



# Material Safety Data Sheet

## Section 1. Product and Company Identification

<b>Product Name</b>	Gill Modified Hematoxylin, Solution #2	<b>Product Code</b>	65066
<b>Manufacturer</b>	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.	<b>Effective Date</b>	12/14/2004
		<b>Print Date</b>	12/22/2004

### For More Information Call

856-423-6300 Technical Service  
Monday-Friday: 8:00 AM - 5:00 PM

### In Case of Emergency Call

800-424-9300 CHEMTREC (USA)  
613-996-6666 CANUTEC (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
Water	7732-18-5	>57
Ethylene glycol	107-21-1	25
Aluminum Sulfate	16828-11-8	0-10
Acetic acid.	64-19-7	2-6
Hematoxylin	517-28-2	<1
Sodium Iodate	7681-55-2	<1

## Section 3. Hazards Identification

**Physical State and Appearance** Liquid.

**Emergency Overview** WARNING !  
HARMFUL IF INHALED OR SWALLOWED.  
CAUSES EYE AND SKIN IRRITATION.

**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 (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

**Inhalation** Hazardous in case of inhalation.

**Ingestion** Hazardous in case of ingestion. Do not take internally.

### Potential Chronic Health Effects

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

Continued on Next Page

Additional information See Toxicological Information (section 11)

**Medical Conditions  
Aggravated by  
Overexposure:**

Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. 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**

Non-flammable.

**Auto-ignition Temperature**

Not applicable.

**Flash Points**

Not applicable.

**Flammable Limits**

Not applicable.

**Products of Combustion**

Not applicable.

**Fire Hazards in Presence of Various Substances**

Not applicable.

**Explosion Hazards in Presence of Various Substances**

Risks of explosion of the product in presence of static discharge: No.  
Risks of explosion of the product in presence of mechanical impact: No.

**Fire Fighting Media and Instructions**

Use DRY chemicals, CO<sub>2</sub>, alcohol foam or water spray.

**Protective Clothing (Fire)**

Wear suitable protective clothing.

**Special Remarks on Fire Hazards**

When heated to decomposition it emits toxic fumes.

**Special Remarks on Explosion Hazards**

Not available.

**Section 6. Accidental Release Measures**

<b>Small Spill and Leak</b>	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: <b>Neutralize the residue with a dilute solution of sodium carbonate.</b>
<b>Large Spill and Leak</b>	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 curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. <b>Neutralize the residue with a dilute solution of sodium carbonate.</b> Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
<b>Spill Kit Information</b>	The following EMD Chemicals Inc. SpillSolv (TM) absorbent is recommended for this product: SX1310 Acid Treatment Kit

**Section 7. Handling and Storage**

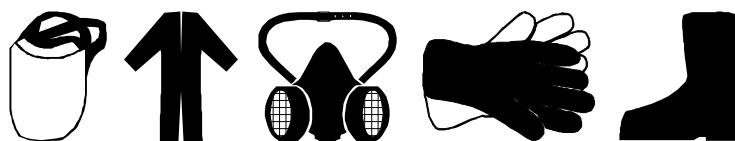
<b>Handling</b>	Do not ingest. Do not breathe vapor or mist. Use only with adequate ventilation. Wash thoroughly after handling.
<b>Storage</b>	Store between 15 to 30°C (59 to 86°F). Keep in a well-ventilated place.

**Section 8. Exposure Controls/Personal Protection**

<b>Engineering Controls</b>	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.
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<b>Personal Protection</b>	
<i>Eyes</i>	Face shield.
<i>Body</i>	Full suit.
<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>	Boots.

**Protective Clothing (Pictograms)**



<b>Personal Protection in Case of a Large Spill</b>	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.
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<b>Product Name</b>	<b>Exposure Limits</b>
Water	Not available.
Ethylene glycol	<b>AUVA (Austria, 1995). Skin</b> Spitzenbegrenzung: 52 mg/m <sup>3</sup> 8 times per shift, 5 minute(s). Spitzenbegrenzung: 20 ppm 8 times per shift, 5 minute(s). TWA: 26 mg/m <sup>3</sup> 8 hour(s). TWA: 10 ppm 8 hour(s). <b>Belgium Minister of Labour (Belgium, 1998).</b> CEIL: 101 mg/m <sup>3</sup> VCD: 101 mg/m <sup>3</sup> 15 minute(s). <b>BAUA (Germany, 1997). Skin</b> Spitzenbegrenzung: 26 mg/m <sup>3</sup> Spitzenbegrenzung: 10 ppm TWA: 26 mg/m <sup>3</sup> 8 hour(s). TWA: 10 ppm 8 hour(s).

**DK-Arbejdstilsynet (Denmark, 1996). Skin**GV: 26 mg/m<sup>3</sup> 8 hour(s).

GV: 10 ppm 8 hour(s).

**Tyterveyslaitos (Finland, 1998).**STEL: 190 mg/m<sup>3</sup> 15 minute(s).

STEL: 75 ppm 15 minute(s).

TWA: 130 mg/m<sup>3</sup> 8 hour(s).

TWA: 50 ppm 8 hour(s).

**INRS (France, 1996).**VLE: 125 mg/m<sup>3</sup> 15 minute(s).

VLE: 50 ppm 15 minute(s).

**National Authority for Occupational Safety/Health (Ireland, 1999).**OEL: 10 mg/m<sup>3</sup> 8 hour(s).**Arbeidsinspectie (Netherlands, 1999).**TGG 8 uur: 26 mg/m<sup>3</sup> 8 hour(s).

TGG 8 uur: 10 ppm 8 hour(s).

**N-Arbeidstilsynet (Norway, 1996).**

AN: 25 ppm 8 hour(s).

**AFS (Sweden, 1996). Skin**KTV: 50 mg/m<sup>3</sup> 15 minute(s).

KTV: 20 ppm 15 minute(s).

NGV: 25 mg/m<sup>3</sup> 8 hour(s).

NGV: 10 ppm 8 hour(s).

**EH40-OES (United Kingdom (UK), 1997).**TWA: 10 mg/m<sup>3</sup> 8 hour(s).**ACGIH (United States, 1995).**CEIL: 100 mg/m<sup>3</sup>**OSHA Final Rule (United States, 1989).**CEIL: 125 mg/m<sup>3</sup>

CEIL: 50 ppm

Not available.

**80/1107/EEC (Europe, 1998).**TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**INRS (France, 1999).**VLE: 25 mg/m<sup>3</sup> 15 minute(s).

VLE: 10 ppm 15 minute(s).

**NIOSH REL (United States, 2000).**STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 10 hour(s).

TWA: 10 ppm 10 hour(s).

**OSHA Final Rule (United States, 1989).**TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**AUVA (Austria, 1995).**Spitzenbegrenzung: 50 mg/m<sup>3</sup> 8 times per shift, 5 minute(s).

Spitzenbegrenzung: 20 ML/M3 8 times per shift, 5 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ML/M3 8 hour(s).

**NOHSC (Australia, 1995).**STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**Lijst Grenswaarden (Belgium, 1998).**VCD: 38 mg/m<sup>3</sup> 15 minute(s).

VCD: 15 ppm 15 minute(s).

VL: 25 mg/m<sup>3</sup> 8 hour(s).

VL: 10 ppm 8 hour(s).

**SUVA (Switzerland, 1997).**Momentanwert: 50 mg/m<sup>3</sup> 8 times per shift, 5 minute(s).

Aluminum Sulfate

Acetic acid.

Momentanwert: 20 ML/M3 8 times per shift, 5 minute(s).

MAK: 25 mg/m<sup>3</sup> 8 times per shift, 5 minute(s).

MAK: 10 ML/M3 8 times per shift, 5 minute(s).

**Ministry of Health (CL, 1992).**

CEIL: 37 mg/m<sup>3</sup>

TWA: 20 mg/m<sup>3</sup> 8 hour(s).

TWA: 8 ppm 8 hour(s).

**MAK-Werte Liste (Germany, 1998).**

Spitzenbegrenzung: 50 mg/m<sup>3</sup> 8 times per shift, 5 minute(s).

Spitzenbegrenzung: 20 ML/M3 8 times per shift, 5 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ML/M3 8 hour(s).

**TRGS900 (Germany, 1999).**

Spitzenbegrenzung: 25 mg/m<sup>3</sup>

Spitzenbegrenzung: 10 ML/M3

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ML/M3 8 hour(s).

**Arbejdstilsynet (Denmark, 1996).**

GV: 25 mg/m<sup>3</sup> 8 hour(s).

GV: 10 ppm 8 hour(s).

**Tyterveyslaitos (Finland, 1998).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**EH40-OES (United Kingdom (UK), 2000).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**NAOSH (Ireland, 1999).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

OEL: 25 mg/m<sup>3</sup> 8 hour(s).

OEL: 10 ppm 8 hour(s).

**JSOH (Japan, 1996).**

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**Ministry of Labour (KR, 1997).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**Secretary of Work and Social security (MX, 1994).**

CCT: 37 mg/m<sup>3</sup> 15 minute(s).

CCT: 15 ppm 15 minute(s).

CPT: 25 mg/m<sup>3</sup> 8 hour(s).

CPT: 10 ppm 8 hour(s).

**Nationale MAC-lijst (Netherlands, 2000).**

TGG 8 uur: 25 mg/m<sup>3</sup> 8 hour(s).

TGG 8 uur: 10 ppm 8 hour(s).

**Arbejdstilsynet (Norway, 1996).**

AN: 25 mg/m<sup>3</sup> 8 hour(s).

AN: 10 ppm 8 hour(s).

**NZ OSH (NZ, 1994).**

STEL: 37 mg/m<sup>3</sup> 15 minute(s).

STEL: 15 ppm 15 minute(s).

TWA: 25 mg/m<sup>3</sup> 8 hour(s).

TWA: 10 ppm 8 hour(s).

**AFS (Sweden, 1996).**

TGV: 25 mg/m<sup>3</sup>

TGV: 10 ppm

NGV: 13 mg/m<sup>3</sup> 8 hour(s).  
 NGV: 5 ppm 8 hour(s).  
**ACGIH TLV (United States, 2000).**  
 STEL: 37 mg/m<sup>3</sup> 15 minute(s).  
 STEL: 15 ppm 15 minute(s).  
 TWA: 25 mg/m<sup>3</sup> 8 hour(s).  
 TWA: 10 ppm 8 hour(s).  
 Hematoxylin Not available.  
 Sodium Iodate Not available.

Hematoxylin  
 Sodium Iodate

**Section 9. Physical and Chemical Properties**

<b>Odor</b>	Not available.
<b>Color</b>	Purple.
<b>Physical State and Appearance</b>	Liquid.
<b>Molecular Weight</b>	Not applicable.
<b>Molecular Formula</b>	Not applicable.
<b>pH</b>	Acidic.
<b>Boiling/Condensation Point</b>	The lowest known value is 99.9°C (211.8°F) (Water). Weighted average: 128.78°C (263.8°F)
<b>Melting/Freezing Point</b>	May start to solidify at 16.72°C (62.1°F) based on data for: Acetic acid.. Weighted average: -3.03°C (26.5°F)
<b>Specific Gravity</b>	1 (Water = 1)
<b>Vapor Pressure</b>	Not available.
<b>Vapor Density</b>	The highest known value is 2.14 (Air = 1) (Ethylene glycol). Weighted average: 2.13 (Air = 1)
<b>Odor Threshold</b>	Not available.
<b>Evaporation Rate</b>	The highest known value is 1.34 (Acetic acid.) Weighted average: 0.3 compared to (n-Butyl Acetate =1)
<b>LogK<sub>ow</sub></b>	Not available.
<b>Solubility</b>	Soluble in water.

**Section 10. Stability and Reactivity**

<b>Stability and Reactivity</b>	The product is stable.
<b>Conditions of Instability</b>	Not available.
<b>Incompatibility with Various Substances</b>	Slightly reactive to reactive with oxidizing agents, acids.
<b>Rem/Incompatibility</b>	Not available.
<b>Hazardous Decomposition Products</b>	COx
<b>Hazardous Polymerization</b>	Will not occur.

**Section 11. Toxicological Information**

<b>RTECS Number:</b>	Water	ZC0110000
	Ethylene Glycol	KW2975000
	Aluminum Sulphate Hydrated	Not available.
	Acetic Acid	AF1225000
	Hematoxylin	MH7875000
	Sodium Iodate	NN1400000

**Toxicity** Acute oral toxicity (LD<sub>50</sub>): 3310 mg/kg [Rat]. (Acetic acid.).

**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 (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation. Hazardous in case of ingestion.

**Special Remarks on Other Toxic Effects on Humans** MAY BE IRRITATING ON CONTACT WITH MUCOUS MEMBRANES.

**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 less toxic than the product itself.

**Section 13. Disposal Considerations**

**EPA Waste Number** D002

**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** Not available.

**TDG Classification** Not available.

**IMO/IMDG Classification** Not available.

**ICAO/IATA Classification** Not available.

**Section 15. Regulatory Information**

**U.S. Federal Regulations** TSCA 8(b) inventory: Water; Ethylene glycol; Acetic acid.; Hematoxylin; Sodium Iodate  
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: Ethylene glycol; Acetic acid.  
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Ethylene glycol: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Acetic acid.: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard  
SARA 313 toxic chemical notification and release reporting: Ethylene glycol 25%  
Clean Water Act (CWA) 307: No products were found.  
Clean Water Act (CWA) 311: Acetic acid.  
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 D-2A: Material causing other toxic effects (VERY TOXIC).

CEPA DSL: Water; Ethylene glycol; Acetic acid.; Hematoxylin; Sodium Iodate  
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**

<b>EINECS</b>	Water	231-791-2
	Ethylene glycol	203-473-3
	Aluminum Sulfate	Not available.
	Acetic acid.	200-580-7
	Hematoxylin	208-237-3
	Sodium Iodate	231-672-5

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

**International Lists** Australia (NICNAS): Water; Ethylene glycol; Aluminum Sulfate; Acetic acid.; Hematoxylin; Sodium Iodate  
Germany water class: Acetic acid.  
Japan (MITI): Water; Ethylene glycol; Acetic acid.; Hematoxylin; Sodium Iodate  
Korea (TCCL): Water; Ethylene glycol; Acetic acid.; Hematoxylin; Sodium Iodate  
Philippines (RA6969): Water; Ethylene glycol; Acetic acid.; Hematoxylin; Sodium Iodate  
China: No products were found.

**State Regulations** Pennsylvania RTK: Ethylene glycol: (environmental hazard, generic environmental hazard); Acetic acid.: (environmental hazard, generic environmental hazard)  
Massachusetts RTK: Ethylene glycol; Acetic acid.  
New Jersey: Gill Modified Hematoxylin, Solution #2  
California prop. 65: No products were found.



Section 16. Other Information

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



Changed Since Last  
Revision

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Notice to Reader

*The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.*