

# a member of the Roche Group

# **Material Safety Data Sheet**

Material Name: Ventana Antibody Diluent with Casein MSDS ID: VEN-130

# \* \* \* 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: Ventana Antibody Diluent with Casein

**Product Number(s)** 

760-219, 06440002001

**Product Use** 

clinical

# \* \* \* 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 Xi; R:43 Risks

May cause sensitization by skin contact.

#### **EMERGENCY OVERVIEW**

Physical Form: liquid

Major Health Hazards: No significant target effects reported.

### POTENTIAL HEALTH EFFECTS

Inhalation

**Short Term:** irritation

Long Term: no information on significant adverse effects

Skin

Short Term: irritation, allergic reactions

Long Term: irritation

Eye

Short Term: irritation

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				
7647-14-5	Sodium chloride 231-598-3	<1	Xi	R:36		
1310-73-2	Sodium hydroxide 215-185-5	<1	С	R:35		

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7647-01-0	Hydrogen chloride	<1	С	R:34-37
	231-595-7			
9002-92-0	BRIJ 35	<1		
	500-002-6			
55965-84-9	Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl-	<0.01	TN	R:23/24/25-34-
	with 2-methyl-3(2H)-isothiazolone			43-50/53

## \* \* \* 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**

regular dry chemical, carbon dioxide, water, regular foam

## **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 potassium, oxides of sodium 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**

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Sodium hydroxide (1310-73-2)
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ACGIH: 2 mg/m3 Ceiling
NIOSH: 2 mg/m3 Ceiling
10 mg/m3 IDLH
OSHA: 2 mg/m3 Ceiling

2 mg/m3 Celling 2 mg/m3 TWA

Austria: 4 mg/m3 STEL (inhalable fraction, 8 X 5 min)

2 mg/m3 MAK (inhalable fraction)

Denmark: 2 mg/m3 Ceiling Finland: 2 mg/m3 STEL 2 mg/m3 Ceiling France: 2 mg/m3 VME Greece: 2 mg/m3 STEL

2 mg/m3 TWA
Ireland: 2 mg/m3 STEL
Japan 2 mg/m3 Ceiling
Portugal: 2 mg/m3 Ceiling
Spain: 2 mg/m3 VLA-EC

**Sweden:** 1 mg/m3 LLV (inhalable dust) 2 mg/m3 CLV (inhalable dust)

United Kingdom: 2 mg/m3 STEL

## Hydrogen chloride (7647-01-0)

ACGIH: 2 ppm Ceiling

NIOSH: 5 ppm Ceiling; 7 mg/m3 Ceiling

50 ppm IDLH

OSHA: 5 ppm Ceiling; 7 mg/m3 Ceiling 5 ppm Ceiling; 7 mg/m3 Ceiling EEC: 5 ppm TWA; 8 mg/m3 TWA

10 ppm STEL; 15 mg/m3 STEL

Austria: 10 ppm STEL (8 X 5 min); 15 mg/m3 STEL (8 X 5 min)

5 ppm MAK; 8 mg/m3 MAK

Belgium: 10 ppm STEL; 15 mg/m3 STEL 5 ppm TWA; 8 mg/m3 TWA Denmark: 5 ppm Ceiling; 7 mg/m3 Ceiling

Finland: 5 ppm STEL; 7.6 mg/m3 STEL (including solution)

France: 5 ppm VLCT (restrictive limit); 7.6 mg/m3 VLCT (restrictive limit)

Germany: 2 ppm TWA (The risk of damage to the embryo or fetus can be excluded when MAK

and BAT values are observed, exposure factor 2); 3 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): 2 ppm MAK; 3.0 mg/m3 MAK

4 ppm Peak; 6 mg/m3 Peak Greece: 5 ppm STEL; 7 mg/m3 STEL

5 ppm TWA; 7 mg/m3 TWA

Ireland: 10 ppm STEL; 15 mg/m3 STEL

5 ppm TWA; 8 mg/m3 TWA

1 taly: 5 ppm TWA; 8 mg/m3 TWA
10 ppm STEL; 15 mg/m3 STEL

Japan 5 ppm Ceiling; 7.5 mg/m3 Ceiling

Netherlands: 15 mg/m3 STEL 8 mg/m3 TWA

> Portugal: 2 ppm Ceiling Spain: 10 ppm VLA-EC; 15 mg/m3 VLA-EC

5 ppm VLA-ED (indicative limit value); 7.6 mg/m3 VLA-ED (indicative limit value)

Sweden: 5 ppm CLV; 8 mg/m3 CLV

United Kingdom: 5 ppm STEL (aerosol mist and gas); 8 mg/m3 STEL (aerosol mist and gas)

1 ppm TWA (aerosol mist and gas); 2 mg/m3 TWA (aerosol mist and gas)

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#### 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.

### **Respiratory Protection**

No respirator is required under normal conditions of use.

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

Physical State: Liquid Appearance: liquid

Physical Form: liquid Odor: Not available

Odor Threshold: Not available pH: 7.3

Decomposition:Not availableFlash Point:not flammableEvaporation Rate:Not availableLEL:Not available

UEL: Not available Vapor Pressure: Not available

Vapor Density (air = 1):Not availableDensity:1.021 g/mLWater Solubility:miscibleLog KOW:Not availableCoeff. Water/Oil Dist.:Not availableAuto Ignition:Not availableViscosity:Not availableVolatility: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, metals, oxidizing materials

#### **Decomposition Products**

Thermal decomposition or combustion products: oxides of carbon, oxides of potassium, oxides of sodium 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:

### **Sodium chloride (7647-14-5)**

Inhalation LC50 Rat >42 g/m3 1 h; Oral LD50 Rat 3 g/kg; Dermal LD50 Rabbit >10 g/kg

Sodium hydroxide (1310-73-2)

Dermal LD50 Rabbit 1350 mg/kg

#### Hydrogen chloride (7647-01-0)

Inhalation LC50 Rat 3124 ppm 1 h; Oral LD50 Rat 700 mg/kg; Dermal LD50 Rabbit >5010 mg/kg

BRIJ 35 (9002-92-0)

Oral LD50 Rat 1 g/kg

Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone (55965-84-9)

Oral LD50 Rat 53 mg/kg

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#### **RTECS Acute Toxicity (selected)**

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

Sodium chloride (7647-14-5)

Oral: 3000 mg/kg Oral Rat LD50

Hydrogen chloride (7647-01-0)

Inhalation: 3124 ppm/1 hour Inhalation Rat LC50; 8300 mg/m3/30 minute(s) Inhalation Rat LC50;

60938 mg/m3/5 minute(s) Inhalation Rat LC50; 7004 mg/m3/30 minute(s) Inhalation Rat LC50; 3700 ppm/30 minute(s) Inhalation Rat LC50; 45000 mg/m3/5 minute(s)

Inhalation Rat LC50

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

**Acute Toxicity Level** 

Sodium chloride (7647-14-5)

Moderately Toxic: ingestion
Sodium hydroxide (1310-73-2)

Toxic: ingestion

Moderately Toxic: dermal absorption

Hydrogen chloride (7647-01-0)

Toxic: inhalation

Moderately Toxic: ingestion

BRIJ 35 (9002-92-0)

Moderately Toxic: ingestion Slightly Toxic: ingestion

Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone (55965-84-9)

Toxic: ingestion

Irritation/Corrosivity

**RTECS Irritation** 

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

Sodium chloride (7647-14-5)

100 mg/24 hour Eyes Rabbit moderate; 10 mg Eyes Rabbit moderate; 500 mg/24 hour Skin Rabbit mild **Sodium hydroxide (1310-73-2)** 

2 percent Skin Human mild; 1 percent Eyes Monkey severe; 400 ug Eyes Rabbit mild; 1 mg/30 second(s) Eyes Rabbit severe; 1 mg/24 hour Eyes Rabbit severe; 50 ug/24 hour Eyes Rabbit severe; 1 percent Eyes Rabbit severe; 500 mg/24 hour Skin Rabbit severe

Hydrogen chloride (7647-01-0)

4 percent Skin Human mild; 5 mg/30 second(s) Eyes Rabbit mild

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

**Local Effects** 

**Sodium chloride (7647-14-5)** 

Irritant: eye

Sodium hydroxide (1310-73-2)

Corrosive: inhalation, skin, eye, ingestion

Hydrogen chloride (7647-01-0)

Corrosive: inhalation, skin, eye, ingestion

BRIJ 35 (9002-92-0) Irritant: eye

Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone (55965-84-9)

Corrosive: inhalation, skin, eye, ingestion

**Target Organs** 

Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone (55965-84-9)

immune system (sensitizer)

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Carcinogenicity

**Component Carcinogenicity** 

Hydrogen chloride (7647-01-0)

ACGIH: A4 - Not Classifiable as a Human Carcinogen IARC: Monograph 54 [1992] (Group 3 (not classifiable))
Portugal: A4 - Not Classifiable as a Human Carcinogen

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** 

Sodium chloride (7647-14-5)

Fish: 96 Hr LC50 Lepomis macrochirus: 5560-6080 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 12946 mg/L [static]; 96 Hr LC50 Pimephales promelas: 6020-7070 mg/L [static]; 96 Hr LC50 Pimephales promelas: 7050 mg/L [semi-static]; 96 Hr LC50 Pimephales promelas: 6420-6700 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss:

4747-7824 mg/L [flow-through]

Invertebrate: 48 Hr EC50 Daphnia magna: 1000 mg/L; 48 Hr EC50 Daphnia magna: 340.7 - 469.2

mg/L [Static]

Sodium hydroxide (1310-73-2)

Fish: 96 Hr LC50 Oncorhynchus mykiss: 45.4 mg/L [static]

Hydrogen chloride (7647-01-0)

Fish: 96 Hr LC50 Gambusia affinis: 282 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.

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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.

Sodium hydroxide (1310-73-2)

CERCLA: 1000 lb final RQ; 454 kg final RQ

Hydrogen chloride (7647-01-0)

**SARA 302/304:** 500 lb TPQ (gas only)

5000 lb EPCRA RQ (gas only)

SARA 313: 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and

other airborne forms of any particle size)

CERCLA: 5000 lb final RQ; 2270 kg final RQ OSHA (safety): 5000 lb TQ; 5000 lb TQ (anhydrous)

**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
Sodium hydroxide	1310-73-2	Yes	Yes	Yes	Yes	Yes	Yes
Hydrogen chloride	7647-01-0	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:

### Sodium hydroxide (1310-73-2)

1 %

Hydrogen chloride (7647-01-0)

1 %

BRIJ 35 (9002-92-0)

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.

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#### **Germany Water Classification**

**Sodium chloride (7647-14-5)** 

ID Number 270, hazard class 1 - low hazard to waters

Sodium hydroxide (1310-73-2)

ID Number 142, hazard class 1 - low hazard to waters (footnote 8)

Hydrogen chloride (7647-01-0)

ID Number 238, hazard class 1 - low hazard to waters (footnote 8)

BRIJ 35 (9002-92-0)

ID Number 670, hazard class 2 - hazard to waters

Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone (55965-84-9)

ID Number 2959, hazard class 3 - severe hazard to waters

#### **EU Marking and Labelling**

**Risk Phrases** 

**R43** May cause sensitization by skin contact.

**EU Symbols** 

Xi Irritant

Safety Phrases

**\$24** Avoid contact with skin.

\$37 Wear suitable gloves.

### **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.

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.

Sodium hydroxide (1310-73-2)

Deleterious, >5%; Deleterious, >=100%

Hydrogen chloride (7647-01-0)

Deleterious, >0% (expect mixture containing <=10% Hydrogen chloride and Sulfuric acid combined); Deleterious, >10%; Deleterious, >=100%

### 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

R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R34 Causes burns.

R35 Causes severe burns.

R36 Irritating to eyes.

R37 Irritating to respiratory system.

R43 May cause sensitization by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 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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End of Sheet VEN-130