

Conforms to 93/112/EC and ISO 11014-1

Responsible Name Pierce Administration

? Section 1. Chemical Product and Company Identification

Product name **Immobilized Pepsin**

Product No. 0020343 0020343B

Supplier	<i>In USA:</i>	<i>In Europe:</i>	Manufacturer	Pierce Biotechnology
	Pierce	Perbio Science		P.O. Box 117
	P.O. Box 117	Industriezone III		Rockford, IL 61105
	Rockford, IL 61105	Industrielaan 27		USA
	USA	9320 Erembodegem-Aalst		815.968.0747 or
	815.968.0747 or	Belgium		1.800.874.3723
	1.800.874.3723	Tel:+32 53 83 44 04		
		Fax:+32 53 83 76 38		

In Case of Emergency CALL CHEMTREC:
800.424.9300
OUTSIDE US:
202.483.7616

Print Date 11/8/2002
Validation Date **11/4/2002**
MSDS# 0103

Intended Use Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.

Section 2. Composition, Information on Ingredients

Substance/Preparation : Preparation

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>%</u>	<u>EC Number</u>	<u>Symbol</u>	<u>R-Phrases</u>
1) Pepsin	9001-75-6	0.1-1	232-629-3	Xn	R36/37/38, R42
2) Glycerol	56-81-5	45-65	200-289-5	Xi	R36/37/38

Section 3. Hazards Identification

United States Review the most current and approved institutional guideline, protocol, standard operating procedure(s) and MSDS(s) for the proper handling of institutional materials/equipment associated with the use of this product.

Emergency Overview WARNING!

CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
KIDNEYS, MUCOUS MEMBRANES, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, EYES, EYE, LENS OR CORNEA.
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
MAY CAUSE ALLERGIC RESPIRATORY REACTION.

Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Routes of Entry Absorbed through skin. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects Hazardous in case of inhalation (lung sensitizer). Slightly hazardous in case of eye contact (irritant), of ingestion. Non-irritant for skin. Non-hazardous in case of inhalation. Non-irritant for lungs.

Carcinogenic Effects Data **CARCINOGENIC EFFECTS:** Classified None. by NIOSH [Glycerol].

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

Medical Conditions Aggravated by Overexposure: Repeated or prolonged exposure is not known to aggravate medical condition.

Overexposure /Signs/Symptoms Not available.

Europe

Classification R36/37/38, R42

Physical/chemical hazards Not applicable.

Human health hazards Irritating to eyes, respiratory system and skin.
May cause sensitization by inhalation.

Environmental hazards Not applicable.

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See Toxicological Information (section 11)

+ Section 4. First Aid Measures

Notice to Reader Get immediate medical attention.

Effects and symptoms

- Inhalation** Hazardous in case of inhalation (lung sensitizer). Non-hazardous in case of inhalation. Non-irritant for lungs.
- Ingestion** Slightly hazardous in case of ingestion.
- Skin Contact** Sensitization of the product: Not available.
Non-irritant for skin.
- Eye Contact** Slightly hazardous in case of eye contact (irritant).
- Aggravating conditions** Repeated or prolonged exposure is not known to aggravate medical condition.

First-Aid Measures

- Inhalation** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
- Skin Contact** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
- Eye Contact** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
- Notes to Physician** Not available.
- Protection of first-aiders** Not available.
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🔥 Section 5. Fire Fighting Measures

Flammability of the Product May be combustible at high temperature.

Flash Points The lowest known value is CLOSED CUP: 160°C (320°F). OPEN CUP: 177°C (350.6°F). (Glycerol)

Fire Hazards in Presence of Various Substances Flammable in presence of open flames and sparks, of heat, of oxidizing materials.

Fire Fighting Media and Instructions SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Protective Clothing (Fire) Be sure to use an approved/certified respirator or equivalent.

Hazardous thermal (de)composition products These products are carbon oxides (CO, CO₂).

Section 6. Accidental Release Measures

Personal precautions Safety glasses. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Environmental Precautions and Clean-up Methods Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Small Spill and Leak Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

◇ Section 7. Handling and Storage

Handling Avoid contact with eyes, skin, and clothing. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area. Store between 2 to 8°C (35.6 to 46.4°F).

Intended Use Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.

Packaging materials

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Suitable / Not suitable Use original container.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Exposure Limit Values

<u>Ingredient Name</u>	<u>Occupational Exposure Limits</u>
United States	
1) Pepsin	Not available.
2) Glycerol	TWA: 5 (mg/m ³) from OSHA (PEL) [United States] [1989] Inhalation Respirable.
Sweden	
1) Pepsin	Not available.
2) Glycerol	Not available.
Denmark	
1) Pepsin	Not available.
2) Glycerol	Not available.
Norway	
1) Pepsin	Not available.
2) Glycerol	Not available.
France	
1) Pepsin	Not available.
2) Glycerol	TWA: 10 (mg/m ³) from INRS [France] [1999] Inhalation
Netherlands	
1) Pepsin	Not available.
2) Glycerol	Not available.
Germany	
1) Pepsin	Not available.
2) Glycerol	Not available.

Personal Protection

Eyes Splash goggles.

Body Lab coat.

Hands Gloves.

Respiratory Respirator is not needed under normal and intended conditions of use, if exposures are kept below established limits.

Protective Clothing
(Pictograms)



Section 9. Physical and Chemical Properties

Physical State and Appearance Liquid.

Odor Not available.

Molecular Weight Not applicable.

Taste Not available.

pH (1% Soln/Water) 4.5 [Acidic.]

Color Off-white. (Light.)

Boiling/Condensation Point The lowest known value is 290.05°C (554.1°F) (Glycerol).

Melting/Freezing Point May start to solidify at 19.9°C (67.8°F) based on data for: Glycerol.

Specific Gravity The only known value is 1.261 (Water = 1) (Glycerol).

Vapor Pressure The highest known value is <0.1 kPa (@ 20°C) (Glycerol).

Vapor Density The highest known value is 3.17 (Air = 1) (Glycerol).

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Dispersion Properties See solubility in water.

Solubility Partially soluble in cold water, hot water.



Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Conditions to avoid Reacts violently with water especially when water is added to the product. Heating may cause an explosion. Keep away from heat (Sodium Azide)

Materials to avoid Reactive with oxidizing agents, moisture.
Non-reactive with metals, alkalis.

Hazardous Polymerization Will not occur.

Hazardous Decomposition Products These products are carbon oxides (CO, CO₂).



Section 11. Toxicological Information

Toxicity to Animals Acute oral toxicity (LD50): 4090 mg/kg [Mouse]. (Glycerol).

Chronic Effects on Humans **CARCINOGENIC EFFECTS:** Classified None. by NIOSH [Glycerol].

Other Toxic Effects on Humans Hazardous in case of inhalation (lung sensitizer).
Slightly hazardous in case of eye contact (irritant), of ingestion.
Non-irritant for lungs. Non-sensitizer for lungs.

Special Remarks on Toxicity to Animals Not available.

Special Remarks on Chronic Effects on Humans Not available.

Special Remarks on Other Toxic Effects on Humans To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated. (Agarose)



Section 12. Ecological Information

Mobility Not available.

Persistence/degradability Not available.

Bioaccumulative potential Not available.

Ecotoxicity Not available.

Germany water class VCI WGK: No products were found.



Section 13. Disposal Considerations

Waste Information Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste Stream Not available.

Consult your local or regional authorities.

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Section 14. Transport Information

Contact the supplier for all information regarding the proper transportation method for this material.

Section 15. Regulatory Information

Label Requirements (Europe)

R36/37/38- Irritating to eyes, respiratory system and skin.
R42- May cause sensitization by inhalation.

S2- Keep out of the reach of children.
S23- Do not breathe gas/fumes/vapour/spray [***]
S46- If swallowed, seek medical advice immediately and show this container or label.



Harmful

HCS Classification Target organ effects.

U.S. Federal Regulations TSCA 8(b) inventory: Pepsin; Glycerol; Sodium Azide; Agarose
TSCA 8(d) H and S data reporting: Glycerol; Sodium Azide
SARA 302/304/311/312 extremely hazardous substances: Sodium Azide
SARA 302/304 emergency planning and notification: Sodium Azide
SARA 302/304/311/312 hazardous chemicals: Glycerol; Sodium Azide
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Glycerol: immediate health hazard, delayed health hazard; Sodium Azide: immediate health hazard

Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada) Not controlled under WHMIS (Canada).

CEPA DSL: Glycerol; Sodium Azide; Agarose
CEPA NDSL: Sodium Azide

International Regulations

EINECS Not available.

DSCL (EEC) R36/37/38- Irritating to eyes, respiratory system and skin.
R42- May cause sensitization by inhalation.

International Lists Australia (NICNAS): Pepsin; Glycerol; Sodium Azide; Agarose

Germany water class: Glycerol; Sodium Azide

Korea (TCCL): Pepsin; Glycerol; Sodium Azide; Agarose

Philippines (RA6969): Pepsin; Glycerol; Sodium Azide; Agarose

State Regulations Pennsylvania RTK: Glycerol: (generic environmental hazard); Sodium Azide: (environmental hazard, generic environmental hazard)
Florida: Sodium Azide
Minnesota: Sodium Azide
Massachusetts RTK: Glycerol; Sodium Azide
New Jersey: Sodium Azide
California prop. 65: No products were found.

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Section 16. Other Information

Hazardous Material Information System (U.S.A.)

Health	*	1
Fire Hazard		1
Reactivity		2
Personal Protection		g

National Fire Protection Association (U.S.A.)



References Not available.

History of Document Changes Any information changes since last document version are marked with a triangle symbol. ▾

Full text of R-Phrases referenced under headings 2 and 3:
 Irritating to eyes, respiratory system and skin.
 May cause sensitization by inhalation.
 Irritating to eyes, respiratory system and skin.

Intended Use Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.

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Verified by Pierce Administration.

Date of Previous Issue No Previous Validation

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Version 0.01

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.