a member of the Roche Group

Material Safety Data Sheet

Material Name: Steiner II Reducer **MSDS ID: VEN-146**

* * * 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: Steiner II Reducer

Product Number(s)

1504634, 06521037001, 860-030, 06521894001

Product Use

clinical

* * * Section 2 - Hazards Identification* * *

NFPA Ratings: Health: 1 **Fire:** 0 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Preparation

This material is not classified.

EMERGENCY OVERVIEW

Color: colorless
Physical Form: liquid
Odor: odorless
Major Health Hazards: No significant target effects reported.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: no information on significant adverse effects
Long Term: no information on significant adverse effects

Skin

Short Term: no information on significant adverse effects
Long Term: no information on significant adverse effects

Eye

Short Term: no information on significant adverse effects
Long Term: no information on significant adverse effects

Ingestion

Short Term: no information on significant adverse effects
Long Term: no information on significant adverse effects

OSHA Regulatory Status

This material is not 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	---	---
123-31-9	Hydroquinone 204-617-8	0.1-1	Xn N	R:22-40-41-43-68-50
64-19-7	Acetic acid 200-580-7	<0.1	C	R:10-35

* * * 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, get medical attention.

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

See Section 9 for Flammability Properties

Flammable Properties

Negligible fire hazard.

Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

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. 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

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. Keep separated from incompatible substances.

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

Exposure Limits

Hydroquinone (123-31-9)

ACGIH:	1 mg/m3 TWA
	Sensitizer
NIOSH:	2 mg/m3 Ceiling (15 min)
	50 mg/m3 IDLH
OSHA:	2 mg/m3 TWA
	2 mg/m3 TWA
Austria:	4 mg/m3 STEL (inhalable fraction, 8 X 5 min)
	2 mg/m3 TWA (inhalable fraction)
	Sensitizer
Belgium:	2 mg/m3 TWA
Denmark:	2 mg/m3 Ceiling
Finland:	2 mg/m3 STEL
	0.5 mg/m3 TWA
France:	2 mg/m3 TWA
Germany (DFG):	skin notation
	skin sensitizer
Greece:	4 mg/m3 STEL
	2 mg/m3 TWA
Ireland:	0.5 mg/m3 TWA
Japan	Group 2 skin sensitizer
Portugal:	2 mg/m3 TWA [VLE-MP]
Spain:	2 mg/m3 TWA [VLA-ED]
	sensitizer
Sweden:	0.5 mg/m3 LLV
	1.5 mg/m3 STV
	Sensitizer
United Kingdom:	1.5 mg/m3 STEL
	0.5 mg/m3 TWA

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 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.

Protective Clothing

Lab coat or apron.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

No respirator is required under normal conditions of use.

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

Physical State:	Liquid	**Appearance:**	colorless, liquid
Color:	colorless	**Physical Form:**	liquid
Odor:	odorless	**Odor Threshold:**	Not available
pH:	4.2	**Melting/Freezing Point:**	Not available
Boiling Point:	100 °C	**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:	0.9988 g/mL	**Specific Gravity (water = 1):**	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

None reported.

Materials to Avoid

bases, 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:

Hydroquinone (123-31-9)

Oral LD50 Rat 320 mg/kg; Dermal LD50 Rat >900 mg/kg

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:

Hydroquinone (123-31-9)

Oral: 302 mg/kg Oral Rat LD50; 367.3 mg/kg Oral Rat LD50; 320 mg/kg Oral Rat LD50
Skin: >2000 mg/kg/24 hour Skin Rabbit LD50

Acute Toxicity Level

Hydroquinone (123-31-9)

Toxic: ingestion
Slightly Toxic: dermal absorption

Acetic acid (64-19-7)

Toxic: inhalation
Moderately Toxic: dermal absorption, ingestion

Irritation/Corrosivity

RTECS Irritation

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

Hydroquinone (123-31-9)

3 percent Skin Human; 2 percent Skin Human mild; 5 percent Skin Human severe

Local Effects

Hydroquinone (123-31-9)

Irritant: inhalation, skin, eye

Acetic acid (64-19-7)

Corrosive: inhalation, skin, eye, ingestion

Target Organs

Hydroquinone (123-31-9)

immune system (sensitizer)

Carcinogenicity

Component Carcinogenicity

Hydroquinone (123-31-9)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 15 [1977] (Group 3 (not classifiable))
Denmark: Present
France: Carcinogen category 3
Germany: Category 2 (considered to be carcinogenic for man)
Italy: Category 3 Carcinogen
Portugal: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

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

None known.

* * * Section 12 - Ecological Information* * *

Component Analysis - Aquatic Toxicity

Hydroquinone (123-31-9)

Fish: 96 Hr LC50 Oncorhynchus mykiss: 0.044 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 0.044 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 0.1-0.18 mg/L [static]; 96 Hr LC50 Brachydanio rerio: 0.17 mg/L

Algae: 120 Hr EC50 Desmodesmus subspicatus: 13.5 mg/L; 72 Hr EC50 Pseudokirchneriella subcapitata: 0.335 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 0.29 mg/L

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.

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.

Hydroquinone (123-31-9)

SARA 302/304: 500 lb lower TPQ; 10000 lb upper TPQ
100 lb EPCRA RQ

SARA 313: 1.0 % de minimis concentration

CERCLA: 100 lb final RQ; 45.4 kg final RQ

Acetic acid (64-19-7)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA 311/312

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

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
Hydroquinone	123-31-9	Yes	Yes	Yes	Yes	Yes
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:

Hydroquinone (123-31-9)

1 %

Acetic acid (64-19-7)

1 %

WHMIS Classification

Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

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

Hydroquinone (123-31-9)

ID Number 128, hazard class 3 - severe hazard to waters

Acetic acid (64-19-7)

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

EU Marking and Labelling

This material is not classified.

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.

Hydroquinone (123-31-9)

336 >=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.

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.
R22 Harmful if swallowed.
R35 Causes severe burns.
R40 Limited evidence of a carcinogenic effect.
R41 Risk of serious damage to eyes.
R43 May cause sensitization by skin contact.
R50 Very toxic to aquatic organisms.
R68 Possible risk of irreversible effects.

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.

New MSDS: 10/15/2011

End of Sheet VEN-146