a member of the Roche Group

Material Safety Data Sheet

Material Name: Steiner Diluent I & II **MSDS ID: 00231697**

* * * 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 Diluent I & II

Product Number(s)

860-018, 1504022, 5279330001, 06038131001, 1504023, 06038140001

Product Use

clinical/research

* * * Section 2 - Hazards Identification * * *

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

Preparation

R:10

Risks

Flammable.

EMERGENCY OVERVIEW

Color: colorless
Physical Form: liquid
Odor: alcohol odor
Major Health Hazards: respiratory tract irritation, skin irritation, eye irritation, liver damage, central nervous system depression, nerve damage
Physical Hazards: Flash back hazard. Combustible liquid and vapor.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: cough, irritation, changes in blood pressure, ringing in the ears, nausea, vomiting, constipation, stomach pain, chest pain, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, hallucinations, tingling sensation, pain in extremities, tremors, loss of coordination, internal bleeding, blood disorders, kidney damage, nerve damage, unconsciousness, coma
Long Term: irritation, sensitivity to light, changes in blood pressure, nausea, vomiting, diarrhea, stomach pain, difficulty breathing, irregular heartbeat, headache, drowsiness, fatigue, dizziness, disorientation, pain in extremities, tremors, loss of coordination, visual disturbances, dilated pupils or pin-point pupils, blindness, bluish skin color, lung congestion, heart damage, kidney damage, liver damage, nerve damage, reproductive effects, effects on the brain, convulsions, unconsciousness, coma

Skin

Short Term: irritation, absorption may occur, changes in blood pressure, ringing in the ears, nausea, vomiting, constipation, stomach pain, chest pain, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, hallucinations, tingling sensation, pain in extremities, tremors, loss of coordination, internal bleeding, blood disorders, kidney damage, nerve damage, unconsciousness, coma
Long Term: irritation, absorption may occur, headache, drowsiness, dizziness, loss of coordination, blood disorders, nerve damage

Eye

Short Term: irritation, eye damage

Long Term: irritation, eye damage

Ingestion

Short Term: irritation, changes in body temperature, nausea, vomiting, digestive disorders, irregular heartbeat, headache, drowsiness, dizziness, loss of coordination, disorientation, visual disturbances, dilated pupils, bluish skin color, convulsions, coma

Long Term: irritation, changes in blood pressure, diarrhea, loss of appetite, weight loss, irregular heartbeat, headache, drowsiness, dizziness, disorientation, pain in extremities, tremors, loss of coordination, visual disturbances, blindness, bluish skin color, blood disorders, heart damage, kidney damage, liver damage, nerve damage, reproductive effects, birth defects, brain damage

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	---	---
Mixture	REAGENT ALCOHOL	10-30	F Xn	R:11-20/21/22-68/20/21/22

* * * 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 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 a large amount is swallowed, get medical attention.

Note to Physicians

For inhalation, consider oxygen.

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

See Section 9 for Flammability Properties

Flammable Properties

Moderate fire hazard. Vapor/air mixtures are explosive above flash point. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

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. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. 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

Yes

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

Occupational Spill/Release

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. **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 contact with water or moisture. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. See original container for storage recommendations. Keep separated from incompatible substances.

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

Exposure Limits

Ethyl alcohol (64-17-5)

ACGIH:	1000 ppm STEL
NIOSH:	1000 ppm TWA; 1900 mg/m3 TWA
	3300 ppm IDLH (10% LEL)
OSHA:	1000 ppm TWA; 1900 mg/m3 TWA
	1000 ppm TWA; 1900 mg/m3 TWA
Austria:	2000 ppm STEL (3 X 60 min); 3800 mg/m3 STEL (3 X 60 min)
	1000 ppm MAK; 1900 mg/m3 MAK
Belgium:	1000 ppm TWA; 1907 mg/m3 TWA
Denmark:	1000 ppm TWA; 1900 mg/m3 TWA
Finland:	1300 ppm STEL; 2500 mg/m3 STEL
	1000 ppm TWA; 1900 mg/m3 TWA
France:	5000 ppm VLCT; 9500 mg/m3 VLCT
	1000 ppm VME; 1900 mg/m3 VME
Germany:	500 ppm TWA (exposure factor 2); 960 mg/m3 TWA (exposure factor 2)
	500 ppm MAK; 960 mg/m3 MAK
	1000 ppm Peak; 1920 mg/m3 Peak
Greece:	1000 ppm TWA; 1900 mg/m3 TWA
Ireland:	1000 ppm TWA; 1900 mg/m3 TWA
Netherlands:	1900 mg/m3 STEL
	260 mg/m3 TWA
	skin notation
Portugal:	1000 ppm TWA
Spain:	1000 ppm VLA-ED; 1910 mg/m3 VLA-ED
Sweden:	500 ppm LLV; 1000 mg/m3 LLV
	1000 ppm STV; 1900 mg/m3 STV
United Kingdom:	3000 ppm STEL (calculated); 5760 mg/m3 STEL (calculated)
	1000 ppm TWA; 1920 mg/m3 TWA

Isopropyl alcohol (67-63-0)

ACGIH:	200 ppm TWA
	400 ppm STEL
	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)
NIOSH:	400 ppm TWA; 980 mg/m3 TWA
	500 ppm STEL; 1225 mg/m3 STEL
	2000 ppm IDLH (10% LEL)
OSHA:	400 ppm TWA; 980 mg/m3 TWA
	500 ppm STEL; 1225 mg/m3 STEL
	400 ppm TWA; 980 mg/m3 TWA
Austria:	800 ppm STEL (4 X 15 min); 2000 mg/m3 STEL (4 X 15 min); 800 ppm STEL (STEL for large casting, 4 X 30 min); 2000 mg/m3 STEL (STEL for large casting, 4 X 30 min)
	200 ppm MAK; 500 mg/m3 MAK (short time value for large casting)
Belgium:	400 ppm STEL; 1000 mg/m3 STEL
	200 ppm TWA; 500 mg/m3 TWA
Denmark:	200 ppm TWA; 490 mg/m3 TWA
Finland:	250 ppm STEL; 620 mg/m3 STEL
	200 ppm TWA; 500 mg/m3 TWA
France:	400 ppm VLCT; 980 mg/m3 VLCT
Germany:	200 ppm TWA (exposure factor 2); 500 mg/m3 TWA (exposure factor 2)
	50 mg/L Medium: whole blood Time: end of shift Parameter: Acetone; 50 mg/L Medium: urine Time: end of shift Parameter: Acetone
	200 ppm MAK; 500 mg/m3 MAK
	400 ppm Peak; 1000 mg/m3 Peak
Greece:	500 ppm STEL; 1225 mg/m3 STEL
	400 ppm TWA; 980 mg/m3 TWA
Ireland:	400 ppm STEL
	200 ppm TWA

Potential for cutaneous absorption
Japan 400 ppm Ceiling; 980 mg/m3 Ceiling
Portugal: 200 ppm TWA
400 ppm STEL
Spain: 500 ppm VLA-EC; 1250 mg/m3 VLA-EC
400 ppm VLA-ED; 998 mg/m3 VLA-ED
Sweden: 150 ppm LLV; 350 mg/m3 LLV
250 ppm STV; 600 mg/m3 STV
United Kingdom: 500 ppm STEL; 1250 mg/m3 STEL
400 ppm TWA; 999 mg/m3 TWA

Methyl alcohol (67-56-1)
ACGIH: 200 ppm TWA
250 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
NIOSH: 200 ppm TWA; 260 mg/m3 TWA
250 ppm STEL; 325 mg/m3 STEL
Potential for dermal absorption
6000 ppm IDLH
OSHA: 200 ppm TWA; 260 mg/m3 TWA
250 ppm STEL; 325 mg/m3 STEL
Prevent or reduce skin absorption
200 ppm TWA; 260 mg/m3 TWA
EEC: 200 ppm TWA; 260 mg/m3 TWA
Possibility of significant uptake through the skin
Austria: 800 ppm STEL (4 X 15 min); 1040 mg/m3 STEL (4 X 15 min)
200 ppm MAK; 260 mg/m3 MAK
skin notation
Belgium: 250 ppm STEL; 333 mg/m3 STEL
200 ppm TWA; 266 mg/m3 TWA
Skin
Denmark: 200 ppm TWA; 260 mg/m3 TWA
Potential for cutaneous absorption
Finland: 250 ppm STEL; 330 mg/m3 STEL
200 ppm TWA; 270 mg/m3 TWA
Potential for cutaneous absorption
France: 1000 ppm VLCT; 1300 mg/m3 VLCT
200 ppm VME (restrictive limit); 260 mg/m3 VME (restrictive limit)
Risk of cutaneous absorption
15 mg/L Medium: urine Time: end of shift Parameter: Methanol (Background noise on non-exposed subjects, Non-specific (observed after the exposure to other substances))
Germany: 200 ppm TWA (exposure factor 4); 270 mg/m3 TWA (exposure factor 4)
30 mg/L Medium: urine Time: end of shift Parameter: Methanol; 30 mg/L Medium: urine Time: end of several shifts Parameter: Methanol (for long-term exposures)
200 ppm MAK; 270 mg/m3 MAK
800 ppm Peak; 1080 mg/m3 Peak
skin notation
Greece: 250 ppm STEL; 325 mg/m3 STEL
200 ppm TWA; 260 mg/m3 TWA
skin - potential for cutaneous absorption
Ireland: 200 ppm TWA; 260 mg/m3 TWA
Potential for cutaneous absorption
Italy: 200 ppm TWA; 260 mg/m3 TWA
skin - potential for cutaneous absorption
Japan 200 ppm OEL; 260 mg/m3 OEL
May cause substantial skin absorption
Netherlands: 520 mg/m3 STEL
260 mg/m3 TWA
skin notation

Portugal:	200 ppm TWA 250 ppm STEL skin - potential for cutaneous exposure
Spain:	200 ppm VLA-ED (indicative limit value); 266 mg/m3 VLA-ED (indicative limit value) skin - potential for cutaneous exposure 15 mg/L urine end of shift Methanol (2)
Sweden:	200 ppm LLV; 250 mg/m3 LLV 250 ppm STV; 350 mg/m3 STV Skin notation
United Kingdom:	250 ppm STEL; 333 mg/m3 STEL 200 ppm TWA; 266 mg/m3 TWA Potential for cutaneous absorption

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.

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:**	Clear, colorless liquid
Color:	colorless	**Physical Form:**	liquid
Odor:	alcohol odor	**Odor Threshold:**	Not available
pH:	6.51-6.73	**Melting/Freezing Point:**	Not available
Boiling Point:	78 °C (approximate)	**Decomposition:**	Not available
Flash Point:	48 °C (CC, approximate)	**Evaporation Rate:**	Not available
OSHA Flammability Class:	II	**LEL:**	3.3 %
UEL:	24.5 %	**Vapor Pressure:**	Not available
Vapor Density (air = 1):	Not available	**Density:**	Not available
Specific Gravity (water = 1):	Not available	**Water Solubility:**	miscible
Log KOW:	Not available	**Coeff. Water/Oil Dist.:**	Not available
Auto Ignition:	361 °C (approximate)	**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. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

Materials to Avoid

acid anhydrides, acid chlorides, acids, alkali metals, ammonia, oxidizing materials, peroxides

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:

Ethyl alcohol (64-17-5)

Oral LD50 Rat 7060 mg/kg; Inhalation LC50 Rat 124.7 mg/L 4 h

Isopropyl alcohol (67-63-0)

Inhalation LC50 Rat 72.6 mg/L 4 h; Oral LD50 Rat 4396 mg/kg; Dermal LD50 Rat 12800 mg/kg; Dermal LD50 Rabbit 12870 mg/kg

Methyl alcohol (67-56-1)

Inhalation LC50 Rat 83.2 mg/L 4 h; Inhalation LC50 Rat 64000 ppm 4 h; Oral LD50 Rat 5628 mg/kg; Dermal LD50 Rabbit 15800 mg/kg

RTECS Acute Toxicity (selected)

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

Ethyl alcohol (64-17-5)

Inhalation: 5900 mg/m3/6 hour Inhalation Rat LC50; 124700 mg/m3/4 hour Inhalation Rat LC50; 20000 ppm/10 hour Inhalation Rat LC50
Oral: 15010 mg/kg Oral Rat LD50; 7060 mg/kg Oral Rat LD50; 7 gm/kg Oral Rat LD50

Isopropyl alcohol (67-63-0)

Inhalation: 16000 ppm/8 hour Inhalation Rat LC50; 72600 mg/m3 Inhalation Rat LC50
Oral: 5000 mg/kg Oral Rat LD50; 5045 mg/kg Oral Rat LD50
Skin: 12800 mg/kg Skin Rabbit LD50

Methyl alcohol (67-56-1)

Inhalation: 145000 ppm/1 hour Inhalation Rat LC50; 64000 ppm/8 hour Inhalation Rat LC50; 64000 ppm/4 hour Inhalation Rat LC50
Oral: 5600 mg/kg Oral Rat LD50
Skin: 15800 mg/kg Skin Rabbit LD50

Acute Toxicity Level

Ethyl alcohol (64-17-5)

Slightly Toxic: inhalation, ingestion.

Isopropyl alcohol (67-63-0)

Moderately Toxic: inhalation, ingestion.
Slightly Toxic: dermal absorption.

Methyl alcohol (67-56-1)

Slightly Toxic: dermal absorption, ingestion.
Non Toxic: inhalation.

Irritation/Corrosivity

RTECS Irritation

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

Ethyl alcohol (64-17-5)

500 mg/24 hour Eyes Rabbit mild; 100 mg/4 second(s) Eyes Rabbit moderate; 100 uL Eyes Rabbit moderate; 500 mg Eyes Rabbit severe; 400 mg/open Skin Rabbit mild; 20 mg/24 hour Skin Rabbit moderate

Isopropyl alcohol (67-63-0)

10 mg Eyes Rabbit moderate; 100 mg/24 hour Eyes Rabbit moderate; 100 mg Eyes Rabbit severe; 500 mg Skin Rabbit mild

Methyl alcohol (67-56-1)

100 mg/24 hour Eyes Rabbit moderate; 40 mg Eyes Rabbit moderate; 20 mg/24 hour Skin Rabbit moderate

Local Effects

Ethyl alcohol (64-17-5)

Irritant: inhalation, skin, eye.

Isopropyl alcohol (67-63-0)

Irritant: inhalation, eye.

Methyl alcohol (67-56-1)

Irritant: skin, eye.

Target Organs

Ethyl alcohol (64-17-5)

central nervous system, liver.

Isopropyl alcohol (67-63-0)

central nervous system.

Methyl alcohol (67-56-1)

nervous system.

Carcinogenicity

Component Carcinogenicity

Ethyl alcohol (64-17-5)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

OSHA: Present

IARC: Monograph 100E [in preparation] (in alcoholic beverages); Monograph 96 [in preparation] (in alcoholic beverages) (Group 1 (carcinogenic to humans))

Germany: Category 5 (low carcinogenic potency)

Netherlands: Present

Portugal: A4 - Not Classifiable as a Human Carcinogen

Isopropyl alcohol (67-63-0)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 15 [1977] (Group 3 (not classifiable))

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

central nervous system disorders, eye disorders, kidney disorders, liver disorders, respiratory disorders, skin disorders and allergies

Additional Data

May cross the placenta. May be excreted in breast milk. May cause blindness.

* * * Section 12 - Ecological Information * * *

Component Analysis - Aquatic Toxicity

Ethyl alcohol (64-17-5)

Fish: 96 Hr LC50 Oncorhynchus mykiss: 12.0 - 16.0 mL/L [static]; 96 Hr LC50 Pimephales promelas: >100 mg/L [static]; 96 Hr LC50 Pimephales promelas: 13400 - 15100 mg/L [flow-through]

Invertebrate: 48 Hr LC50 Daphnia magna: 9268 - 14221 mg/L; 24 Hr EC50 Daphnia magna: 10800 mg/L; 48 Hr EC50 Daphnia magna: 2 mg/L [Static]

Isopropyl alcohol (67-63-0)

Fish: 96 Hr LC50 Pimephales promelas: 9640 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 11130 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: >1400000 µg/L

Algae: 96 Hr EC50 Desmodesmus subspicatus: >1000 mg/L; 72 Hr EC50 Desmodesmus subspicatus: >1000 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 13299 mg/L

Methyl alcohol (67-56-1)

Fish: 96 Hr LC50 Pimephales promelas: 28200 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: >100 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 19500 - 20700 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 18 - 20 mL/L [static]; 96 Hr LC50 Lepomis macrochirus: 13500 - 17600 mg/L [flow-through]

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. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

Component Waste Numbers

Methyl alcohol (67-56-1)

RCRA: waste_number U154 (Ignitable waste)

* * * Section 14 - Transport Information * * *

US DOT Information

Shipping Name: Flammable liquids, n.o.s. (Contains: Ethyl alcohol, Isopropyl alcohol)
UN/NA #: UN1993 **Hazard Class:** 3 **Packing Group:** III
Required Label(s): 3

TDG Information

Shipping Name: Flammable liquid, n.o.s. (Contains: Ethyl alcohol, Isopropyl alcohol)
UN #: UN1993 **Hazard Class:** 3 **Packing Group:** III
Required Label(s): 3

ADR Information

Shipping Name: Flammable liquid, n.o.s. (Contains: Ethyl alcohol, Isopropyl alcohol)
UN #: UN1993 **Hazard Class:** 3 **Packing Group:** III
Required Label(s): 3

RID Information

Shipping Name: Flammable liquid, n.o.s. (Contains: Ethyl alcohol, Isopropyl alcohol)
UN #: UN1993 **Hazard Class:** 3 **Packing Group:** III
Required Label(s): 3

IATA Information

Shipping Name: Flammable liquid, n.o.s. (Contains: Ethyl alcohol, Isopropyl alcohol)
UN #: UN1993 **Hazard Class:** 3 **Packing Group:** III
Required Label(s): 3

ICAO Information

Shipping Name: Flammable liquid, n.o.s. (Contains: Ethyl alcohol, Isopropyl alcohol)
UN #: UN1993 **Hazard Class:** 3 **Packing Group:** III
Required Label(s): 3

IMDG Information

Shipping Name: Flammable liquid, n.o.s. (Contains: Ethyl alcohol, Isopropyl alcohol)
UN #: UN1993 **Hazard Class:** 3 **Packing Group:** III
Required Label(s): 3

* * * 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.

Isopropyl alcohol (67-63-0)

SARA 313: 1.0 % de minimis concentration (only if manufactured by the strong acid process, no supplier notification)

Methyl alcohol (67-56-1)

SARA 313: 1.0 % de minimis concentration
CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA 311/312

Acute Health: Yes **Chronic Health:** Yes **Fire:** Yes **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	RI
Ethyl alcohol	64-17-5	Yes	Yes	Yes	Yes	Yes	Yes
Isopropyl alcohol	67-63-0	Yes	Yes	Yes	Yes	Yes	Yes
Methyl alcohol	67-56-1	Yes	Yes	Yes	Yes	Yes	Yes

California Proposition 65

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

Canadian Regulations

Canada WHMIS

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

Ethyl alcohol (64-17-5)

0.1 %

Isopropyl alcohol (67-63-0)

1 %

Methyl alcohol (67-56-1)

1 %

WHMIS Classification

B3, 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

Ethyl alcohol (64-17-5)

Number 96, hazard class 1 - low hazard to waters (footnote 10)

Isopropyl alcohol (67-63-0)

Number 135, hazard class 1 - low hazard to waters

Methyl alcohol (67-56-1)

Number 145, hazard class 1 - low hazard to waters

EU Marking and Labelling

Risk Phrases

R10 Flammable.

Safety Phrases

S51 Use only in well ventilated areas.

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

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

The following components are specified as poisonous and deleterious substances, and are regulated by Japan under the Poisonous and Deleterious Substances Control Law.

Methyl alcohol (67-56-1)

Deleterious (pure form)

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.

Ethyl alcohol (64-17-5)

Flammable substance

Methyl alcohol (67-56-1)

Flammable substance

Industrial Safety and Health Law - Label Disclosure

This list contains those harmful substances present in this product whose names are to be indicated on a container label as specified by Article 18 of the Enforcement Order of the Industrial Safety and Health Law.

Isopropyl alcohol (67-63-0)

1 % weight

Methyl alcohol (67-56-1)

0.3 % weight

Industrial Safety and Health Law - Organic Solvents

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.

Isopropyl alcohol (67-63-0)

Class 2

Methyl alcohol (67-56-1)

Class 2

* * * 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

R11 Highly flammable.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R36 Irritating to eyes.
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R67 Vapours may cause drowsiness and dizziness.

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.

MSDS Update: 11/2/2010

End of Sheet 00231697