



a member of the Roche Group

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

VENTANA MEDICAL SYSTEMS INC.
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MSDS NUMBER: 00231484

SUBSTANCE: **Protease 1**

PRODUCT NUMBER(S): 760-2018

PRODUCT USE: clinical/research

CREATION DATE: Jan 10 2006

REVISION DATE: Mar 05 2009

2. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=0 REACTIVITY=0

EC CLASSIFICATION:

Xn Harmful

Xi Irritant



RISK PHRASES:

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

EMERGENCY OVERVIEW:

CHANGE IN APPEARANCE: air-sensitive, moisture-sensitive

COLOR: colorless

PHYSICAL FORM: liquid

ODOR: odorless

MAJOR HEALTH HAZARDS: No significant target effects reported.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: nausea, headache

LONG TERM EXPOSURE: no information on significant adverse effects

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation, allergic reactions, absorption may occur, nausea, headache, drowsiness, dizziness, loss of coordination

LONG TERM EXPOSURE: irritation, allergic reactions

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: no information on significant adverse effects

INGESTION:

SHORT TERM EXPOSURE: vomiting, stomach pain, unconsciousness

LONG TERM EXPOSURE: no information on significant adverse effects

3. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: PROPYLENE GLYCOL

CAS NUMBER: 57-55-6

EC NUMBER (EINECS): 200-338-0

PERCENTAGE: 30-60

EC CLASSIFICATION: No classification assigned.

COMPONENT: NON-HAZARDOUS

CAS NUMBER: Not assigned.

EC NUMBER: Not assigned.

PERCENTAGE: 30-60

EC CLASSIFICATION: No classification assigned.

COMPONENT: HYDROCHLORIC ACID, 1N

CAS NUMBER: Not assigned.

EC NUMBER: Not assigned.

PERCENTAGE: 1-5

EC CLASSIFICATION: Xn; C; Xi

RISK PHRASES: 20-35-37

COMPONENT: TRIS(HYDROXYMETHYL)AMINOMETHANE

CAS NUMBER: 77-86-1

EC NUMBER (EINECS): 201-064-4

PERCENTAGE: <1

EC CLASSIFICATION: Xi

RISK PHRASES: 36-37-38

COMPONENT: SODIUM AZIDE

CAS NUMBER: 26628-22-8

EC NUMBER (EINECS): 247-852-1

PERCENTAGE: <1

EC CLASSIFICATION: T+; N

RISK PHRASES: 28-32-50/53

COMPONENT: CALCIUM CHLORIDE, DIHYDRATE

CAS NUMBER: 10035-04-8

EC NUMBER: Not assigned.

PERCENTAGE: <1

EC CLASSIFICATION: Xi

RISK PHRASES: 36-37-38

COMPONENT: SODIUM METABISULFITE

CAS NUMBER: 7681-57-4

EC NUMBER (EINECS): 231-673-0

PERCENTAGE: <1

EC CLASSIFICATION: Xn; Xi

RISK PHRASES: 22-31-41

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. Get medical attention, if needed.

EYE CONTACT: 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.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.

EXTINGUISHING MEDIA: Use extinguishing agents appropriate for surrounding fire.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

SENSITIVITY TO MECHANICAL IMPACT: Not sensitive

SENSITIVITY TO STATIC DISCHARGE: Not sensitive

FLASH POINT: not flammable

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition or combustion products: oxides of sulfur, oxides of nitrogen, oxides of carbon, hydrogen chloride

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Store between 2 C and 8 C. Avoid contact with water or moisture. Do not allow material to become dry. Dry residue may explode when heated. See original container for storage recommendations. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

PROPYLENE GLYCOL:

10 mg/m³ AIHA WEEL TWA

150 ppm (474 mg/m³) UK WEL TWA (total particulate) (vapor)

10 mg/m³ UK WEL TWA (particulate)

VENTILATION: Provide adequate ventilation. Ensure compliance with applicable exposure limits.

EYE PROTECTION: 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.

CLOTHING: Lab coat or apron.

GLOVES: Wear appropriate chemical resistant gloves.

PROTECTIVE MATERIAL TYPES: latex, vinyl

RESPIRATOR: No respirator is required under normal conditions of use.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid

APPEARANCE: clear

COLOR: colorless

CHANGE IN APPEARANCE: air-sensitive, moisture-sensitive

ODOR: odorless

BOILING POINT: Not available

FREEZING POINT: Not available

VAPOR PRESSURE: Not available

VAPOR DENSITY: Not available

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: miscible

PH: neutral

VOLATILITY: Not available

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid contact with water or moisture.

INCOMPATIBILITIES: acid chlorides, oxidizing materials, reducing agents, acid anhydrides, chloroformates

HAZARDOUS DECOMPOSITION:

Thermal decomposition or combustion products: oxides of sulfur, oxides of nitrogen, oxides of carbon, hydrogen chloride

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

PROPYLENE GLYCOL:

IRRITATION DATA: 500 mg/7 day(s) skin-human mild; 104 mg/3 day(s)-intermittent skin-human moderate; 10 percent/2 day(s) skin-man; 100 mg eyes-rabbit mild; 500 mg/24 hour(s) eyes-rabbit mild; 30 percent/96 hour(s)-continuous skin-child moderate; 30 percent/96 hour(s) open skin-woman mild

TOXICITY DATA: 20800 mg/kg skin-rabbit LD50; 20 gm/kg oral-rat LD50

ACUTE TOXICITY LEVEL:

Relatively Non-toxic: dermal absorption, ingestion

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: kidney disorders, skin disorders and allergies

ADDITIONAL DATA: Alcohol may enhance the toxic effects. Interactions with drugs may occur.

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: Not regulated.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: Not regulated.

LAND TRANSPORT ADR: Not regulated.

LAND TRANSPORT RID: Not regulated.

AIR TRANSPORT IATA: Not regulated.

AIR TRANSPORT ICAO: Not regulated.

MARITIME TRANSPORT IMDG: Not regulated.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

HYDROGEN CHLORIDE (HYDROCHLORIC ACID): 5000 LBS RQ (liquid)

SODIUM AZIDE: 1000 LBS RQ

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):

ACUTE: No

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not a Controlled Product under Canada's Workplace Hazardous Material Information System.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED):

Xn	Harmful
Xi	Irritant

DANGER/HAZARD SYMBOL:

**EC RISK AND SAFETY PHRASES:**

R 22	Harmful if swallowed.
R 36/37/38	Irritating to eyes, respiratory system and skin.
S 24/25	Avoid contact with skin and eyes.
S 26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 60	This material and its container must be disposed of as hazardous waste.

16. OTHER INFORMATION

EC RISK PHRASES:

R 20	Harmful by inhalation.
R 22	Harmful if swallowed.
R 28	Very toxic if swallowed.
R 31	Contact with acids liberates toxic gas.
R 32	Contact with acids liberates very toxic gas.
R 35	Causes severe burns.
R 36	Irritating to eyes.
R 36/37/38	Irritating to eyes, respiratory system and skin.
R 37	Irritating to respiratory system.
R 38	Irritating to skin.
R 41	Risk of serious damage to eyes.
R 50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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