



a member of the Roche Group

Material Safety Data Sheet

Material Name: Congo Red Hematoxylin

MSDS ID: 00232123

*** 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

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

Material Name: Congo Red Hematoxylin

Product Number(s)

860-026, 1502307, 5279429001, 06037895001

Product Use

clinical/research

*** Section 2 - Hazards Identification***

NFPA Ratings: Health: 2 Fire: 1 Reactivity: 0

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

Preparation

Xn; R:22

Risks

Harmful if swallowed.

EMERGENCY OVERVIEW

Color: red or purple

Physical Form: liquid

Odor: faint odor, vinegar odor

Major Health Hazards: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression, nerve damage, kidney damage

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation, headache, drowsiness, dizziness, loss of coordination, blood disorders

Long Term: irritation, headache

Skin

Short Term: irritation, allergic reactions, absorption may occur, nausea, vomiting, stomach pain, difficulty breathing, headache, drowsiness, dizziness, disorientation, hyperactivity, emotional disturbances, hallucinations, tremors, loss of coordination, visual disturbances, lung congestion, heart damage, kidney damage, liver damage, nerve damage, brain damage, convulsions, coma

Long Term: irritation, allergic reactions

Eye

Short Term: irritation

Long Term: irritation

Ingestion

Short Term: nausea, vomiting, stomach pain, difficulty breathing, headache, drowsiness, dizziness, disorientation, hyperactivity, emotional disturbances, hallucinations, tremors, loss of coordination, visual disturbances, lung congestion, heart damage, kidney damage, liver damage, nerve damage, brain damage, convulsions, coma

Long Term: kidney damage

OSHA Regulatory Status

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

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

CAS #	Component / EU Number	Percent	Symbol(s)	Risk Phrase(s)
Not Available	NON-HAZARDOUS -	60-100	---	---
107-21-1	ETHYLENE GLYCOL 203-473-3	15-40	Xn	R:22
7681-55-2	SODIUM IODATE 231-672-5	<1	O Xn Xi	R:8-22-36-37-38
10043-01-3	ALUMINUM SULFATE 233-135-0	<1	Xi	R:36-37-38

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

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin

Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. Get medical attention, if needed.

Eyes

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. Induce vomiting only at the instructions of a physician. Do not give anything by mouth to unconscious or convulsive person.

Note to Physicians

For ingestion, consider gastric lavage.

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

See Section 9 for Flammability Properties

Flammable Properties

Slight fire hazard.

Extinguishing Media

carbon dioxide, regular dry chemical, regular foam, water

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

Hazardous Combustion Products

Thermal decomposition or combustion products: oxides of carbon

Sensitivity to Mechanical Impact

Not sensitive

Sensitivity to Static Discharge

Not sensitive

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

Occupational Spill/Release

Stop leak if possible without personal risk. **Small spills:** Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

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

Handling Procedures

Wash thoroughly after handling.

Storage Procedures

Store and handle in accordance with all current regulations and standards. Store between 2 C and 8 C. Avoid direct sunlight. See original container for storage recommendations. Keep separated from incompatible substances.

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

Exposure Limits

ETHYLENE GLYCOL (107-21-1)

ACGIH:	100 mg/m3 Ceiling (aerosol only)
OSHA:	50 ppm Ceiling; 125 mg/m3 Ceiling
EEC:	20 ppm TWA; 52 mg/m3 TWA 40 ppm STEL; 104 mg/m3 STEL Possibility of significant uptake through the skin
Austria:	20 ppm STEL (8 X 5 min); 52 mg/m3 STEL (8 X 5 min) 10 ppm MAK; 26 mg/m3 MAK skin notation
Belgium:	Skin
Denmark:	10 ppm TWA; 26 mg/m3 TWA; 10 mg/m3 TWA (vapor) Potential for cutaneous absorption
Finland:	40 ppm STEL; 100 mg/m3 STEL 20 ppm TWA; 50 mg/m3 TWA Potential for cutaneous absorption
France:	40 ppm VLCT (indicative limit, vapor); 104 mg/m3 VLCT (indicative limit, vapor) 20 ppm VME (indicative limit, vapor); 52 mg/m3 VME (indicative limit, vapor) Risk of cutaneous absorption
Germany:	10 ppm TWA (exposure factor 2); 26 mg/m3 TWA (exposure factor 2) skin notation
Germany (DFG):	10 ppm MAK; 26 mg/m3 MAK 20 ppm Peak; 52 mg/m3 Peak skin notation
Greece:	50 ppm STEL (vapor); 125 mg/m3 STEL (vapor) 50 ppm TWA (vapor); 125 mg/m3 TWA (vapor)
Ireland:	40 ppm STEL (vapour); 104 mg/m3 STEL (vapour) 10 mg/m3 TWA (particulate); 20 ppm TWA (vapour); 52 mg/m3 TWA (vapour) Potential for cutaneous absorption
Italy:	20 ppm TWA; 52 mg/m3 TWA skin - potential for cutaneous absorption 40 ppm STEL; 104 mg/m3 STEL
Netherlands:	104 mg/m3 STEL 52 mg/m3 TWA (fume); 10 mg/m3 TWA (droplets) skin notation
Portugal:	100 mg/m3 Ceiling (aerosol only)
Spain:	40 ppm VLA-EC; 104 mg/m3 VLA-EC 20 ppm VLA-ED (indicative limit value); 52 mg/m3 VLA-ED (indicative limit value) skin - potential for cutaneous exposure
Sweden:	10 ppm LLV (aerosol and vapor); 25 mg/m3 LLV (aerosol and vapor) 20 ppm STV; 50 mg/m3 STV Skin notation
United Kingdom:	40 ppm STEL (vapour); 104 mg/m3 STEL (vapour); 30 mg/m3 STEL (calculated, particulate) 20 ppm TWA (vapour); 52 mg/m3 TWA (vapour); 10 mg/m3 TWA (particulate) Potential for cutaneous absorption

SODIUM IODATE (7681-55-2)

Germany: Group 2

ALUMINUM SULFATE (10043-01-3)

Finland: 1 mg/m3 TWA (as Al)

Ventilation

Provide adequate ventilation. 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.

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Protective Clothing

Lab coat or apron.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Protective Materials

latex, vinyl, nitrile

Respiratory Protection

No respirator is required under normal conditions of use.

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

Physical State:	Liquid	Appearance:	Red or purple liquid
Color:	red or purple	Physical Form:	liquid
Odor:	faint odor, vinegar odor	Odor Threshold:	Not available
pH:	10.0	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:	Not available	Water Solubility:	miscible
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. Avoid contact with incompatible materials.

Materials to Avoid

acids, alkalis, oxidizing materials

Decomposition Products

Thermal decomposition or combustion products: oxides of carbon

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:

ETHYLENE GLYCOL (107-21-1)

Oral LD50 Rat 4000 mg/kg; Dermal LD50 Rabbit 9530 µL/kg

SODIUM IODATE (7681-55-2)

Oral LD50 Mouse 505 mg/kg

ALUMINUM SULFATE (10043-01-3)

Oral LD50 Rat 1930 mg/kg

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RTECS Acute Toxicity (selected)

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

ETHYLENE GLYCOL (107-21-1)

Oral: 4700 mg/kg Oral Rat LD50

Skin: 9530 uL/kg Skin Rabbit LD50

SODIUM IODATE (7681-55-2)

Oral: 505 mg/kg Oral Mouse LD50

ALUMINUM SULFATE (10043-01-3)

Oral: 6207 mg/kg Oral Mouse LD50

Acute Toxicity Level

ETHYLENE GLYCOL (107-21-1)

Moderately Toxic: ingestion

Slightly Toxic: dermal absorption

SODIUM IODATE (7681-55-2)

Moderately Toxic: ingestion

ALUMINUM SULFATE (10043-01-3)

Slightly Toxic: ingestion

Irritation/Corrosivity

RTECS Irritation

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

ETHYLENE GLYCOL (107-21-1)

0.012 ppm/3 day(s) Eyes Rabbit; 100 mg/1 hour Eyes Rabbit mild; 500 mg/24 hour Eyes Rabbit mild; 1440 mg/6 hour Eyes Rabbit moderate; 555 mg/open Skin Rabbit mild; 0.012 percent Eyes Rat

ALUMINUM SULFATE (10043-01-3)

10 mg/24 hour Eyes Rabbit severe

Local Effects

ETHYLENE GLYCOL (107-21-1)

Irritant: inhalation, skin, eye

SODIUM IODATE (7681-55-2)

Irritant: inhalation, skin, eye

ALUMINUM SULFATE (10043-01-3)

Irritant: inhalation, skin, eye

Target Organs

ETHYLENE GLYCOL (107-21-1)

nervous system, kidneys

Carcinogenicity

Component Carcinogenicity

ETHYLENE GLYCOL (107-21-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Portugal: A4 - Not Classifiable as a Human Carcinogen

Mutagenic

No information 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 information 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 information 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

None known.

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*** Section 12 - Ecological Information***

Component Analysis - Aquatic Toxicity

ETHYLENE GLYCOL (107-21-1)

Fish: 96 Hr LC50 Oncorhynchus mykiss: 41000 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 14 - 18 mL/L [static]; 96 Hr LC50 Lepomis macrochirus: 27540 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 40761 mg/L [static]; 96 Hr LC50 Pimephales promelas: 40000 - 60000 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 16000 mg/L [static]

Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: 6500 - 13000 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 46300 mg/L

ALUMINUM SULFATE (10043-01-3)

Fish: 96 Hr LC50 Carassius auratus: 100 mg/L; 96 Hr LC50 Gambusia affinis: 37 mg/L [static]

Invertebrate: 15 Min EC50 Daphnia magna: 136 mg/L

Mobility

No information available for the mixture.

Persistence & Degradation

No information available for the mixture.

Bioaccumulative Potential

No information available for the mixture.

*** Section 13 - Disposal Considerations***

Disposal Methods

Dispose in accordance with all applicable regulations.

Component Waste Numbers

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

*** Section 14 - Transport Information***

US DOT Information

Not regulated.

TDG Information

Not regulated.

ADR Information

Not regulated.

RID Information

Not regulated.

IATA Information

Not regulated.

ICAO Information

Not regulated.

IMDG Information

Not regulated.

*** 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.

ETHYLENE GLYCOL (107-21-1)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ; 2270 kg final RQ

ALUMINUM SULFATE (10043-01-3)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA 311/312

Acute Health: Yes **Chronic Health:** Yes **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	RI
ETHYLENE GLYCOL	107-21-1	Yes	Yes	Yes	Yes	Yes	Yes
ALUMINUM SULFATE	10043-01-3	Yes	Yes	No	Yes	Yes	No

California Proposition 65

Not regulated under California Proposition 65

Canadian Regulations

Canada WHMIS

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

ETHYLENE GLYCOL (107-21-1)

1 %

WHMIS Classification

D2A, D2B.

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

ETHYLENE GLYCOL (107-21-1)

ID Number 105, hazard class 1 - low hazard to waters (footnote 11)

ALUMINUM SULFATE (10043-01-3)

ID Number 486, hazard class 1 - low hazard to waters (footnote 8)

EU Marking and Labelling

Symbols

Xn Harmful

Risk Phrases

R22 Harmful if swallowed.

Safety Phrases

S13 Keep away from food, drink and animal feedingstuffs.

Japanese Regulations

Japan Designated Chemical Substances (PRTR Law)

No components of this material 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" nor are they included in the "Pollutant Release and Transfer Register (PRTR)" of designated chemicals.

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

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.

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.

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.

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*** 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

R8 Contact with combustible material may cause fire.
R22 Harmful if swallowed.
R36 Irritating to eyes.
R37 Irritating to respiratory system.
R38 Irritating to skin.

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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