a member of the Roche Group

Material Safety Data Sheet

Material Name: Quantum Dot 565 Anti-DIG **MSDS ID: VEN-068**

* * * 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: Quantum Dot 565 Anti-DIG

Product Number(s)

800-4551, 06538193001

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

Physical Form: liquid
Major Health Hazards: No significant target effects reported.

POTENTIAL HEALTH EFFECTS

Inhalation

Short Term: irritation
Long Term: reproductive effects

Skin

Short Term: irritation, allergic reactions
Long Term: allergic reactions, reproductive effects

Eye

Short Term: irritation
Long Term: irritation

Ingestion

Short Term: no information on significant adverse effects
Long Term: reproductive 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	---	---
Proprietary	Proprietary Component 1	<1	T Xn Xi	R:60-61-22-36-37-38
Proprietary	Proprietary Component 2	<1	T Xi	R:60-61-37-38
Proprietary	Proprietary Component 3	<1	Xi	R:36-38
Proprietary	Proprietary Component 4	<0.1	T+ N	R:28-32-50-53
Proprietary	Proprietary Component 5	<0.01	Xn N	R:20/21/22-50-53

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Borates, tetra, sodium salts, anhydrous, Cadmium compounds.

* * * 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

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.

Hazardous Combustion Products

Thermal decomposition or combustion products: oxides of boron, oxides of carbon, 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. Keep unnecessary people away, isolate hazard area and deny entry.

* * * 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.

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

Exposure Limits

Proprietary Component 1 (Proprietary)

ACGIH:	2 mg/m3 TWA (inhalable fraction)
	6 mg/m3 STEL (inhalable fraction)
NIOSH:	5 mg/m3 TWA
OSHA:	10 mg/m3 TWA
Belgium:	6 mg/m3 STEL (as borate)
	2 mg/m3 TWA (as borate)
Denmark:	2 mg/m3 TWA
	Potential for cutaneous absorption
France:	5 mg/m3 VME
Greece:	10 mg/m3 TWA
Ireland:	5 mg/m3 TWA
Portugal:	2 mg/m3 TWA (inhalable fraction)
	6 mg/m3 STEL (inhalable fraction)
Spain:	5 mg/m3 VLA-ED
United Kingdom:	15 mg/m3 STEL (calculated)
	5 mg/m3 TWA

Proprietary Component 2 (Proprietary)

ACGIH:	2 mg/m3 TWA (inhalable fraction)
	6 mg/m3 STEL (inhalable fraction)
Belgium:	6 mg/m3 STEL (as borate)
	2 mg/m3 TWA (as borate)
Germany:	0.5 mg/m3 TWA (exposure factor 2)
	10 mg/m3 MAK (inhalable fraction, as B)
	10 mg/m3 Peak (as B, inhalable fraction)
Portugal:	2 mg/m3 TWA (inhalable fraction)
	6 mg/m3 STEL (inhalable fraction)

Proprietary Component 3 (Proprietary)

ACGIH:	5 mg/m3 TWA
Austria:	1.6 ppm STEL (4 X 15 min); 10 mg/m3 STEL (inhalable fraction, 4 X 15 min)
	0.8 ppm MAK; 5 mg/m3 MAK (inhalable fraction)
	Sensitizer
Belgium:	5 mg/m3 TWA
Denmark:	0.5 ppm TWA; 3.1 mg/m3 TWA
Finland:	5 ppm TWA
Germany:	5 mg/m3 MAK (inhalable fraction)
	20 mg/m3 Peak
Ireland:	5 mg/m3 TWA
Portugal:	5 mg/m3 TWA
Spain:	5 mg/m3 VLA-ED
Sweden:	5 mg/m3 LLV
	10 mg/m3 STV

Proprietary Component 4 (Proprietary)

ACGIH:	0.29 mg/m3 Ceiling (as NaN3); 0.11 ppm Ceiling (as Hydrazoic acid, vapor)
NIOSH:	0.1 ppm Ceiling (as HN3); 0.3 mg/m3 Ceiling (as NaN3)
	Potential for dermal absorption
OSHA:	0.1 ppm Ceiling (as HN3); 0.3 mg/m3 Ceiling (as NaN3)
	Prevent or reduce skin absorption
EEC:	0.1 mg/m3 TWA
	0.3 mg/m3 STEL
	Possibility of significant uptake through the skin
Austria:	0.3 mg/m3 STEL (4 X 15 min)
	0.1 mg/m3 MAK
	skin notation
Belgium:	Skin
Denmark:	0.1 mg/m3 TWA
	Potential for cutaneous absorption

Finland:	0.3 mg/m3 STEL 0.1 mg/m3 TWA Potential for cutaneous absorption
France:	0.3 mg/m3 VLCT (restrictive limit) 0.1 mg/m3 VME (restrictive limit) Risk of cutaneous absorption
Germany:	0.2 mg/m3 TWA (exposure factor 2) 0.2 mg/m3 MAK (inhalable fraction) 0.4 mg/m3 Peak (inhalable fraction)
Greece:	0.1 ppm STEL; 0.3 mg/m3 STEL 0.1 ppm TWA; 0.3 mg/m3 TWA
Ireland:	0.3 mg/m3 STEL (as NaN3) 0.1 mg/m3 TWA (as NaN3) Potential for cutaneous absorption
Italy:	0.1 mg/m3 TWA skin - potential for cutaneous absorption 0.3 mg/m3 STEL
Netherlands:	0.3 mg/m3 STEL 0.1 mg/m3 TWA skin notation
Portugal:	0.29 mg/m3 Ceiling (as NaN3); 0.11 ppm Ceiling (as Hydrazoic acid, vapor)
Spain:	0.3 mg/m3 VLA-EC 0.1 mg/m3 VLA-ED (indicative limit value) skin - potential for cutaneous exposure
Sweden:	0.1 mg/m3 LLV 0.3 mg/m3 STV Skin notation
United Kingdom:	0.3 mg/m3 STEL (as NaN3) 0.1 mg/m3 TWA (as NaN3) Potential for cutaneous absorption

Proprietary Component 5 (Proprietary)

ACGIH:	0.01 mg/m3 TWA (as Cd); 0.002 mg/m3 TWA (as Cd, respirable fraction)
NIOSH:	9 mg/m3 IDLH (as Cd, dust and fume)
OSHA:	5 µg/m3 TWA (Do not eat, drink or chew tobacco or gum or apply cosmetics in regulated areas. Carcinogen - dust can cause lung and kidney disease, See 29 CFR 1910.1027, as Cd); 2.5 µg/m3 Action Level (as Cd)
Belgium:	0.002 mg/m3 TWA (as Cd, alveolar particulates); 0.01 mg/m3 TWA (as Cd, inhalable particulate)
Finland:	0.02 mg/m3 TWA (as Cd) Potential for cutaneous absorption
France:	0.05 mg/m3 VME (as Cd)
Greece:	0.1 mg/m3 STEL (as Cd) 0.025 mg/m3 TWA (as Cd)
Ireland:	0.025 mg/m3 TWA (except Cadmium oxide fume and Cadmium sulphide pigments, as Cd)
Japan	0.05 mg/m3 OEL (as Cd)
Portugal:	0.002 mg/m3 TWA (as Cd, respirable fraction)
Spain:	0.01 mg/m3 VLA-ED (except Cadmium sulfoselenide and Cadmium sulfide mixed with Zinc or Mercury, inhalable fraction); 0.002 mg/m3 VLA-ED (except Cadmium sulfoselenide and Cadmium sulfide mixed with Zinc or Mercury, respirable fraction)
United Kingdom:	0.075 mg/m3 STEL (calculated, except Cadmium oxide, Cadmium sulphide, Cadmium sulphide pigments, as Cd, fume) 0.025 mg/m3 TWA (as Cd, fume)

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 * * *

Physical State:	Liquid	**Appearance:**	liquid
Physical Form:	liquid	**Odor:**	Not available
Odor Threshold:	Not available	**pH:**	8.3
Melting/Freezing Point:	Not available	**Boiling Point:**	Not available
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:**	Not available
Specific Gravity (water = 1):	Not available	**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

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

Materials to Avoid

oxidizing materials

Decomposition Products

Thermal decomposition or combustion products: oxides of boron, oxides of carbon, 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:

Proprietary Component 1 (Proprietary)

Oral LD50 Rat 2660 mg/kg

Proprietary Component 2 (Proprietary)

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

Proprietary Component 3 (Proprietary)

Oral LD50 Rat 4190 mg/kg; Dermal LD50 Rabbit >2000 mg/kg; Dermal LD50 Rat >16 mL/kg

Proprietary Component 4 (Proprietary)

Oral LD50 Rat 27 mg/kg; Dermal LD50 Rat 50 mg/kg; Dermal LD50 Rabbit 20 mg/kg

Proprietary Component 5 (Proprietary)

Oral LD50 Rat 300 mg/kg

RTECS Acute Toxicity (selected)

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

Proprietary Component 1 (Proprietary)

Oral: 2660 mg/kg Oral Rat LD50

Proprietary Component 2 (Proprietary)

Oral: 2660 mg/kg Oral Rat LD50; 2500 mg/kg Oral Rat LD50

Proprietary Component 3 (Proprietary)

Oral: 4920 uL/kg Oral Rat LD50; 7.39 gm/kg Oral Rat LD50

Skin: >20 mL/kg Skin Rabbit LD50

Acute Toxicity Level

Proprietary Component 1 (Proprietary)

Moderately Toxic: ingestion.

Proprietary Component 2 (Proprietary)

Moderately Toxic: ingestion.

Proprietary Component 3 (Proprietary)

Moderately Toxic: ingestion.

Proprietary Component 4 (Proprietary)

Highly Toxic: inhalation, dermal absorption, ingestion.

Proprietary Component 5 (Proprietary)

Toxic: ingestion.

Irritation/Corrosivity

See component data.

RTECS Irritation

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

Proprietary Component 2 (Proprietary)

15 mg/3 day(s) intermittent Skin Human mild

Proprietary Component 3 (Proprietary)

15 mg/3 day(s) intermittent Skin Human mild; 50 percent Skin Mouse severe; 10 mg Eyes Rabbit mild; 20 mg Eyes Rabbit severe; 560 mg/24 hour Skin Rabbit mild

Local Effects

Proprietary Component 1 (Proprietary)

Irritant: inhalation, skin, eye.

Proprietary Component 2 (Proprietary)

Irritant: inhalation, skin.

Proprietary Component 3 (Proprietary)

Irritant: skin, eye.

Proprietary Component 4 (Proprietary)

Irritant: inhalation, skin, eye.

Proprietary Component 5 (Proprietary)

Irritant: skin, eye.

Target Organs

Proprietary Component 1 (Proprietary)

central nervous system, kidneys.

Proprietary Component 2 (Proprietary)

central nervous system, kidneys.

Proprietary Component 3 (Proprietary)

liver, kidneys.

Proprietary Component 4 (Proprietary)

blood.

Proprietary Component 5 (Proprietary)

kidneys.

Carcinogenicity
Component Carcinogenicity

Proprietary Component 1 (Proprietary)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
Portugal: A4 - Not Classifiable as a Human Carcinogen

Proprietary Component 2 (Proprietary)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
Portugal: A4 - Not Classifiable as a Human Carcinogen

Proprietary Component 3 (Proprietary)
IARC: Monograph 77 [2000] (Group 3 (not classifiable))

Proprietary Component 4 (Proprietary)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
Portugal: A4 - Not Classifiable as a Human Carcinogen

Proprietary Component 5 (Proprietary)
ACGIH: A2 - Suspected Human Carcinogen
OSHA: Present
NIOSH: potential occupational carcinogen
NTP: Known Human Carcinogen
IARC: Monograph 100C [in preparation]; Monograph 58 [1993]; Supplement 7 [1987] (evaluated as a group) (Group 1 (carcinogenic to humans))
Austria: Group A2 Carcinogen
France: Carcinogen categories 1,2,3
Germany: Category 2 (bioavailable, as inhalable dust/aerosol)
Ireland: Category 2 Carcinogen (except Cadmium oxide fume and Cadmium sulphide pigments, as Cd)
Portugal: A2 - Suspected 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

Proprietary Component 1 (Proprietary)

Fish: 96 Hr LC50 Limanda limanda: 340 mg/L

Algae: 96 Hr EC50 Desmodesmus subspicatus: 158 mg/L; 96 Hr EC50 Pseudokirchneriella subcapitata: 2.6 - 21.8 mg/L [static]

Invertebrate: 48 Hr LC50 Daphnia magna: 1085 - 1402 mg/L

Proprietary Component 2 (Proprietary)

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

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

Proprietary Component 3 (Proprietary)

Fish: 96 Hr LC50 Pimephales promelas: 10600-13000 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: >1000 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 450-1000 mg/L [static]

Algae: 72 Hr EC50 Desmodesmus subspicatus: 216 mg/L; 96 Hr EC50 Desmodesmus subspicatus: 169 mg/L

Invertebrate: 24 Hr EC50 Daphnia magna: 1386 mg/L

Proprietary Component 4 (Proprietary)

Fish: 96 Hr LC50 Oncorhynchus mykiss: 0.8 mg/L; 96 Hr LC50 Lepomis macrochirus: 0.7 mg/L; 96 Hr LC50 Pimephales promelas: 5.46 mg/L [flow-through]

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

Proprietary Component 4 (Proprietary)

RCRA: waste_number P105

* * * 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.

Proprietary Component 4 (Proprietary)

SARA 302/304: 500 lb TPQ (This material is a reactive solid. The TPQ does not default to 10000 pounds for non-powder, non-molten, non-solution form)
1000 lb EPCRA RQ
SARA 313: 1.0 % de minimis concentration
CERCLA: 1000 lb final RQ; 454 kg final RQ

Proprietary Component 5 (Proprietary)

SARA 313: 0.1 % de minimis concentration (Chemical Category N078)

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
Proprietary Component 1	Proprietary	Yes	Yes	Yes	Yes	Yes	Yes
Proprietary Component 3	Proprietary	No	Yes	Yes	Yes	Yes	Yes
Proprietary Component 4	Proprietary	Yes	Yes	Yes	Yes	Yes	Yes
Proprietary Component 5 ([1]related to: Cadmium compounds)	Proprietary	Yes[1]	No	Yes[1]	No	Yes[1]	No

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 cancer.

Canadian Regulations

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

Proprietary Component 1 (Proprietary)
Number 37, hazard class 1 - low hazard to waters
Proprietary Component 2 (Proprietary)
Number 315, hazard class 1 - low hazard to waters

Proprietary Component 3 (Proprietary)
Number 201, hazard class 1 - low hazard to waters
Proprietary Component 4 (Proprietary)
Number 636, hazard class 2 - hazard to waters

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).
Proprietary Component 1 (Proprietary)
Reason_for_inclusion: Toxic for reproduction, Article 57c
Proprietary Component 2 (Proprietary)
Reason_for_inclusion: Toxic for 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.
Proprietary Component 4 (Proprietary)
11
Proprietary Component 5 (Proprietary)
75 (Designated class 1 substance)

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.
Proprietary Component 4 (Proprietary)
Poisonous, 0.1
Proprietary Component 5 (Proprietary)
Deleterious

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.
Proprietary Component 4 (Proprietary)
Explosive 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.
Proprietary Component 5 (Proprietary)
0.1 % weight

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 Communicty; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Farenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; 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

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R22 Harmful if swallowed.
R28 Very toxic if swallowed.
R32 Contact with acids liberates very toxic gas.
R36 Irritating to eyes.
R37 Irritating to respiratory system.
R38 Irritating to skin.
R50 Very toxic to aquatic organisms.
R53 May cause long-term adverse effects in the aquatic environment.
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.

New MSDS: 10/28/2010

End of Sheet VEN-068