



Material Safety Data Sheet

Hematoxylin Stain Solution (Gill Formulation #1)

MSDS# 41004

Section 1 - Chemical Product and Company Identification

MSDS Name: Hematoxylin Stain Solution (Gill Formulation #1)

Catalog Numbers: CS400-1D, CS400-4D

Synonyms: Gill Hematoxylin

Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

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Risk Phrases:

CAS#: 64-19-7  
Chemical Name: Acetic acid glacial  
%: 2.0  
EINECS#: 200-580-7  
Hazard Symbols:

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Risk Phrases:

CAS#: 107-21-1  
Chemical Name: Ethylene glycol  
%: 25.0  
EINECS#: 203-473-3  
Hazard Symbols:

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Risk Phrases:

CAS#: 517-28-2  
Chemical Name: Hematoxylin  
%: <1.0  
EINECS#: 208-237-3  
Hazard Symbols:

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Risk Phrases:

CAS#: 7681-55-2  
Chemical Name: Sodium iodate  
%: 0.004  
EINECS#: 231-672-5  
Hazard Symbols:

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Risk Phrases:

CAS#: 7732-18-5  
Chemical Name: Water  
%: Balance  
EINECS#: 231-791-2  
Hazard Symbols:

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Risk Phrases:

CAS#: 7784-31-8  
Chemical Name: Aluminum sulfate octadecahydrate  
%: 1.8  
EINECS#: unlisted  
Hazard Symbols:

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Text for R-phrases: see Section 16

Hazard Symbols: XN



Risk Phrases: 22 36/37/38

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! May cause kidney damage. May cause central nervous system effects. May be harmful if swallowed or absorbed through the skin. Causes eye, skin, and respiratory tract irritation. Target Organs: Kidneys, central nervous system, eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye irritation. May cause chemical conjunctivitis.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May be harmful if absorbed through the skin. Contact with the skin may cause blackening and hyperkeratosis of the skin of the hands.

Ingestion: May cause systemic toxicity with acidosis. May cause liver and kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Ingestion produces toxicity which follows a 3 step progression. Stage 1 involves the central nervous system producing eye muscle paralysis, convulsions, and coma. Metabolic acidosis and swelling may occur. Stage 2 involves the cardiopulmonary system which may cause high blood pressure, rapid heart beat, and possible cardiac failure. Stage 3 results in kidney damage. Rapidly absorbed from the gastrointestinal tract. Causes digestive tract irritation.

Inhalation: Causes respiratory tract irritation. May cause effects similar to those described for ingestion. Exposure may lead to bronchitis, pharyngitis, and dental erosion. May be absorbed through the lungs.

Chronic: May cause kidney injury. Acetic acid can cause occupational asthma. One case of a delayed asthmatic response to glacial acetic acid has been reported in a person with bronchial asthma. Skin sensitization to acetic acid is rare, but has occurred. Repeated excessive exposure to ethylene glycol may cause irritation of the upper respiratory tract. In humans, effects have been reported on the central nervous system, including nystagmus (involuntary, rapid, rhythmic movement of the eyeball).

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated

Skin: clothing and shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

### Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 2; flammability: 1; instability: 0;

### Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

### Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Acetic acid glacial	10 ppm; 15 ppm STEL	10 ppm TWA; 25 mg/m3 TWA 50 ppm IDLH	10 ppm TWA; 25 mg/m3 TWA
Ethylene glycol	100 mg/m3 Ceiling (aerosol only)	none listed	none listed
Hematoxylin	none listed	none listed	none listed
Sodium iodate	none listed	none listed	none listed
Water	none listed	none listed	none listed
Aluminum sulfate octadecahydrate	none listed	2 mg/m3 TWA (as Al) (listed under Aluminum, soluble salts).	none listed

OSHA Vacated PELs: Acetic acid glacial: 10 ppm TWA; 25 mg/m3 TWA Ethylene glycol: None listed Hematoxylin: None listed Sodium iodate: None listed Water: None listed Aluminum sulfate octadecahydrate: 2 mg/m3 TWA (as Al, listed under Aluminum) (listed under Aluminum, soluble salts)

## Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

## Exposure Limits

### Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a

Respirators: NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: not available

Odor: none reported

pH: Not available

Vapor Pressure: Not available

Vapor Density: Not available

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: Not available

Freezing/Melting Point: Not available

Decomposition Temperature: Not available

Solubility in water: Not available.

Specific Gravity/Density: Not available.

Molecular Formula: mixture

Molecular Weight: 0

## Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, isocyanates, aliphatic amines, caustics.

Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, carbon dioxide, aluminum oxide.

Hazardous Polymerization: Has not been reported.

## Section 11 - Toxicological Information

RTECS#: CAS# 64-19-7: AF1225000  
CAS# 107-21-1: KW2975000  
CAS# 517-28-2: MH7875000  
CAS# 7681-55-2: NN1400000  
CAS# 7732-18-5: ZC0110000  
CAS# 7784-31-8: WS5697000

RTECS:

**CAS# 64-19-7:** Draize test, rabbit, skin: 50 mg/24H Mild;

Inhalation, mouse: LC50 = 5620 ppm/1H;

Oral, rat: LD50 = 3310 mg/kg;

Skin, rabbit: LD50 = 1060 uL/kg;

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RTECS:

**CAS# 107-21-1:** Draize test, rabbit, eye: 500 mg/24H Mild;

Draize test, rabbit, eye: 100 mg/1H Mild;

Draize test, rabbit, eye: 0.012 ppm/3D;

Draize test, rabbit, eye: 1440 mg/6H Moderate;

Oral, mouse: LD50 = 5500 mg/kg;  
Oral, rat: LD50 = 4700 mg/kg;  
Skin, rabbit: LD50 = 9530 uL/kg;

LD50/LC50:

RTECS:

**CAS# 517-28-2:**

RTECS:

**CAS# 7681-55-2:** Oral, mouse: LD50 = 505 mg/kg;

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RTECS:

**CAS# 7732-18-5:** Oral, rat: LD50 = >90 mL/kg;

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RTECS:

**CAS# 7784-31-8:** Oral, mouse: LD50 = 980 mg/kg;

Oral, rat: LD50 = 370 mg/kg;

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Other: Ethylene glycol is more acutely toxic for humans than for laboratory animals by ingestion. The single oral lethal dose for humans has been estimated at 1.4 ml/kg (1.56 g/kg) or about 100 ml (111 g) for an adult.

Acetic acid glacial - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Ethylene glycol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Carcinogenicity: Hematoxylin - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Sodium iodate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Aluminum sulfate octadecahydrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

#### Section 12 - Ecological Information

Not available

#### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

#### Section 14 - Transport Information

US DOT

Shipping Name: Not Regulated

Hazard Class:

UN Number:

Packing Group:

Canada TDG

Shipping Name: Not regulated as a hazardous material

Hazard Class:

UN Number:

Packing Group:

USA RQ: CAS# 64-19-7: 5000 lb final RQ; 2270 kg final RQ

USA RQ: CAS# 107-21-1: 5000 lb final RQ; 2270 kg final RQ

#### Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### WGK (Water Danger/Protection)

CAS# 64-19-7: 1

CAS# 107-21-1: 0

CAS# 517-28-2: 1

CAS# 7681-55-2: 1

CAS# 7732-18-5: Not available

CAS# 7784-31-8: Not available

#### Canada

CAS# 64-19-7 is listed on Canada's DSL List

CAS# 107-21-1 is listed on Canada's DSL List

CAS# 517-28-2 is listed on Canada's DSL List

CAS# 7681-55-2 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: D2A, D2B

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

CAS# 64-19-7 is listed on Canada's Ingredient Disclosure List

CAS# 107-21-1 is listed on Canada's Ingredient Disclosure List

CAS# 517-28-2 is not listed on Canada's Ingredient Disclosure List.

CAS# 7681-55-2 is not listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7784-31-8 is not listed on Canada's Ingredient Disclosure List.

#### US Federal

##### TSCA

CAS# 64-19-7 is listed on the TSCA Inventory.

CAS# 107-21-1 is listed on the TSCA Inventory.

CAS# 517-28-2 is listed on the TSCA Inventory.

CAS# 7681-55-2 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

CAS# 7784-31-8 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR720.3(u)(2)).

#### Section 16 - Other Information

MSDS Creation Date: 10/22/1997

Revision #6 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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