a member of the Roche Group

# Material Safety Data Sheet

**Material Name: OptiView Copper** **MSDS ID: VEN-124**

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

**Manufacturer Information**

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

## Material Name: OptiView Copper

**Product Number(s)**

06397751001, 253-4584, 760-700

**Product Use**

clinical/research

## * * * Section 2 - Hazards Identification* * *

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

**Preparation**

This material is not classified.

**EMERGENCY OVERVIEW**

**Color:** colorless to amber
**Physical Form:** liquid
**Odor:** faint odor, sharp odor
**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 | --- | --- |
| 7758-99-8 | CUPRIC SULFATE PENTAHYDRATE | <1 | Xn Xi N | R:22-36/38-50-53 |
| 9002-92-0 | BRIJ 35<br>500-002-6 | <1 | --- | --- |
| 64-19-7 | ACETIC ACID<br>200-580-7 | <1 | C | R:10-35 |

**Component Related Regulatory Information**

This product may be regulated, have exposure limits or other information identified as the following: Copper compounds, n.o.s., Copper, inorganic compounds, Cupric sulfate (7758-98-7).

## * * * 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**

Slight fire hazard.

**Extinguishing Media**

carbon dioxide, regular dry chemical, regular foam, water

**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, oxides of copper, oxides of sodium, oxides of sulfur

**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. Store between 2 C and 8 C. Keep in the dark. See original container for storage recommendations. Keep separated from incompatible substances.

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

**Exposure Limits**

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**

| | |
|---|---|
| **ACGIH:** | 1 mg/m3 TWA (as Cu, dust and mist, related to Copper compounds, n.o.s.) |
| **NIOSH:** | 1 mg/m3 TWA (as Cu, dust and mist, related to Copper compounds, n.o.s.)<br>100 mg/m3 IDLH (as Cu, dust and mist, related to Copper compounds, n.o.s.) |
| **Austria:** | 4 mg/m3 STEL (as Cu, inhalable fraction, 4 X 15 min); 0.4 mg/m3 STEL (as Cu, respirable fraction, smoke, 4 X 15 min, related to Copper compounds, n.o.s.)<br>1 mg/m3 MAK (as Cu, inhalable fraction); 0.1 mg/m3 MAK (as Cu, respirable fraction, smoke, related to Copper compounds, n.o.s.) |
| **Finland:** | 1 mg/m3 TWA (as Cu) |
| **Germany (DFG):** | 0.1 mg/m3 MAK (inhalable fraction, related to Copper, inorganic compounds)<br>0.2 mg/m3 Peak (inhalable fraction, related to Copper, inorganic compounds) |
| **Sweden:** | 1 mg/m3 LLV (as Co, total dust); 0.2 mg/m3 LLV (as Co, respirable dust, related to Copper, inorganic compounds) |

**ACETIC ACID (64-19-7)**

| | |
|---|---|
| **ACGIH:** | 10 ppm TWA<br>15 ppm STEL |
| **NIOSH:** | 10 ppm TWA; 25 mg/m3 TWA<br>15 ppm STEL; 37 mg/m3 STEL<br>50 ppm IDLH |
| **OSHA:** | 10 ppm TWA; 25 mg/m3 TWA<br>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)<br>10 ppm MAK; 25 mg/m3 MAK |
| **Belgium:** | 15 ppm STEL; 38 mg/m3 STEL<br>10 ppm TWA; 25 mg/m3 TWA |
| **Denmark:** | 10 ppm TWA; 25 mg/m3 TWA |
| **Finland:** | 10 ppm STEL; 25 mg/m3 STEL<br>5 ppm TWA; 13 mg/m3 TWA |
| **France:** | 10 ppm VLCT; 25 mg/m3 VLCT |
| **Germany:** | 10 ppm TWA (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 (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 MAK; 25 mg/m3 MAK<br>20 ppm Peak; 50 mg/m3 Peak |
| **Greece:** | 15 ppm STEL; 37 mg/m3 STEL<br>10 ppm TWA; 25 mg/m3 TWA |
| **Ireland:** | 15 ppm STEL; 37 mg/m3 STEL<br>10 ppm TWA; 25 mg/m3 TWA |
| **Japan** | 10 ppm OEL; 25 mg/m3 OEL |
| **Portugal:** | 10 ppm TWA<br>15 ppm STEL |
| **Spain:** | 15 ppm VLA-EC; 37 mg/m3 VLA-EC<br>10 ppm VLA-ED; 25 mg/m3 VLA-ED |
| **Sweden:** | 5 ppm LLV; 13 mg/m3 LLV<br>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.

**Protective Materials**

latex, vinyl

**Respiratory Protection**

No respirator is required under normal conditions of use.

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

| | | | |
|---|---|---|---|
| **Physical State:** | Liquid | **Appearance:** | Clear, colorless to amber liquid |
| **Color:** | colorless to amber | **Physical Form:** | liquid |
| **Odor:** | faint odor, sharp odor | **Odor Threshold:** | Not available |
| **pH:** | 5.0 | **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:** | 1.004 g/mL | **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**

acids, combustible materials, halogens, oxidizing materials

**Decomposition Products**

**Thermal decomposition or combustion products:** oxides of carbon, oxides of copper, oxides of sodium, oxides of sulfur

**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:

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**

Oral LD50 Rat 300 mg/kg; Dermal LD50 Rat >2 g/kg

**BRIJ 35 (9002-92-0)**

Oral LD50 Rat 1 g/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:

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**

**Oral:** 300 mg/kg Oral Rat LD50

**BRIJ 35 (9002-92-0)**

**Oral:** 1 gm/kg Oral Rat LD50; 8600 mg/kg Oral Rat LD50; 8600 mg/kg Oral Rat LD50; 4150 mg/kg Oral Rat LD50

**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**

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**

**Toxic:** ingestion

**BRIJ 35 (9002-92-0)**

**Moderately Toxic:** ingestion
**Slightly Toxic:** ingestion

**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:

**BRIJ 35 (9002-92-0)**

6 mg/3 day(s) intermittent Skin Human moderate; 100 mg Eyes Rabbit; 10 mg Eyes Rabbit; 750 ug/24 hour Eyes Rabbit severe; 100 mg Skin Rabbit; 500 mg/24 hour Skin Rabbit mild; 75 mg/24 hour Skin Rabbit mild; 500 mg/24 hour Skin Rabbit moderate; 1 percent Skin Woman

**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**

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**

**Irritant:** inhalation, skin
**Corrosive:** eye, ingestion

**BRIJ 35 (9002-92-0)**

**Irritant:** eye

**ACETIC ACID (64-19-7)**

**Corrosive:** inhalation, skin, eye, ingestion

**Carcinogenicity**

**Component Carcinogenicity**

**ACETIC ACID (64-19-7)**

**Denmark:** Present

**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**

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**

**Fish:** 96 Hr LC50 Lepomis macrochirus: 0.66-1.15 mg/L [semi-static]; 96 Hr LC50 Lepomis macrochirus: 0.96-1.8 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 0.1478-0.165 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.09-0.19 mg/L [static]; 96 Hr LC50 Pimephales promelas: 0.6752 mg/L [static]

**Invertebrate:** 48 Hr EC50 Daphnia magna: 0.147 - 0.227 mg/L [Static]

**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.

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**

**SARA 313:** 1.0 % de minimis concentration (except Copper phthalocyanine compounds substituted only with Hydrogen and/or Bromine and/or Chlorine, Chemical Category N100, related to Copper compounds, n.o.s.)

**CERCLA:** 10 lb final RQ; 4.54 kg final RQ (related to Cupric sulfate)

**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 | RI |
|---|---|---|---|---|---|---|---|
| CUPRIC SULFATE PENTAHYDRATE ([1]related to: Copper compounds, n.o.s.) ([2]related to: Cupric sulfate) | 7758-99-8 | Yes[1] | Yes[2] | No | Yes[1] | Yes[1] | No |
| ACETIC ACID | 64-19-7 | Yes | Yes | Yes | Yes | Yes | Yes |

**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:

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**

1 % (related to Copper compounds, n.o.s.)

**BRIJ 35 (9002-92-0)**

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**

**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**
ID Number 141, hazard class 2 - hazard to waters (related to Cupric sulfate)

ID Number 141, hazard class 2 - hazard to waters (related to Cupric sulfate)
**BRIJ 35 (9002-92-0)**
ID Number 670, hazard class 2 - 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.
**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**
272 1 % [as Cu, 0.255] (water-soluble, except complex salts)
**BRIJ 35 (9002-92-0)**
407 1 %

**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.
**CUPRIC SULFATE PENTAHYDRATE (7758-99-8)**
Deleterious, 100%

**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.
**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.



**New MSDS:** 5/17/2011

End of Sheet VEN-124