



Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	HARLECO® Tetrachrome Blood Stain	Product Code	7292
Manufacturer	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	Effective Date	7/24/2003
		Print Date	5/3/2004

For More Information Call

(914) 592-4660
M-F, 9AM-4:30 PM EST

In Case of Emergency Call

800-424-9300 CHEMTREC (USA)
613-996-6666 (Canada)
24 Hours/Day: 7 Days/Week

Synonym None.

Material Uses Laboratory Reagent

Chemical Family Dye Solution

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Eosin Y	17372-87-1	<1
Methylene Blue	61-73-4	<1
Azure A	531-53-3	<1
Methylene Violet	2516-05-4	<1
Methanol	67-56-1	98-100

Section 3. Hazards Identification

Physical State and Appearance Liquid.

Emergency Overview DANGER !POISON !
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
MAY BE FATAL OF CAUSE BLINDNESS IF SWALLOWED.
CANNOT BE MADE NON-POISONOUS
HARMFUL IF INHALED, ABSORBED THROUGH SKIN OR SWALLOWED.
CAUSES EYE AND SKIN IRRITATION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

Routes of Entry Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Skin Hazardous in case of skin contact (permeator, irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

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Inhalation Hazardous in case of inhalation.

Ingestion Hazardous in case of ingestion.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure:

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the Product Product will burn.

Auto-ignition Temperature The lowest known value is 464.05°C (867.3°F) (Methanol).

Flash Points Closed cup: 12.222°C (54°F).

Flammable Limits The greatest known range is LOWER: 6% UPPER: 36.5% (Methanol)

Products of Combustion These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances Highly flammable in presence of open flames, sparks and static discharge, of shocks, of heat, of oxidizing materials.

Explosion Hazards in Presence of Various Substances
Risks of explosion of the product in presence of static discharge:
 Highly flammable in presence of open flames, sparks and static discharge.
 Highly explosive in presence of open flames, sparks and static discharge.

Risks of explosion of the product in presence of mechanical impact:
 Highly flammable in presence of shocks.
 Highly explosive in presence of shocks.

Fire Fighting Media and Instructions
 SMALL FIRE: Use DRY chemical powder.
 LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Protective Clothing (Fire) Be sure to use an approved/certified respirator or equivalent.

Special Remarks on Fire Hazards Dangerous fire and explosion risk. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to source of ignition and flash back. (Methanol)

Special Remarks on Explosion Hazards Avoid all possible sources of ignition (spark or flame). Vapor may travel considerable distance to source of ignition and flash back.

Section 6. Accidental Release Measures

Small Spill and Leak	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large Spill and Leak	Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Spill Kit Information	The following EMD Chemicals Inc. SpillSolv (TM) absorbent is recommended for this product: SX1330 Solvent Treatment Kit

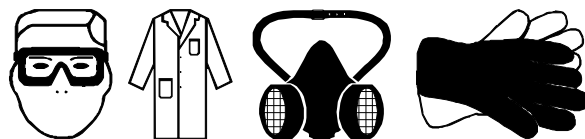
Section 7. Handling and Storage

Handling	Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.
Storage	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	
<i>Eyes</i>	Splash goggles.
<i>Body</i>	Lab coat.
<i>Respiratory</i>	Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
<i>Hands</i>	Gloves.
<i>Feet</i>	Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	Exposure Limits
Eosin Y	Not available.
Methylene Blue	Not available.
Azure A	Not available.
Methylene Violet	Not available.
Methanol	<p>ACGIH (United States, 1994). Skin TWA: 262 mg/m³ STEL: 328 mg/m³</p> <p>OSHA (United States, 1989). Skin TWA: 260 mg/m³ STEL: 325 mg/m³</p> <p>ACGIH (United States, 1994). Skin STEL: 328 mg/m³ 15 minute(s).</p>

STEL: 250 ppm 15 minute(s).

TWA: 262 mg/m³ 8 hour(s).

TWA: 200 ppm 8 hour(s).

NIOSH REL (United States, 1994). Skin

STEL: 325 mg/m³ 15 minute(s).

STEL: 250 ppm 15 minute(s).

TWA: 260 mg/m³ 10 hour(s).

TWA: 200 ppm 10 hour(s).

OSHA Final Rule (United States, 1989). Skin

STEL: 325 mg/m³ 15 minute(s).

STEL: 250 ppm 15 minute(s).

TWA: 260 mg/m³ 8 hour(s).

TWA: 200 ppm 8 hour(s).

Section 9. Physical and Chemical Properties

Odor	Alcohol like. (Slight.)
Color	Purple.
Physical State and Appearance	Liquid.
Molecular Weight	Not applicable.
Molecular Formula	Not applicable.
pH	Not available.
Boiling/Condensation Point	The lowest known value is 64.55°C (148.2°F) (Methanol).
Melting/Freezing Point	May start to solidify at -97.72°C (-143.9°F) based on data for: Methanol.
Specific Gravity	The only known value is 0.792 (Water = 1) (Methanol).
Vapor Pressure	The highest known value is 12.9 kPa (97 mmHg) (@ 20°C) (Methanol).
Vapor Density	The highest known value is 1.11 (Air = 1) (Methanol).
Volatility	99.9% (v/v). (Methanol.)
Odor Threshold	The lowest known value is 100 ppm (Methanol)
Evaporation Rate	5.91 (Methanol) compared to (n-Butyl Acetate =1)
VOC	100 (%)
LogK_{ow}	Not available.
Solubility	Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Avoid all possible sources of ignition (spark or flame).
Incompatibility with Various Substances	Highly reactive with oxidizing agents. Reactive with metals, acids.
Rem/Incompatibility	Incompatible with caustic alkali, dichromates, reducing agents and alkali iodides.
Hazardous Decomposition Products	CO _x , Formaldehyde.
Hazardous Polymerization	Will not occur.

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Section 11. Toxicological Information

RTECS Number:	Eosin Y (Yellowish)	LM5850000
	Methylene Blue	SO5600000
	Azure A	SP5660000
	Methylene Violet	Not available.
	Methanol	PC1400000

Toxicity Acute oral toxicity (LD₅₀): 5628 mg/kg [Rat]. (Methanol).
 Acute dermal toxicity (LD₅₀): 15800 mg/kg [Rabbit]. (Methanol).
 Acute toxicity of the vapor (LC₅₀): 64000 ppm 4 hour(s) [Rat]. (Methanol).

Chronic Effects on Humans Not available.

Acute Effects on Humans Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. Hazardous in case of skin contact (permeator, irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation. Hazardous in case of ingestion.

Synergetic Products (Toxicologically) Not available.

Irritancy Draize Test: Not available.

Sensitization Not available.

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Toxicity to Reproductive System Not available.

Teratogenic Effects Not available.

Mutagenic Effects Not available.

Section 12. Ecological Information

Ecotoxicity Not available.

BOD5 and COD Not available.

Toxicity of the Products of Biodegradation The products of degradation are as toxic as the product itself.

Section 13. Disposal Considerations

EPA Waste Number D001

Treatment Incineration, fuels blending or recycle. Contact your local permitted waste disposal site (TSD) for permissible treatment sites. ALWAYS CONTACT PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

Section 14. Transport Information

DOT Classification Proper Shipping Name: METHANOL SOLUTION
 Hazard Class: 3
 UN number: UN1230
 Packing Group: II
 RQ: Not applicable.



TDG Classification Not available.

IMO/IMDG Classification Not available.

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**ICAO/IATA
Classification**

Not available.

Section 15. Regulatory Information

U.S. Federal Regulations TSCA 8(b) inventory: Eosin Y; Methylene Blue; Azure A; Methanol
 SARA 302/304/311/312 extremely hazardous substances: No products were found.
 SARA 302/304 emergency planning and notification: No products were found.
 SARA 302/304/311/312 hazardous chemicals: Methylene Blue; Methanol
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Methylene Blue: Delayed (Chronic) Health Hazard; Methanol: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
 SARA 313 toxic chemical notification and release reporting: Methanol 99%
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: No products were found.
 Clean air act (CAA) 112 accidental release prevention: No products were found.
 Clean air act (CAA) 112 regulated flammable substances: No products were found.
 Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada) CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
 Class D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
 Class D-2B: Material causing other toxic effects (TOXIC).

CEPA DSL: Eosin Y; Methylene Blue; Azure A; Methanol

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS	Eosin Y	241-409-6
	Methylene Blue	200-515-2
	Azure A	208-510-7
	Methylene Violet	219-733-4
	Methanol	200-659-6

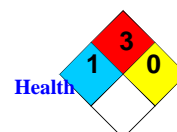
DSCL (EEC) R11- Highly flammable.
 R37/38- Irritating to respiratory system and skin.
 R41- Risk of serious damage to eyes.

International Lists Australia (NICNAS): Eosin Y; Methylene Blue; Azure A; Methanol
 Japan (MITI): Eosin Y; Methylene Blue; Methanol
 Korea (TCCL): Eosin Y; Methylene Blue; Methanol
 Philippines (RA6969): Eosin Y; Methylene Blue; Methanol
 China: No products were found.

State Regulations Pennsylvania RTK: Methanol: (environmental hazard, generic environmental hazard)
 Massachusetts RTK: Methanol
 New Jersey: Tetrachrome Blood Stain
 California prop. 65: No products were found.

Section 16. Other Information

**National Fire
Protection
Association
(U.S.A.)**



Fire Hazard
Reactivity
Specific Hazard

**Changed Since Last
Revision****+****Notice to Reader**

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