



a member of the Roche Group

# Material Safety Data Sheet

Material Name: DISCOVERY CC1

MSDS ID: VEN-128

## \*\*\* 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)

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### Product Number(s)

950-500, 06414575001

### Product Use

clinical/research

## \*\*\* 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

Physical Form: liquid

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	---	---
77-86-1	Tris(hydroxymethyl)aminomethane 201-064-4	<1	Xi	R:36-37-38
10043-35-3	Boric acid 233-139-2	<0.1	T	R:60-61
6381-92-6	Ethylenediaminetetraacetic acid, disodium salt, dihydrate	<0.1	Xi	R:36
2682-20-4	2-Methyl-3-isothiazolone 220-239-6	<0.01	---	---

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7631-86-9	Silica, amorphous 231-545-4	<0.01	---	---
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## \*\*\* 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 a large amount is 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.

### Unsuitable Extinguishing Media

None known.

### 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.

### 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.

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

### Exposure Limits

#### Boric acid (10043-35-3)

- ACGIH:** 2 mg/m<sup>3</sup> TWA (inhalable fraction)  
6 mg/m<sup>3</sup> STEL (inhalable fraction)
- Belgium:** 6 mg/m<sup>3</sup> STEL (as borate)  
2 mg/m<sup>3</sup> TWA (as borate)
- Germany:** 0.5 mg/m<sup>3</sup> TWA (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 mg/m<sup>3</sup> MAK (inhalable fraction, as B)  
10 mg/m<sup>3</sup> Peak (as B, inhalable fraction)
- Portugal:** 2 mg/m<sup>3</sup> TWA (inhalable fraction)  
6 mg/m<sup>3</sup> STEL (inhalable fraction)
- Spain:** 6 mg/m<sup>3</sup> VLA-EC  
2 mg/m<sup>3</sup> VLA-ED (it is prohibited the partial or complete commercialization or use of this substance as a phytosanitary o biocide compound)

#### 2-Methyl-3-isothiazolone (2682-20-4)

- Germany (DFG):** 0.2 mg/m<sup>3</sup> MAK (mixture in ratio 1:3 with CAS #26172-55-4, inhalable fraction)  
0.4 mg/m<sup>3</sup> Peak (mixture in ratio 1:3 with CAS #26172-55-4, inhalable fraction)  
skin sensitizer

#### Silica, amorphous (7631-86-9)

- NIOSH:** 6 mg/m<sup>3</sup> TWA  
3000 mg/m<sup>3</sup> IDLH
- OSHA:** 20 mppcf TWA; (80)/(% SiO<sub>2</sub>) mg/m<sup>3</sup> TWA
- Austria:** 4 mg/m<sup>3</sup> MAK (inhalable fraction)
- Germany:** 4 mg/m<sup>3</sup> TWA (The risk of damage to the embryo or fetus can be excluded when MAK and BAT values are observed, inhalable fraction)
- Germany (DFG):** 4 mg/m<sup>3</sup> MAK (inhalable fraction)
- Ireland:** 6 mg/m<sup>3</sup> TWA (total inhalable dust); 2.4 mg/m<sup>3</sup> TWA (respirable dust)
- United Kingdom:** 18 mg/m<sup>3</sup> STEL (calculated, inhalable dust); 7.2 mg/m<sup>3</sup> STEL (calculated, respirable dust)  
6 mg/m<sup>3</sup> TWA (inhalable dust); 2.4 mg/m<sup>3</sup> TWA (respirable dust)

### 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\*\*\*

<b>Physical State:</b>	Liquid	<b>Appearance:</b>	liquid
<b>Physical Form:</b>	liquid	<b>Odor:</b>	Not available
<b>Odor Threshold:</b>	Not available	<b>pH:</b>	8.5
<b>Decomposition:</b>	Not available	<b>Flash Point:</b>	not flammable
<b>Evaporation Rate:</b>	Not available	<b>LEL:</b>	Not available
<b>UEL:</b>	Not available	<b>Vapor Pressure:</b>	Not available
<b>Vapor Density (air = 1):</b>	Not available	<b>Density:</b>	0.996 g/mL
<b>Water Solubility:</b>	miscible	<b>Log KOW:</b>	Not available
<b>Coeff. Water/Oil Dist.:</b>	Not available	<b>Auto Ignition:</b>	Not available
<b>Viscosity:</b>	Not available	<b>Volatility:</b>	Not available

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## \*\*\* 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

None known.

### Decomposition Products

miscellaneous decomposition products

### 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:

#### **Tris(hydroxymethyl)aminomethane (77-86-1)**

Oral LD50 Rat 5900 mg/kg

#### **Boric acid (10043-35-3)**

Oral LD50 Rat 2660 mg/kg; Inhalation LC50 Rat >0.16 mg/L 4 h; Dermal LD50 Rabbit >2000 mg/kg

#### **Silica, amorphous (7631-86-9)**

Oral LD50 Rat >5000 mg/kg; Inhalation LC50 Rat >2.2 mg/L 1 h; Dermal LD50 Rabbit >2000 mg/kg

#### RTECS Acute Toxicity (selected)

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

#### **Tris(hydroxymethyl)aminomethane (77-86-1)**

Oral: >3000 mg/kg Oral Rat LD50

#### Acute Toxicity Level

#### **Tris(hydroxymethyl)aminomethane (77-86-1)**

Slightly Toxic: ingestion

#### **Boric acid (10043-35-3)**

Moderately Toxic: ingestion

#### Irritation/Corrosivity

##### RTECS Irritation

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

#### **Tris(hydroxymethyl)aminomethane (77-86-1)**

25 percent Skin Rabbit moderate; 500 mg Skin Rabbit severe; 100 mg Skin Rat

#### Local Effects

#### **Tris(hydroxymethyl)aminomethane (77-86-1)**

Irritant: inhalation, skin, eye

#### **Boric acid (10043-35-3)**

Irritant: inhalation, skin

#### **Ethylenediaminetetraacetic acid, disodium salt, dihydrate (6381-92-6)**

Irritant: eye

#### Target Organs

#### **Boric acid (10043-35-3)**

central nervous system, kidneys

#### **2-Methyl-3-isothiazolone (2682-20-4)**

immune system (sensitizer)

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## Carcinogenicity

### Component Carcinogenicity

#### Boric acid (10043-35-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Portugal: A4 - Not Classifiable as a Human Carcinogen

#### Silica, amorphous (7631-86-9)

IARC: Monograph 68 [1997]; Supplement 7 [1987] (Group 3 (not classifiable))

## 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

#### Boric acid (10043-35-3)

Fish: 72 Hr LC50 Carassius auratus: 1020 mg/L [flow-through]

Invertebrate: 48 Hr EC50 Daphnia magna: 115 - 153 mg/L

#### Silica, amorphous (7631-86-9)

Fish: 96 Hr LC50 Brachydanio rerio: 5000 mg/L [static]

Algae: 72 Hr EC50 Pseudokirchneriella subcapitata: 440 mg/L

Invertebrate: 48 Hr EC50 Ceriodaphnia dubia: 7600 mg/L

## 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.

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## \*\*\* 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.

#### **2-Methyl-3-isothiazolone (2682-20-4)**

TSCA 12b: Section 5, 1 % de minimus concentration

### 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	RI
Silica, amorphous	7631-86-9	Yes	Yes	Yes	No	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:

#### **Boric acid (10043-35-3)**

1 %

#### **Silica, amorphous (7631-86-9)**

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

#### **Tris(hydroxymethyl)aminomethane (77-86-1)**

ID Number 4650, hazard class 2 - hazard to waters

#### **Boric acid (10043-35-3)**

ID Number 315, hazard class 1 - low hazard to waters

#### **Ethylenediaminetetraacetic acid, disodium salt, dihydrate (6381-92-6)**

ID Number 104, hazard class 2 - hazard to waters

#### **Silica, amorphous (7631-86-9)**

ID Number 849, not considered hazardous to water

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ID Number 849, not considered hazardous to water

## Candidate List of Substances Subject to Authorization

The following component(s) are included on the Candidate List of Substances Subject to Authorization (EU-REACH 1907/2006) - Article 59(1).

### **Boric acid (10043-35-3)**

Reason for inclusion: Toxic to reproduction, Article 57c

## 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.

### **Boric acid (10043-35-3)**

405 1 % [as B, 0.175]

### 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.

## \* \* \* 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

**R36** Irritating to eyes.

**R37** Irritating to respiratory system.

**R38** Irritating to skin.

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**R60** May impair fertility.

**R61** May cause harm to the unborn child.

## 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:** 5/24/2011

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