
MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: EOSIN-Y ALCOHOLIC

Catalog number: 832

General use: Counterstain in histology and surgical pathology.

Product description: Solution of eosin Y, methanol and water.

Manufacturer

Anatech Ltd.
1020 Harts Lake Road
Battle Creek, MI 49037
USA

Emergency contact information

Health:	Anatech Ltd.	800-262-8324	8 am - 5 pm ET, M-F
Transportation:	CHEMTREC	800-424-9300	24 hours

2. COMPOSITION AND INFORMATION ON INGREDIENTS

(Note: Percentage composition is withheld as a trade secret.)

<u>Component</u>	<u>CAS #</u>	<u>Exposure limits</u>
Eosin Y (C.I. 45380)	548-26-5	Not established.
Methanol	67-56-1	200 ppm (OSHA, NIOSH, ACGIH 8 hour TWA) 250 ppm (ACGIH Ceiling) 6000 ppm (NIOSH IDLH*)
		* Immediately dangerous to life and health
Acetic acid	64-19-7	10 ppm (OSHA, NIOSH, ACGIH 8 hr TWA) 15 ppm (NIOSH, ACGIH 15 minute STEL)

3. HAZARDS IDENTIFICATION

Emergency Overview

Orange-pink liquid with fluorescent green cast; characteristic methanol odor.

Irritant to eyes and skin. It can be absorbed through the skin. Methanol is a systemic poison and cannot be made nonpoisonous. Not likely to pose an inhalation threat under normal conditions of use. Inhalation of high concentrations of vapors may irritate respiratory tract and depress the central nervous system. Ingestion, inhalation or absorption of high volumes may cause multiple systemic failures including blindness, gastrointestinal disturbances liver, kidney and heart damage.

Flammable liquid.

3. HAZARDS IDENTIFICATION (continued)

Potential health effects

(Human health effects only; animal effects in Section 11: Toxicological Information.)

Primary route(s) of exposure: Eyes, skin and inhalation.

Inhalation: Inhalation of vapors during normal conditions of use are not likely to present a health hazard. Breathing high concentration of vapors is likely to cause irritation to the mucous membranes. Toxic effects are observed on the central nervous system and especially the optic nerve. Symptoms include headache, drowsiness, nausea, vomiting and impaired vision. Systemic organ failures include the kidneys, liver and heart.

Eye: Contact of liquid with eyes will cause irritation.

Skin: Methanol is a defatting solvent and extended contact of liquid with skin may cause irritation. Brief contact is not likely to produce adverse effects besides pink coloring of the skin. Methanol is absorbed through the skin and shows health effects similar to inhalation effects.

Ingestion: Ingestion symptoms are similar to inhalation symptoms.

Chronic effects: Repeated or prolonged exposure may cause dermatitis. Prolonged or repeated exposure may cause liver, kidney, and heart damage, reproductive disorders and visual disturbances.

Signs and symptoms: Affected skin will appear be stained pink and appear dry and cracked. Eyes may tear and are characterized by a burning sensation. Effects on the gastrointestinal tract include nausea and/or vomiting. Effects on the respiratory system are symptoms of depression of the central nervous system: coughing, difficulty in breathing and drowsiness.

4. FIRST AID MEASURES

Inhalation: Remove victim to fresh air if coughing or difficulty in breathing is experienced. Consult a physician if symptoms persist or worsen. Administer oxygen or artificial respiration as needed.

Eye: Flush eyes for at least 15 minutes in an eyewash station. If symptoms persist after washing, consult a physician.

Skin: Remove contaminated clothing, including footwear; wash before reuse or discard. For minor exposure, wash affected area with water and mild soap, rinsing thoroughly; apply a good quality skin lotion. In cases of prolonged, repeated or extensive exposure, rinse affected area or entire body for at least 15 minutes. For severe conditions, consult a physician.

Ingestion: Call a poison control center immediately. If victim is conscious, have him/her drink several glasses of water to dilute the solution. Induce vomiting only upon the advice of a physician or poison control authority.

5. FIRE FIGHTING MEASURES

Flammable properties

Flash point: 66°F (18.9°C), closed-cup.

Flammable limit: Not determined.

Autoignition temperature: Not determined.

5. FIRE FIGHTING MEASURES (continued)

Flammability classification: Flammable liquid (OSHA).

Flame propagation: Vapors can travel to source of ignition and flash back to liquid if vapor temperature exceeds flash point.

Hazardous products of combustion: Carbon monoxide and carbon dioxide.

Extinguishing media: ABC rated portable fire extinguishers should be used. Professional fire fighters may use water spray, dry chemical or carbon dioxide.

Fire fighting instructions: Sealed chemical suits and self contained breathing apparatus are necessary for fighting fires involving substantial volumes of this product.

6. ACCIDENTAL RELEASE MEASURES

The size of a spill is defined in part by the local situation, especially regarding ventilation. At room temperature in a well ventilated room, a few hundred milliliters might be considered a small spill. Flammable vapors are generated during a spill and may exceed OSHA's Permissible Exposure Limits. Wear protective gloves, rubber boots, impermeable aprons and full-face respirators. Use a damp sponge or mop to remove spilled liquid. Wash contaminated area with water. Discard absorbents and other contaminated solids in a receptacle suitable for hazardous chemical waste. Liquid waste may be discarded down the drain with approval by wastewater authorities, or may be removed by a licensed waste hauler.

With large spills, evacuate the area and have an emergency response team perform the cleanup. Have a licensed waste hauler remove contaminated solids and recovered liquid.

Comply with all applicable governmental regulations on spill reporting and on the handling and disposal of hazardous waste.

7. HANDLING AND STORAGE

Handling: Wear a plastic or rubber apron, protective gloves and splash-proof goggles. Avoid all contact with skin and eyes. Do not continue to wear contaminated clothing after a spill.

Storage: Store in a flammable storage cabinet.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering controls: Good general room ventilation is essential. Product should be used with local ventilation (fume hood).

Personal protective equipment

Respiratory protection: A NIOSH-approved respirator suitable for organic vapors must be used if vapor levels exceed the exposure limits.

Skin protection: Anatech Ltd. recommends nitrile gloves. Do not use latex surgical gloves for protection against any hazardous liquid. An eyewash station and safety shower must be nearby, preferably in the same room, no more than 10 seconds away.

Eye protection: Use splash-proof goggles. Do not use safety glasses. If a face shield is worn as protection against biohazards, splash-proof goggles also should be used. An eyewash station and safety shower must be nearby, preferably in the same room, no more than 10 seconds away.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Orange-pink liquid with fluorescent green cast.

Odor: Characteristic methanol odor.

Physical state: Liquid.

pH: 4.5 - 4.9.

Vapor pressure: Not determined.

Vapor density: Not determined.

Boiling point: Not determined.

Freezing point: Not determined.

Solubility in water: Moderate. Eosin Y dye precipitates out with the addition of 50% water.

Specific gravity: Not determined.

10. STABILITY AND REACTIVITY

Chemical stability: Stable.

Conditions to avoid: Heating this solution will give off irritating vapors. Solution is flammable; keep away from heat, sparks and flames.

Incompatibility with other materials: Strong oxidants. Will attack some forms of plastics, rubber and coatings.

Hazardous decomposition products: Carbon oxides.

Hazardous polymerization: None.

11. TOXICOLOGICAL INFORMATION

Acute eye effects: 40 mg of methanol administered into rabbit eyes in the standard Draize test produced moderate irritation.

Acute skin effects: 20 mg of methanol administered on rabbit skin in the standard Draize test (24 hours) produced moderate irritation.

Acute oral effects: OSHA considers chemicals to be toxic if their LD₅₀ is at or below 500 mg/kg. LD₅₀ is the dose killing 50% of the test animals in a given time (usually 4 hours). Using 100% methanol, the LD₅₀ was 7,300 mg/kg in mice, 14,200 mg/kg in rabbits and 5,628 mg/kg in rats.

Acute inhalation effects: Using 100% methanol, the LC₅₀ in rats was 64,000 ppm/4 hours. In man, methanol produces severe toxic effects at 2,000 ppm and symptoms of illness at 500 ppm.

Target organ effects: Sense organs (optic nerve); lungs (dyspnea); gastrointestinal (nausea or vomiting); central nervous system and musculoskeletal system (specific developmental abnormalities).

Carcinogenicity: No evidence of carcinogenicity.

11. TOXICOLOGICAL INFORMATION (continued)

Teratology: Fetotoxicity and developmental abnormalities have been reported in rat studies.

Reproductive effects: Positive paternal effects in rat (fertility) and mouse (spermatogenesis) studies.

Mutagenicity: Positive.

12. ECOLOGICAL INFORMATION

Ecotoxicity: The following data are from studies using 100% methanol.

Toxicity threshold (cell multiplication inhibition test):

Bacteria

Pseudomonas putida: 6600 mg/l

Pseudomonas: LD₀ = 0.6 g/l

Algae

Microcystis aeruginosa: 530 mg/l

Scenedesmus quadricauda: 8000 mg/l

Scenedesmus: LD₀ = 10 g/l

Protozoa

Entosiphon sulcatum: > 10,000 mg/l

Uronema parduczi: > 10,000 mg/l

Colpoda: LD₀ = 1.25 g/l

Arthropoda

Daphnia: no effect at 10 g/l, 48 hr

Brine shrimp: TL_m: 24 hr: 10,000 mg/l

Fish

Trout: TL_m: 48 hr: 8,000 mg/l

Cheek chub: LD₀: 24 hr in Detroit river water: 8,000 mg/l,

LD₁₀₀: 24 hr in Detroit river water: 17,000 mg/l

Biological Oxygen Demand (BOD), 5 day: = 48-53.4% ThOD

Biological Oxygen Demand (BOD), 5 day: = 69-76% bio. ox.

Environmental fate: Methyl alcohol is dangerous to aquatic life in high concentrations and is expected to biodegrade in soil and water very rapidly.

13. DISPOSAL CONSIDERATIONS

Eosin-Y Alcoholic is flammable and should be disposed via a licensed waste hauler. Do not mix waste streams unless instructed to do so by your waste hauler.

Some wastewater treatment authorities may grant permission for drain disposal of limited amounts of this solution.

This product is not recyclable.

Canadian disposal regulations generally parallel those in the United States.

Regardless of the method chosen for disposal, be sure to follow federal, state (provincial) and local regulations. Proper waste disposal is the generator's responsibility.

14. TRANSPORTATION INFORMATION

Packaging for hazardous shipments must meet the specifications as required by the current editions of *International Air Transportation Association (IATA) Dangerous Goods Regulations* and the United States Department of Transportation *49 CFR*.

DOT (ground and air) and IATA: **Proper Shipping Name:** Flammable liquid, n.o.s. (methanol)
UN #: 1993
Hazard Class: 3
Packing Group: II

15. REGULATORY INFORMATION

OSHA (USA): Under the Hazard Communication Standard and the Laboratory Standard, this product is a hazardous material: it is an irritant, poison and is flammable.

The two OSHA Standards cited above mandate that exposed workers receive proper training in the properties of this product, work practices involved with its handling and disposal, and interpretation of its MSDS.

FDA (USA): Eosin-Y Alcoholic is for in vitro diagnostic use as a counterstain in histology.

EPA (USA): Eosin-Y Alcoholic is ignitable. It is a reportable substance under SARA Title III.

16. OTHER INFORMATION

Label warnings: Danger. Poison. Vapor harmful. May be fatal or cause blindness if swallowed. Cannot be made nonpoisonous. Flammable. Keep from heat and open flame. Use with adequate ventilation. Avoid contact with skin and eyes. If swallowed, contact a physician.

NFPA (National Fire Protection Association) Rating:

General note: This rating is applicable only to safeguard the lives of individuals who may be concerned with fires occurring in an industrial plant or storage location. The ratings provide information to emergency personnel on whether to evacuate the area or how to perform control procedures. It is not descriptive of hazards under normal conditions of occupational use, and is even less applicable to anticipated laboratory-scale use.

Health 1: Materials that, under emergency conditions, can cause significant irritation.

Flammability 3: Materials that can be ignited under almost all ambient temperature conditions.

Instability 0: Materials that are normally stable even under fire conditions.