

MATERIAL SAFETY DATA SHEET

CENTRE FOR STANDARDS ADDRESS : HARELBEKESTRAAT 72 9000 GENT BELGIUM
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SECTION I : IDENTITY

COMMON NAME	PANCREATIC PROTEASE
ORIGIN	pig pancreas
CAS NUMBER	8049-47-6
CLASSIFICATION	R36/37, S24, S26

SECTION II : HAZARDOUS INGREDIENTS

	PERCENT	TRESHOLD LIMIT VALUE (UNITS)
PRINCIPAL HAZARDOUS :	Pure Material	Not Established

SECTION III : PHYSICAL DATA

BOILING POINT	n/a
SPECIFIC GRAVITY (H ₂ O = 1)	n/a
VAPOR PRESSURE (mm Hg)	n/a
PERCENT VOLATILE BY VOLUME (%)	n/a
VAPOR DENSITY (AIR = 1)	n/a
EVAPORATION RATE	n/a
pH	4.7 (1% solution)
LOSS ON DRYING	2 %
SOLUBILITY	slightly soluble (ca 30 g/l) in water practically insoluble in alcohol and ether strong oxidising agents
INCOMPATIBILITIES	
REACTIVITY IN WATER	n/a
APPEARANCE AND COLOUR	white, amorphous powder (hygroscopic)
FLASH POINT	n/a
FLAMMABLE LIMITS	LOWER n/a UPPER n/a
IN AIR % BY VOLUME	n/a
EXTINGUISHER MEDIA	water spray, carbon dioxide, dry chemical powder or appropriate foam
AUTO-IGNITION TEMPERATURE	n/a

n/a = not applicable

SECTION IV : FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	n/a
EXTINGUISHING MEDIA	Water spray, dry chemical, carbon dioxide or foam as appropriate for surrounding fire and materials.
SPECIAL FIRE FIGHTING PROCEDURES	As with all fires, evacuate personnel to safe area. Fire fighters should use self-contained breathing equipment and protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS	This material is assumed to be combustible. As with all dry powders it is advisable to ground mechanical equipment in contact with dry material to dissipate the potential build-up of static electricity. When heated to decomposition material emits toxic fumes. Emits toxic fumes under fire conditions.
FLAMMABLE LIMITS	LOWER n/a UPPER n/a
STABILITY	() Unstable (x) Stable
CONDITIONS TO AVOID	Material is stable from a safety point of view. Strong oxidizers, alcohols, acids, caustic alkalis, heavy metal ions, and tannin.
HAZARDOUS DECOMPOSITION PRODUCTS	When heated to decomposition material emits toxic fumes. Emits toxic fumes under fire conditions.
HAZARDOUS POLYMERIZATION	() May Occur (x) Will Not Occur

SECTION V : HEALTH HAZARD DATA

TRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	LD ₅₀ (oral, mouse) > 21.500 mg/kg The usual oral adult dose is 325 mg to 1 g, taken before or with meal. High doses may cause nausea and diarrhea; the administration of pancreatin may also cause hyperuremia. Possible allergic reaction to dust if inhaled, ingested or in contact with skin. Can cause allergic skin reaction, and allergic respiratory reaction. Repeated breathing of dust could cause allergic rhinitis and/or bronchial asthma.
ACUTE	Eye, skin and/or respiratory tract irritation
CHRONIC	Possible hyper sensitization, dermatitis

PRECAUTIONS TO CONSIDER

Persons developing hypersensitivity (anaphylactic) reactions must receive immediate medical attention. Avoid prolonged or repeated contact with skin. Material may be irritating to mucous membranes and respiratory tract. As a general rule, when handling FIP Reference Standards avoid all contact and inhalation of dust, fumes, mist, and/or vapours associated with the material. Keep container tightly closed and use with adequate ventilation; wash thoroughly after handling. Individuals working with chemicals should consider all chemicals to be potentially hazardous even if their individual hazards may be uncharacterized or unknown.

**MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE
CHEMICAL LISTED AS**

Hypersensitivity to material. Dermatologic problems.

CARCINOGEN OR POTENTIAL

NATIONAL TOXICOLOGY PROGRAM

Yes No

CARCINOGEN

I.A.R.C. Monographs

Yes No

OSHA

Yes No

OTHER

n/a

ACGIH

OTHER EXPOSURE

TLV: n/a

LIMIT(S) USED: n/a

OSHA PERMISSIBLE EXPOSURE Not established

OTHER EXPOSURE LIMIT USED

Not established

EMERGENCY AND

FIRST AID PROCEDURES

Remove from exposure. Remove contaminated clothing. Persons developing serious hypersensitivity reactions must receive immediate medical attention. Upon eye or skin contact, flush affected area with copious quantities of water. Use general supportive measures. Obtain medical attention. If not breathing give artificial respiration. If breathing is difficult give oxygen.

1. **INHALATION**

May cause irritation of respiratory tract. Avoid inhalation. Remove to fresh air.

2. **EYES**

May cause irritation. Flush with copious quantities of water.

3. **SKIN**

May cause irritation. Flush with copious quantities of water.

4. **INGESTION**

May cause irritation. Flush out mouth with water.

SECTION VI : SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE)	Anti-dust mask
VENTILATION	Adequate
LOCAL EXHAUST	Recommended
MECHANICAL (GENERAL)	Recommended
OTHER	n/a
PROTECTIVE GLOVES	Impervious/chemically compatible
EYE PROTECTION	Safety goggles
OTHER PROTECTIVE CLOTHING OR EQUIPMENT	Protect exposed skin, appropriate laboratory apparel

SECTION VII : SPILL OR LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	Store in tight container. This material should be handled and stored per label and other instructions to ensure product integrity.
OTHER PRECAUTIONS	Avoid contact with eyes, skin or clothing. Avoid breathing dust or mist. Use with adequate dust control. Wash thoroughly after handling. Wear fresh clothing daily. Wash contaminated clothing before reuse. Do not permit eating, drinking or smoking near material.
STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED	Wear approved respirator and chemically compatible gloves. Vacuum or sweep up spillage. Avoid dust. Place spillage in appropriate container for waste disposal. Wash contaminated clothing before reuse. Ventilate area and wash spill site.
WASTE DISPOSAL METHOD	Dispose of waste in accordance with all applicable Federal, State and local laws.

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