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Section I - Product Identification

Product: This product is a solution of glycerine, phenol and acridine orange in 25% v/v reagent alcohol. Reagent alcohol is 90% v/v ethanol, 5% v/v isopropanol and 5% v/v methanol.

Intended Uses: This product is a biological stain used in bacteriology.

Uses advised against: Not for food or drug use. Reagent alcohol is toxic and can not be made non-toxic.

Country of origin: United States.

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)

Flammable liquid: Category 3 (H226). Flammable liquid and vapor.

Eye damage/eye irritation: Category 2 (H319) Causes serious eye irritation.

Acute toxicity (Oral): Category 4 (H302). Harmful if swallowed.

Acute toxicity (Inhalation): Category 4 (H332). Harmful if inhaled.

Acute toxicity (Dermal): Category 4 (H312). Harmful in contact with skin.

Skin corrosion: 1B (H315). Causes skin irritation

Signal word: Warning

Hazard statements

According to the harmonized classification and labeling required by OSHA and the EU, this substance is a highly flammable liquid and vapor, causes serious eye irritation and may cause drowsiness or dizziness. 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.

Precautionary statements

P102: Keep out of reach of children.
P210: Keep away from heat, sparks, open flames and hot surfaces. No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.
P242: Use only non-sparking tools.
P243: Take precautions against static discharge.
P262: Do not get in eyes, on skin, or on clothing
P264: Wash thoroughly after handling.
P280: Wear protective clothes and eye protection.

Safety Ratings

Health: Hazardous **Flammability:** Flammable **Reactivity:** None **Contact:** Slight
Recommended safety equipment: safety goggles, lab coat and proper gloves

NFPA Ratings

Health = 2 Flammability = 3 Reactivity = 0

Potential Health Effects

The toxicology of this compound has not been completely examined. It is presumed that the toxicity of this item is similar to other aliphatic alcohols. Inhalation or contact with ethanol may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Exposure to methanol vapor causes eye irritation, headache, fatigue and drowsiness. High concentrations can produce central nervous system depression and optic nerve damage. Can be absorbed through skin. Swallowing methanol may cause death or eye damage. Phenol will burn eyes and skin. The analgesic action may cause loss of pain sensation. Phenol is readily absorbed through skin, causing increased heart rate, convulsions, and death. Gastrointestinal effects include: nausea, pain, bloody vomitus and diarrhea.

Inhalation: Alcohols are absorbed through the mucous membranes and will produce irritation as well as the same effects as ingestion.

Ingestion: Ingestion will produce CNS disturbance, dizziness, photophobia, headache, stupor, coma and death. Phenol is very toxic: Oral lethal dose is estimated at 50-500 mg/kg. Ingestion of 1 gram has been fatal.

Skin contact: Alcohols are absorbed through the skin. Repeated contact causes defatting of the skin with resultant irritation and flaking.

Eye contact: May be irritating. Phenol can cause severe eye damage

Chronic Exposure: Repeated contact can cause chronic poisoning with kidney and liver damage.

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.

Section III - Composition/Information on Components

Ingredients	CAS#	EC List Number	%w/w
Glycerine	56-81-5	200-289-5	30%
Ethanol	64-17-5	200-578-6	17%
Isopropanol	67-63-0	200-661-7	1%
Methyl alcohol	67-56-1	200-659-6	1%
Phenol	108-95-2	200-289-5	5%
Acridine orange	494-38-2	610-452-6	0.1%

Section IV - First Aid Measures

General Advice: Contact a doctor if symptoms persist

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

Ingestion: Get immediate medical attention. Do not induce vomiting. If advice from a physician is not readily available, and the victim is conscious and not convulsing, rinse their mouth with water. Give the victim a glass of activated charcoal slurry in water or, if this is not available, a glass of milk, or beaten egg whites. Assure that the victim's airway is open and lay the victim on their side with the head lower than the body.

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. Phenol causes skin lesions that are slow to heal.

Eye Contact: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. Immediately transport the victim after flushing eyes to a hospital even if no symptoms develop.

Section V - Fire Fighting Measures

Fire Extinguishing Media: Alcohol foam, carbon dioxide or dry chemical. Water is ineffective against alcohol fires but may be used to cool adjacent containers.

Specific Hazards: Risk of vapor traveling to source of ignition and flashing back. Risk of exploding containers when heated. Vapor in air may form explosion risk.

Special information: Pyrolysis will release toxic carbon monoxide, formaldehyde and methanol.

Special protective gear and precautions: Self contained breathing apparatus and protective gear recommended.

Section VI - Accidental Release Measures

Use personal protective gear, remove all sources of ignition, absorb with a suitable absorbent and dispose. Take precautions against static ignition. Should not be released into the environment.

Section VII - Handling and Storage

P403+P233+P102; Store in a well-ventilated place. Keep container tightly closed. Store away from open flames or other sources of ignition. Keep out of reach of children.

Section VIII - Exposure Control/Personal Protection

Component	ACGIH TLV	OSHA PEL	NIOSH	NIOSH IDLH
Glycerine	10 mg/m ³ TWA (mist)	15 mg/m ³ TWA (mist)	Not listed	Not listed
Ethanol	STEL: 1000 ppm	TWA:1000 ppm	TWA:1000 ppm	3300 ppm
Isopropanol	TWA: 200 ppm STEL: 400 ppm	TWA: 400 ppm	TWA: 400 ppm	2000 ppm
Methyl alcohol	TWA: 200 ppm(skin) STEL: 250 ppm	TWA 200 ppm (skin)	TWA 200 ppm (skin)	6000 ppm
Phenol	5 ppm vapor (TWA)	19 mg/m ³ (TWA)	5 ppm vapor (TWA)	250 ppm
Acridine orange	Not listed	Not listed	Not listed	Not listed

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

Appearance and Odor: A dark green liquid with a sweet odor. Has the characteristic odor of alcohol and phenol.

Flash point: 32.5 °C (91 °F) TCC

Flammable Limits (for ethanol):

LEL 3% UEL 19%

Flammable Limits (for methanol):

LEL 6% UEL 36.5%

Flammable Limits (for isopropanol):

LEL 2% UEL 12%

Autoignition temperature: No data

Boiling Point: 187 °F (86 °C)

Boiling point range: No data

Decomposition temperature: No data

Density: 1.03 g/ml @ 20 °C

pH: Not applicable

Vapor pressure (mm Hg): No data

Evaporation Rate (Water = 1): No data

Melting point: No data

Partition coefficient: No data

Odor threshold: No data

Solubility: Miscible with water

Vapor Density (air = 1): No data

Vapor pressure: No data

Viscosity: No data

Volatile organic carbon (VOC): No data

Section X - Stability and Reactivity

Stability: Stable under normal conditions.

Hazardous Decomposition Products: Heating will release corrosive phenol vapors.

Hazardous polymerization: Will not occur.

Incompatibilities: Reacts with strong oxidizing reagents and many common organic chemicals

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

Section XI - Toxicological Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerine	12,600 g/kg (Rat)	Not applicable	570mg/m ³ /h
Ethanol	1047 mg/kg (Rat)	No data	5,900 mg/m ³ /6 h (Rat)
Isopropanol	>4700 mg/kg (Rat)	13,000 mg/kg (Rabbit)	19,000 ppm/8h (Rat)
Methyl alcohol	5628 mg/kg (Rat)	15,800 mg/kg (Rabbit)	64,000 ppm/4h (Rat)
Phenol	317 mg/kg (Rat)	630 mg/kg (Rabbit)	900 mg/m ³ /8h (Rat)
Acridine orange	Not applicable	Not applicable	Not applicable

Cancer lists

<i>Ingredient</i>	<i>Known Carcinogenicity?</i>	<i>NTP?</i>	<i>Anticipated?</i>	<i>IARC Category</i>
Glycerine	No	No	No	None
Ethanol	No	No	No	None
Methanol	No	No	No	3
Isopropanol	No	No	No	3
Phenol	No	No	No	3
Acridine orange	No	No	No	3

Section XII - Ecological Information

Aliphatic alcohols evaporate quickly and are 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.

Environmental Fate: Biodegradable

Soil Mobility: Unknown

Hazardous to the aquatic environment, long-term hazard: Category 3 (H412). Harmful to aquatic life with long lasting effects

For acridine orange

Toxicity to freshwater fish :No data

Toxicity to invertebrates: No data

Toxicity to freshwater algae: No data

For ethyl alcohol

Toxicity to freshwater fish (fathead minnow):LC50 = 14200 mg/l, 96 h

Toxicity to invertebrates (water flea): EC50 = 9268 mg/l, 48 h

Toxicity to freshwater algae (Chlorella vulgaris): EC50 = 275 mg/l, 72 h

For glycerine

Toxicity to freshwater fish (rainbow trout):LC50 = 54,000 mg/l, 96 h

Toxicity to invertebrates: No data

Toxicity to freshwater algae: No data

For Isopropanol

Toxicity to freshwater fish (blue gill):LC50 = 9640 mg/l, 96 h

Toxicity to invertebrates (water flea): EC50 = 1000 mg/l, 48 h

Toxicity to freshwater algae (Pseudokirchneriella subcapitata): EC50 = >1000 mg/l, 72 h

For methanol

Toxicity to freshwater fish (blue gill):LC50 = 15,400 mg/l, 96 h

Toxicity to invertebrates (water flea): EC50 = 18,260 mg/l, 96 h

Toxicity to freshwater algae (Pseudokirchneriella subcapitata): EC50 = 22,000 mg/l, 72 h

For phenol

Toxicity to freshwater fish (cutthroat trout):LC50 = 8.9 mg/l, 96 h

Toxicity to invertebrates (water flea): EC50 = 3.1 mg/l, 48 h

Toxicity to freshwater algae (pseudokirchneriella subcapitata): EC50 = 61 mg/l, 96 h

Section XIII - Disposal Considerations

Disposal at a licensed chemical disposal facility is the preferred disposal method. Local governments often restrict the amounts of alcohol and other flammable liquids that may be flushed down the drain. The usual rule is that the effluent exiting the building must not be flammable. Dispose of contents and container in accord with all applicable regulations.

Section XIV - Transportation Information

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

DOT

Proper shipping name: Ethanol solution UN1170 Hazard Class: 3
Packaging Group: II DOT Hazard Label: Flammable liquid

IATA

Proper shipping name: Ethanol solution UN1170 Hazard Class: 3
Packaging Group: II DOT Hazard Label: Flammable liquid

IMDG

Proper shipping name: Ethanol solution UN1170 Hazard Class: 3
Packaging Group: II DOT Hazard Label: Flammable liquid EMS-No: F-E, S-D

Section XV - Regulatory Information

Chemical Inventory Status

<i>Ingredient</i>	<i>TSCA</i>	<i>EC</i>
Glycerine	Yes	Yes
Ethanol	Yes	Yes
Methanol	Yes	Yes
Isopropanol	Yes	Yes
Phenol	Yes	Yes
Acridine Orange	Yes	Yes


Federal and State Regulations

<i>Ingredient</i>	<i>SARA 302</i>		<i>SARA 313</i>		<i>RCRA</i>	<i>TSCA</i>	<i>Ca. Prop 65</i>
	<i>RQ</i>	<i>TPQ</i>	<i>List</i>	<i>Category</i>	<i>261.33</i>	<i>8(D)</i>	
Ethanol	No	No	No	No	No	No	No
Isopropanol	No	No	Yes	No	No	No	No
Methanol	No	No	Yes	No	U154	No	Yes
Phenol	500	500	Yes	No	No	No	No
Acridine orange	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: Yes
Pressure: No
Reactivity: No

 This product contains methanol which is 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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