Material Name: anti-Cytokeratin (CAM 5.2) Mouse Monoclonal Antibody

* * * 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-Cytokeratin (CAM 5.2) Mouse Monoclonal Antibody

Product Number(s)
790-4555, 06478425001

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 * * *

<table>
<thead>
<tr>
<th>CAS #</th>
<th>Component / EU Number</th>
<th>Percent</th>
<th>Symbol(s)</th>
<th>Risk Phrase(s)</th>
</tr>
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<tbody>
<tr>
<td>Not Available</td>
<td>Non-hazardous</td>
<td>60-100</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Mixture</td>
<td>ProClin 300</td>
<td>&lt;1</td>
<td>Xi</td>
<td>R:43</td>
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</tbody>
</table>
*** 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 ***

**Flammable Properties**
Slight fire hazard.

**Extinguishing Media**
regular dry chemical, carbon dioxide, 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: chlorides, oxides of carbon, oxides of nitrogen, 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. Keep separated from incompatible substances.

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

**Exposure Limits**
ACGIH, NIOSH, OSHA, EU, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Portugal, Spain, Sweden, and United Kingdom have not developed exposure limits for any of the substances in this preparation.

**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 * * *

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
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<td>Physical State:</td>
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<tr>
<td>Physical Form:</td>
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<td>Odor Threshold:</td>
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<td>Melting/Freezing Point:</td>
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<td>Decomposition:</td>
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<td>Evaporation Rate:</td>
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<td>Vapor Density (air = 1):</td>
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<td>Specific Gravity (water = 1):</td>
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<td>Auto Ignition:</td>
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<td>Vapor Pressure:</td>
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<tr>
<td>Water Solubility:</td>
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<tr>
<td>Coeff. Water/Oil Dist.:</td>
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</tr>
<tr>
<td>Viscosity:</td>
<td>Not available</td>
</tr>
</tbody>
</table>

** * 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: chlorides, oxides of carbon, oxides of nitrogen, 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 no selected endpoints have been identified.

RTECS Acute Toxicity (selected)
The components of this material have been reviewed and RTECS publishes no data as of the date on this document.

Irritation/Corrosivity

RTECS Irritation
The components of this material have been reviewed and RTECS publishes no data as of the date on this document.
Carcinogenicity

Component Carcinogenicity
None of the substances in this preparation are listed by ACGIH, OSHA, NIOSH, NTP, IARC, Austria, Belgium, Denmark, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, or United Kingdom.

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
No LOLI ecotoxicity data are available for this product's components.

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
None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.
Material Safety Data Sheet

Material Name: anti-Cytokeratin (CAM 5.2) Mouse Monoclonal Antibody

SARA 311/312
Acute Health: No  Chronic Health: No  Fire: No  Pressure: No  Reactive: No

U.S. State Regulations
None of this product's components are listed on the state lists from CA, MA, MN, NJ, PA, or RI.

California Proposition 65
Not regulated under California Proposition 65

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.

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
This product is not considered hazardous according to JIS Z 7252.

Japan Designated Chemical Substances (PRTR Law)
No components of this material 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" nor are they included in the "Pollutant Release and Transfer Register (PRTR)" of designated chemicals.

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**

R43 May cause sensitization by skin contact.

**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-073