



a member of the Roche Group

### Material Safety Data Sheet

Material Name: anti-CD22 (SP104) Rabbit Monoclonal Primary Antibody

MSDS ID: VEN-116

**\*\*\* 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: anti-CD22 (SP104) Rabbit Monoclonal Primary Antibody

**Product Number(s)**  
790-4588, 06391117001

**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**

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	---	---
60-00-4	Ethylenediamine tetraacetic acid 200-449-4	<1	Xi	R:36
7647-14-5	Sodium chloride 231-598-3	<1	Xi	R:36

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9002-92-0	BRIJ 35 500-002-6	<1	---	---
7647-01-0	Hydrogen chloride 231-595-7	<0.1	C	R:34-37
55965-84-9	Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	<0.01	T N	R:23/24/25-34- 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 phosphorus, 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

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

<b>ACGIH:</b>	2 ppm Ceiling
<b>NIOSH:</b>	5 ppm Ceiling; 7 mg/m3 Ceiling 50 ppm IDLH
<b>OSHA:</b>	5 ppm Ceiling; 7 mg/m3 Ceiling 5 ppm Ceiling; 7 mg/m3 Ceiling
<b>EEC:</b>	5 ppm TWA; 8 mg/m3 TWA 10 ppm STEL; 15 mg/m3 STEL
<b>Austria:</b>	10 ppm STEL (8 X 5 min); 15 mg/m3 STEL (8 X 5 min) 5 ppm MAK; 8 mg/m3 MAK
<b>Belgium:</b>	10 ppm STEL; 15 mg/m3 STEL 5 ppm TWA; 8 mg/m3 TWA
<b>Denmark:</b>	5 ppm Ceiling; 7 mg/m3 Ceiling
<b>Finland:</b>	5 ppm STEL; 7.6 mg/m3 STEL (including solution)
<b>France:</b>	5 ppm VLCT (restrictive limit); 7.6 mg/m3 VLCT (restrictive limit)
<b>Germany:</b>	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)
<b>Germany (DFG):</b>	2 ppm MAK; 3.0 mg/m3 MAK 4 ppm Peak; 6 mg/m3 Peak
<b>Greece:</b>	5 ppm STEL; 7 mg/m3 STEL 5 ppm TWA; 7 mg/m3 TWA
<b>Ireland:</b>	10 ppm STEL; 15 mg/m3 STEL 5 ppm TWA; 8 mg/m3 TWA
<b>Italy:</b>	5 ppm TWA; 8 mg/m3 TWA 10 ppm STEL; 15 mg/m3 STEL
<b>Japan</b>	5 ppm Ceiling; 7.5 mg/m3 Ceiling
<b>Netherlands:</b>	15 mg/m3 STEL 8 mg/m3 TWA
<b>Portugal:</b>	2 ppm Ceiling
<b>Spain:</b>	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)
<b>Sweden:</b>	5 ppm CLV; 8 mg/m3 CLV
<b>United Kingdom:</b>	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)

### 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.

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## \*\*\* 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>	7.3
<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>	1.021 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

## \*\*\* 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

metals, oxidizing materials

### Decomposition Products

**Thermal decomposition or combustion products:** oxides of carbon, oxides of phosphorus, 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:

#### **Ethylenediamine tetraacetic acid (60-00-4)**

Oral LD50 Rat 1700 mg/kg

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

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

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

Oral LD50 Rat 1 g/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

#### **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:

### Ethylenediamine tetraacetic acid (60-00-4)

Oral: 30 mg/kg Oral Mouse LD50

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

Oral: 3000 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

## Acute Toxicity Level

### Ethylenediamine tetraacetic acid (60-00-4)

Moderately Toxic: ingestion

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

Moderately Toxic: ingestion

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

Moderately Toxic: ingestion

Slightly Toxic: ingestion

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

Toxic: inhalation

Moderately 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

### 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

### Ethylenediamine tetraacetic acid (60-00-4)

Irritant: inhalation, skin, eye

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

Irritant: eye

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

Irritant: eye

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

Corrosive: inhalation, skin, eye, ingestion

### 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)

## 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.

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## 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

##### Ethylenediamine tetraacetic acid (60-00-4)

**Fish:** 96 Hr LC50 Lepomis macrochirus: 34-62 mg/L [static]; 96 Hr LC50 Pimephales promelas: 44.2-76.5 mg/L [static]

**Algae:** 72 Hr EC50 Desmodesmus subspicatus: 1.01 mg/L

**Invertebrate:** 48 Hr EC50 Daphnia magna: 113 mg/L [Static]

##### 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]

##### 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.

#### Ethylenediamine tetraacetic acid (60-00-4)

CERCLA: 5000 lb final RQ; 2270 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
Ethylenediamine tetraacetic acid	60-00-4	Yes	Yes	No	Yes	Yes	No
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:

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

1 %

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

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.

### Germany Water Classification

#### Ethylenediamine tetraacetic acid (60-00-4)

ID Number 104, hazard class 2 - hazard to waters

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

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

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

ID Number 670, hazard class 2 - hazard to waters

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

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

**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

**S24** Avoid contact with skin.

**S37** 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.

**Ethylenediamine tetraacetic acid (60-00-4)**

60 1 %

**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.

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

Deleterious, 10%; Deleterious; Deleterious

### 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.

**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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**New MSDS:** 4/19/2011

End of Sheet VEN-116