Section 1 - Product and Company Information

Product Name: DEOXYRIBONUCLEASE I TYPE IV FROM BOVINE
Product Number: D5025
Brand: SIGMA
Company: Sigma-Aldrich Canada, Ltd
Address: 2149 Winston Park Drive
          Oakville ON L6H 6J8 CA
Technical Phone: 9058299500
Fax: 9058299292
Emergency Phone: 800-424-9300

Section 2 - Composition/Information on Ingredient

Substance Name: DEOXYRIBONUCLEASE I
CAS #: 9003-98-9
Sara 313: No
Synonyms: Alkaline deoxyribonuclease * Alkaline dnase *
          Deoxyribonuclease * Deoxyribonuclease A *
          Deoxyribonuclease I * Deoxyribonuclease (pancreatic) *
          Deoxyribonucleic phosphatase *
          Desoxyribonuclease * Dnaase * DNA depolymerase *
          DNA endonuclease * DNA nuclease * Dnasw * Dnase I *
          Dornase * Dornava * Dornavac * E.C. 3.1.4.5 *
          Endodeoxyribonuclease I * Escherichia coli
          endonuclease I * Pancreatic deoxyribonuclease *
          Pancreatic dornase

RTECS Number: RF0750000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Caution: Avoid contact and inhalation.

HMIS RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician.
INHALATION EXPOSURE
    If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE
    In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE
    In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
    N/A

AUTOIGNITION TEMP
    N/A

FLAMMABILITY
    N/A

EXTINGUISHING MEDIA
    Suitable: Use extinguishing media appropriate to surrounding fire conditions.

FIREFIGHTING
    Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
    Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
    Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
    User Exposure: Avoid contact with eyes, skin, and clothing. Avoid inhalation. Avoid prolonged or repeated exposure.

STORAGE
    Suitable: Keep container closed. Store away from heat. Store at -20°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
    Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT
    Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are
appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

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<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
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<tbody>
<tr>
<td>Appearance</td>
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<tr>
<td>Color</td>
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N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Nature of decomposition products not known.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SENSITIZATION
Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

SIGNS AND SYMPTOMS OF EXPOSURE
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

CHRONIC EXPOSURE - MUTAGEN

Species: Hamster
Dose: 5000 PPM
Cell Type: fibroblast
Mutation test: DNA damage

Species: Hamster
Dose: 2500 UNITS
Cell Type: ovary
Mutation test: Sister chromatid exchange

Section 12 - Ecological Information
No data available.

Section 13 - Disposal Considerations
APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information
DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information
EU ADDITIONAL CLASSIFICATION
S: 22-24/25
Safety Statements: Do not breathe dust. Avoid contact with skin and eyes.

US CLASSIFICATION AND LABEL TEXT
US Statements: Caution: Avoid contact and inhalation.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.