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## MATERIAL SAFETY DATA SHEET

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: HEMATOXYLIN EXTRA

**Catalog number:** 822

**General use:** Nuclear stain for histology and cytology.

**Product description:** Aqueous solution of hematoxylin.

**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

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### 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>
Acetic acid	64-19-7	10 ppm (OSHA, NIOSH, ACGIH 8 hour TWA) 15 ppm (NIOSH, ACGIH 15 minute STEL)
Aluminum sulfate	10043-01-3	Not established for solutions.
Ethylene glycol	107-21-1	100 mg/m <sup>3</sup> (ACGIH Ceiling) for aerosol
Hematoxylin	517-28-2	Not established.
Sodium iodate	7681-55-2	Not established.

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### 3. HAZARDS IDENTIFICATION

**Emergency overview**

Dark purple-red liquid.

Irritant to eyes. Not likely to pose a hazard under normal conditions of use.

**Potential health effects**

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

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

**Inhalation:** Inhalation of vapors during normal conditions of use are not likely to present a health hazard.

### 3. HAZARDS IDENTIFICATION (continued)

**Eye:** Contact of liquid with eyes may cause irritation.

**Skin:** Brief contact with skin is nonirritating. Prolonged or repeated contacted may cause irritation.

**Ingestion:** Due to ethylene glycol, ingestion is likely to produce abdominal discomfort or diarrhea. Severe kidney damage has been reported when swallowing large volumes of ethylene glycol.

**Chronic effects:** None expected under anticipated conditions of use.

**Signs and symptoms:** Affected skin will be stained purple. Eyes may water. Effects on the gastrointestinal tract may include discomfort and nausea.

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### 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.

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### 5. FIRE FIGHTING MEASURES

#### Flammable properties

**Flash point:** > 200°F (> 93.3°C) closed cup.

**Flammable limit:** Not determined.

**Autoignition temperature:** Not determined.

**Flammability classification:** Class IIIB Combustible liquid (OSHA).

**Flame propagation:** None.

**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.

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## 6. ACCIDENTAL RELEASE MEASURES

Wear protective gloves, impermeable aprons and splash-proof goggles. Use a damp sponge or mop to remove spilled liquid. Wash contaminated area with water and decolorize with household bleach. Discard absorbents and other contaminated solids in a trash receptacle. Liquid waste may be discarded down the drain with approval by wastewater authorities, or may be removed by a licensed waste hauler.

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

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## 7. HANDLING AND STORAGE

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

**Storage:** Store at room temperature.

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Engineering controls:** Good general room ventilation is essential.

### Personal protective equipment

**Respiratory protection:** None needed.

**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. An eyewash station and safety shower must be nearby, preferably in the same room, no more than 10 seconds away.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Dark purple-red liquid.

**Odor:** Mild acetic acid odor.

**Physical state:** Liquid.

**pH:** 2.1 - 2.7.

**Vapor pressure:** Not determined.

**Vapor density:** Not determined.

**Boiling point:** Not determined.

**Freezing point:** Not determined.

**Solubility in water:** Complete.

**Specific gravity:** Not determined.

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## 10. STABILITY AND REACTIVITY

**Chemical stability:** Stable.

**Conditions to avoid:** None.

**Incompatibility with other materials:** Strong oxidants, acids and bases.

**Hazardous decomposition products:** None.

**Hazardous polymerization:** None.

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## 11. TOXICOLOGICAL INFORMATION

The following data are from studies using 100% ethylene glycol.

**Acute eye effects:** None known.

**Acute skin effects:** None known.

**Acute oral effects:** OSHA considers chemicals to be toxic if their LD<sub>50</sub> is at or below 500 mg/kg. LD<sub>50</sub> is the dose killing 50% of the test animals in a given time (usually 4 hours). The LD<sub>50</sub> was 4,700 mg/kg in rats. Lethal dose in humans is approximately 100 ml. Birth defects were produced when pregnant mice and rats were orally administered doses of 500 and 1,000 mg/kg/day, respectively.

**Acute inhalation effects:** OSHA considers chemicals to be toxic if their LC<sub>50</sub> is at or below 20 mg/kg. LC<sub>50</sub> is the airborne concentration killing 50% of the test animals. In rats LC<sub>50</sub> was 10,876 mg/kg. Minimal evidence for birth defects were detected in the offspring of mice exposed to aerosol concentrations up to 2,500 mg/m<sup>3</sup>, 6 hours/day during gestation.

**Chronic effects/carcinogenicity:** There is no evidence of carcinogenicity.

**Teratology:** See acute oral effects and acute inhalation effects.

**Reproductive effects:** See acute oral effects and acute inhalation effects.

**Mutagenicity:** None known.

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## 12. ECOLOGICAL INFORMATION

**Ecotoxicity:** The following data are from studies using 100% ethylene glycol.

Rainbow trout: LC<sub>50</sub>: 18,000 - 46,000 mg/l

Bluegill: LC<sub>50</sub> = 27,540 mg/l

Fathead minnow: LC<sub>50</sub> = 51,000 mg/l

Guppy: LC<sub>50</sub> = 49,300 mg/l

Golden orfe: LC<sub>50</sub> > 10,000 mg/l

Green alga: LC<sub>50</sub> = 143 mg/l

Water flea, *Daphnia magna*: LC<sub>50</sub>: 46,300 - 51,100 mg/l

Water flea, *Ceriodaphnia dubia*: LC<sub>50</sub>: 10,000 - 25,800 mg/l

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## 12. ECOLOGICAL INFORMATION (continued)

Bacteria: 16 hr EC<sub>50</sub> > 10,000 mg/l

Growth inhibition: EC<sub>50</sub> : 9,500 - 13,000 mg/l

Biological Oxygen Demand (BOD), 5 day = 60.5% oxygen consumption

Biological Oxygen Demand (BOD), 20 day = 89.1% oxygen consumption

Modified OECD Screening Test, 28 days: > 90%

**Environmental fate:** Ethylene glycol is readily biodegradable.

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## 13. DISPOSAL CONSIDERATIONS

Hematoxylin Extra is not hazardous under EPA regulations. Drain disposal is recommended with the permission of local wastewater treatment authorities.

Canadian disposal regulations generally parallel those in the United States.

Follow federal, state (provincial) and local regulations. Proper waste disposal is the generator's responsibility.

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## 14. TRANSPORTATION INFORMATION

**DOT (ground and air) and IATA:** Not regulated.

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## 15. REGULATORY INFORMATION

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

The 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):** Hematoxylin Extra is for in vitro diagnostic use as a stain in histology.

**EPA (USA):** Hematoxylin Extra is a reportable substance under SARA Title III.

## 16. OTHER INFORMATION

**Label warnings:** Warning. Harmful or fatal if swallowed. If swallowed contact a physician immediately. Use with adequate ventilation. Avoid contact with skin and eyes.

### **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 0: Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

Flammability 1: Materials that must be preheated before ignition can occur.

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