



a member of the Roche Group

Material Safety Data Sheet

Material Name: Trichrome Hematoxylin B

MSDS ID: VEN-158

*** Section 1 - Chemical Product and Company Identification***

Manufacturer Information

VENTANA MEDICAL SYSTEMS INC.
1910 E. Innovation Park Drive
Tucson, AZ 85755
Phone: (520) 887-2155

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(800) 424-9300 (USA/Canada)
CHEMTREC: +1 (703) 527-3887 (International)

Material Name: Trichrome Hematoxylin B

Product Number(s)

1504640, 06521118001, 860-031, 06521908001

Product Use

clinical

*** Section 2 - Hazards Identification***

NFPA Ratings: Health: 3 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Preparation

C; R:35

Risks

Causes severe burns.

EMERGENCY OVERVIEW

Physical Form: liquid

Major Health Hazards: respiratory tract burns, skin burns, eye burns, mucous membrane burns

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: burns

Long Term: burns

Skin

Short Term: burns

Long Term: burns

Eye

Short Term: burns

Long Term: burns

Ingestion

Short Term: burns

Long Term: burns

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

*** Section 3 - Composition/Information on Ingredients***

CAS #	Component / EU Number	Percent	Symbol(s)	Risk Phrase(s)
Not Available	Non-hazardous	60-100	---	---
10025-77-1	Ferric chloride, hexahydrate	1-5	C	R:34
64-19-7	Acetic acid 200-580-7	0.5-1.5	C	R:10-35

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Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Ferric chloride (7705-08-0).

*** Section 4 - First Aid Measures***

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.

Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Ingestion

If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate medical attention.

Note to Physicians

For inhalation, consider oxygen.
Avoid gastric lavage or emesis.

*** Section 5 - Fire-Fighting Measures***

See Section 9 for Flammability Properties

Flammable Properties

Slight fire hazard.

Extinguishing Media

regular dry chemical, carbon dioxide, water spray

Protective Equipment and Precautions for Firefighters

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Do not get water directly on material. Avoid inhalation of material or combustion by-products.

Hazardous Combustion Products

Thermal decomposition or combustion products: hydrogen chloride gas, oxides of carbon, oxides of chlorine

Sensitivity to Mechanical Impact

Not sensitive

Sensitivity to Static Discharge

Not sensitive

*** Section 6 - Accidental Release Measures***

Occupational Spill/Release

Do not touch spilled material. Stop leak if possible without personal risk. Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Keep unnecessary people away, isolate hazard area and deny entry.

*** Section 7 - Handling and Storage***

Handling Procedures

Wash thoroughly after handling. Avoid contact with eyes, skin and clothing.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

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

Exposure Limits

Acetic acid (64-19-7)

ACGIH:	10 ppm TWA 15 ppm STEL
NIOSH:	10 ppm TWA; 25 mg/m3 TWA 15 ppm STEL; 37 mg/m3 STEL 50 ppm IDLH
OSHA:	10 ppm TWA; 25 mg/m3 TWA 10 ppm TWA; 25 mg/m3 TWA
EEC:	10 ppm TWA; 25 mg/m3 TWA
Austria:	20 ppm STEL (8 X 5 min); 50 mg/m3 STEL (8 X 5 min) 10 ppm TWA; 25 mg/m3 TWA
Belgium:	15 ppm STEL; 38 mg/m3 STEL 10 ppm TWA; 25 mg/m3 TWA
Denmark:	10 ppm TWA; 25 mg/m3 TWA
Finland:	10 ppm STEL; 25 mg/m3 STEL 5 ppm TWA; 13 mg/m3 TWA
France:	10 ppm STEL; 25 mg/m3 STEL
Germany:	10 ppm TWA AGW (The risk of damage to the embryo or fetus can be excluded when MAK and BAT values are observed, exposure factor 2); 25 mg/m3 TWA AGW (The risk of damage to the embryo or fetus can be excluded when MAK and BAT values are observed, exposure factor 2)
Germany (DFG):	10 ppm TWA MAK; 25 mg/m3 TWA MAK 20 ppm Peak; 50 mg/m3 Peak
Greece:	15 ppm STEL; 37 mg/m3 STEL 10 ppm TWA; 25 mg/m3 TWA
Ireland:	15 ppm STEL; 37 mg/m3 STEL 10 ppm TWA; 25 mg/m3 TWA
Japan	10 ppm OEL; 25 mg/m3 OEL
Portugal:	10 ppm TWA [VLE-MP] 15 ppm STEL [VLE-CD]
Spain:	15 ppm STEL [VLA-EC]; 37 mg/m3 STEL [VLA-EC] 10 ppm TWA [VLA-ED]; 25 mg/m3 TWA [VLA-ED]
Sweden:	5 ppm LLV; 13 mg/m3 LLV 10 ppm STV; 25 mg/m3 STV

Ventilation

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face

Safety glasses or goggles are recommended when there is a potential for eye contact. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Clothing

Lab coat or apron.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

No respirator is required under normal conditions of use.

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*** Section 9 - Physical and Chemical Properties***

Physical State:	Liquid	Appearance:	liquid
Physical Form:	liquid	Odor:	Not available
Odor Threshold:	Not available	pH:	1.66
Melting/Freezing Point:	Not available	Boiling Point:	Not available
Decomposition:	Not available	Flash Point:	Not flammable
Evaporation Rate:	Not available	LEL:	Not available
UEL:	Not available	Vapor Pressure:	Not available
Vapor Density (air = 1):	Not available	Density:	1.0029 g/mL
Specific Gravity (water = 1):	Not available	Water Solubility:	Not available
Log KOW:	Not available	Coeff. Water/Oil Dist.:	Not available
Auto Ignition:	Not available	Viscosity:	Not available
Volatility:	Not available		

*** Section 10 - Stability and Reactivity***

Chemical Stability

Stable at normal temperatures and pressure.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Keep out of water supplies and sewers.

Materials to Avoid

amines, bases, combustible materials, halogens, metals, oxidizing materials, peroxides

Decomposition Products

Thermal decomposition or combustion products: hydrogen chloride gas, oxides of carbon, oxides of chlorine

Possibility of Hazardous Reactions

Will not polymerize.

*** Section 11 - Toxicological Information***

Acute and Chronic Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Ferric chloride, hexahydrate (10025-77-1)

Oral LD50 Rat 316 mg/kg (related to Ferric chloride)

Acetic acid (64-19-7)

Inhalation LC50 Rat 11.4 mg/L 4 h; Oral LD50 Rat 3310 mg/kg; Dermal LD50 Rabbit 1060 mg/kg

RTECS Acute Toxicity (selected)

The components of this material have been reviewed, and RTECS publishes the following endpoints:

Ferric chloride, hexahydrate (10025-77-1)

Oral: 316 mg/kg Oral Rat LD50 (related to Ferric chloride)

Acetic acid (64-19-7)

Inhalation: 11000 mg/m³/4 hour Inhalation Rat LC50

Oral: 3310 mg/kg Oral Rat LD50

Skin: 1060 mg/kg Skin Rabbit LD50; 1060 uL/kg Skin Rabbit LD50

Acute Toxicity Level

Ferric chloride, hexahydrate (10025-77-1)

Toxic: ingestion (related to Ferric chloride)

Acetic acid (64-19-7)

Toxic: inhalation

Moderately Toxic: dermal absorption, ingestion

Irritation/Corrosivity

respiratory tract burns, skin burns, eye burns, mucous membrane burns

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RTECS Irritation

The components of this material have been reviewed, and RTECS publishes the following endpoints:

Acetic acid (64-19-7)

50 mg/24 hour Skin Human mild; 5 mg/30 second(s) Eyes Rabbit mild; 50 mg/24 hour Skin Rabbit mild; 525 mg/open Skin Rabbit severe

Local Effects

Ferric chloride, hexahydrate (10025-77-1)

Corrosive: inhalation, skin, eye, ingestion

Acetic acid (64-19-7)

Corrosive: inhalation, skin, eye, ingestion

Carcinogenicity

Component Carcinogenicity

None of the substances in this preparation are listed by ACGIH, OSHA, NIOSH, NTP, IARC, Austria, Belgium, Denmark, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, or United Kingdom.

Mutagenic

No data available for the mixture.

RTECS Mutagenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Reproductive Effects

No data available for the mixture.

RTECS Reproductive Effects

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Tumorigenic

No data available for the mixture.

RTECS Tumorigenic

The components of this material have been reviewed, and RTECS publishes data for one or more components.

Medical Conditions Aggravated by Exposure

eye disorders, respiratory disorders, skin disorders and allergies

*** Section 12 - Ecological Information***

Component Analysis - Aquatic Toxicity

Ferric chloride, hexahydrate (10025-77-1)

Fish: 96 Hr LC50 Gambusia affinis: 75.6 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 20.26 mg/L [semi-static]; 96 Hr LC50 Pimephales promelas: 20.95-22.56 mg/L [semi-static] (related to Ferric chloride)

Invertebrate: 48 Hr EC50 Daphnia magna: 27.9 mg/L; 48 Hr EC50 Daphnia magna: 9.6 mg/L [Static] (related to Ferric chloride)

Acetic acid (64-19-7)

Fish: 96 Hr LC50 Pimephales promelas: 79 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 75 mg/L [static]

Invertebrate: 24 Hr EC50 Daphnia magna: 47 mg/L; 48 Hr EC50 Daphnia magna: 65 mg/L [Static]

Mobility

No data available for the mixture.

Persistence & Degradation

No data available for the mixture.

Bioaccumulative Potential

No data available for the mixture.

*** Section 13 - Disposal Considerations***

Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D002.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

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*** Section 14 - Transport Information***

US DOT Information

Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Contains: Ferric chloride, hexahydrate, Acetic acid)
UN/NA #: UN3265 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8

TDG Information

Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Contains: Ferric chloride, hexahydrate, Acetic acid)
UN #: UN3265 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8

ADR Information

Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Contains: Ferric chloride, hexahydrate, Acetic acid)
UN #: UN3265 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8

RID Information

Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Contains: Ferric chloride, hexahydrate, Acetic acid)
UN #: UN3265 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8

IATA Information

Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Contains: Ferric chloride, hexahydrate, Acetic acid)
UN #: UN3265 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8

ICAO Information

Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Contains: Ferric chloride, hexahydrate, Acetic acid)
UN #: UN3265 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8

IMDG Information

Shipping Name: Corrosive liquid, acidic, organic, n.o.s. (Contains: Ferric chloride, hexahydrate, Acetic acid)
UN #: UN3265 **Hazard Class:** 8 **Packing Group:** II
Required Label(s): 8

*** Section 15 - Regulatory Information***

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Ferric chloride, hexahydrate (10025-77-1)

CERCLA: 1000 lb final RQ; 454 kg final RQ (related to Ferric chloride)

Acetic acid (64-19-7)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA 311/312

Acute Health: Yes **Chronic Health:** No **Fire:** No **Pressure:** No **Reactive:** No

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U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component / EC Number	CAS	CA	MA	MN	NJ	PA
Ferric chloride, hexahydrate (related to: Ferric chloride)	10025-77-1	Yes ¹	Yes ¹	No	Yes ¹	Yes ¹
Acetic acid	64-19-7	Yes	Yes	Yes	Yes	Yes

California Proposition 65

Not regulated under California Proposition 65

Canadian Regulations

This product has been classified in accordance with the criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Canada WHMIS

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Acetic acid (64-19-7)

1 %

WHMIS Classification

E.

European Regulations

This preparation has been classified for the European Union according to Annex VI Directives 67/548/EEC and 99/45/EC.

Germany Water Classification

Ferric chloride, hexahydrate (10025-77-1)

ID Number 515, hazard class 1 - low hazard to waters (footnote 8, related to Ferric chloride)

Acetic acid (64-19-7)

ID Number 93, hazard class 1 - low hazard to waters (>25%)

EU Marking and Labelling

Symbols

C Corrosive

Risk Phrases

R35 Causes severe burns.

Safety Phrases

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S60 This material and its container must be disposed of as hazardous waste.

Japanese Regulations

Japan Designated Chemical Substances (PRTR Law)

The following components are subject to reporting requirements as specified by the "Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management" and are included in the "Pollutant Release and Transfer Register (PRTR)" of designated chemicals.

Ferric chloride, hexahydrate (10025-77-1)

71 >=1 %

Japan Poisonous and Deleterious Substances

No components of this material are specified as poisonous or deleterious substances, as regulated by Japan under the Poisonous and Deleterious Substances Control Law.

Industrial Safety and Health Law - Flammable Materials

The following components are identified in Table 6-2 of the Enforcement Order of the Industrial Safety and Health Law which, if used in the workplace, require designation of an Operations Chief during confined space work and periodic machine inspections.

Acetic acid (64-19-7)

Flammable substance

Industrial Safety and Health Law - Label Disclosure

No components of this material are specifically required to be indicated on a container label as specified by Article 18 of the Enforcement Order of the Industrial Safety and Health Law.

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Industrial Safety and Health Law - Organic Solvents

No components of this material are specifically identified in Table 6-2 of the Enforcement Order of the Industrial Safety and Health Law which, if used in the workplace, require designation of an Operations Chief during confined space work and periodic machine inspections.

*** Section 16 - Other Information***

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Full text of R phrases in Section 3

R10 Flammable.

R34 Causes burns.

R35 Causes severe burns.

Other Information

Limitations: The information and recommendations set forth in this MSDS are believed to be correct as of this date. Ventana Medical Systems, Inc. makes no warranty with respect to the content of this MSDS and disclaims all liability from reliance thereon.

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New MSDS: 10/13/2011

End of Sheet VEN-158