 0.6
*Volatile organic carbon (VOC):* Not applicable

## Section X - Stability and Reactivity

*Stability*: Stable under normal conditions.

*Hazardous Decomposition Products*: Mercury compounds.

*Hazardous polymerization*: Will not occur.

*Incompatibilities*: Ammonia, Strong oxidizers and metals..

*Conditions to avoid*: Anything that produces dust..

## Section XI - Toxicological Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Mercuric Chloride | 41 mg/kg (Rat) | Very hazardous | No Data |
| Potassium dichromate | 91 mg/kg (Rat) | 14 mg/kg (Rabbit) | 0.088 mg/l 4 h (Rat) |

**Cancer lists**

| *Ingredient* | *Known Carcinogenicity?* | *NTP?* | *Anticipated?* | *IARC Category* |
|---|---|---|---|---|
| Mercuric chloride | No | No | No | 3 |
| Potassium dichromate | Yes | Yes | Yes | 1 |

*Irritation:* Causes chemical burns on contact.

*Sensitization*: No data

*Mutagenic effects*: Mercury compounds are mutagens.

*Developmental effects:* Mercury compounds are neurotoxic.

## Section XII - Ecological Information

Mercuric compounds are an environmental hazard.

**Environmental Fate**: Mercury salts are not biodegradable and accumulate in the environment.
**Soil Mobility**: Unknown
**Environmental Toxicity**: (H410) Hazardous to the aquatic environment, long-term hazard

| Component | Freshwater Fish | Water Flea | Freshwater algae |
|---|---|---|---|
| Mercuric Chloride | EC50 0.11 mg/l 96 h | EC50 0.002 mg/l 48 h | EC 50 0.002 mg/l 48 h |
| Potassium dichromate | LC50 0.13 mg/l 96 h | EC50 0.04 mg/l 48 h | EC50 0.31 mg/l 72 h |

## Section XIII - Disposal Considerations

Dispose at a licensed chemical disposal facility. Local governments will forbid disposal of mercury compounds in the sewer or trash. Dispose of contents and container in accord with all federal, state and local regulations.

## Section XIV - Transportation Information

DOT
Shipping name: Toxic Liquid, Corrosive, Inorganic, n.o.s (Mercuric Chloride) Hazard Class: 6.1
Packaging Group II Hazard Label: Poison UN Identification Number: UN3289

IATA
Shipping name: Toxic Liquid, Corrosive, Inorganic, n.o.s (Mercuric Chloride) Hazard Class: 6.1
Packaging Group II Hazard Label: Poison UN Identification Number: UN3289

IMDG
Shipping name: Toxic Liquid, Corrosive, Inorganic, n.o.s (Mercuric Chloride) Hazard Class: 6.1
Packaging Group II Hazard Label: Poison UN Identification Number: UN3289 Marine pollutant

## Section XV - Regulatory Information

### Chemical Inventory Status

| *Ingredient* | *TSCA* | *EC* |
|---|---|---|
| Potassium dichromate | Yes | Yes |
| Mercuric Chloride | Yes | Yes |

### Federal and State Regulations

| *Ingredient* | *SARA 302 RQ* | *SARA 302 TPQ* | *SARA 313 List* | *SARA 313 Category* | *RCRA 261.33* | *TSCA 8(D)* | *Ca. Prop 65* |
|---|---|---|---|---|---|---|---|
| Mercuric Chloride | 500 | 500 | Yes | Mercury Cmpd | No | No | Yes |
| Potassium dichromate | No | No | Yes | Chromium Cmpd | No | No | Yes |

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

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

⚠ This product contains mercuric chloride and potassium dichromate which are known to the state of California to cause 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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