

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

Responsible Name Company2

? **Section 1. Chemical Product and Company Identification**

Product name UltraLink® Immobilized NeutrAvidin™ Protein

Product No. 0053150 1900199

Supplier	In USA: Pierce P.O. Box 117 Rockford, IL 61105 USA 815.968.0747 or 1.800.874.3723	In Europe: Perbio Science Industriezone III Industrielaan 27 9320 Erembodegem-Aalst Belgium Tel:+32 53 83 44 04 Fax:+32 53 83 76 38	Manufacturer	Pierce Biotechnology P.O. Box 117 Rockford, IL 61105 USA 815.968.0747 or 1.800.874.3723
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In Case of Emergency CHEMTREC:
800.424.9300
OUTSIDE US:
202.483.7616

Print Date 5/18/2005
Validation Date 5/18/2005
MSDS# 2353

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 number</u>	<u>%</u>	<u>EC number</u>	<u>Classification</u>
Azlactone Acrylamide Copolymer		45 - 65		Xi; R36

 **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 No specific hazard.
Not applicable.
Not applicable.

Target organs Contains material which does not cause damage to the following organs: central nervous system (CNS).

Routes of Entry Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eyes No known significant effects or critical hazards.

Skin No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Potential chronic health effects

Carcinogenic Effects Data

CARCINOGENIC EFFECTS: Classified None. by NIOSH [UltraLink Biosupport Medium]. Classified A4 (Not classifiable for human or animal.) by ACGIH [UltraLink Biosupport Medium]. Classified None. by NIOSH [Triton X-100].

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Classified None. for human [UltraLink Biosupport Medium].

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

Overexposure /Signs/Symptoms Not available.

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Europe

Classification Xi; R36

Physical/chemical hazards Not applicable.

Human health hazards Irritating to eyes.

Environmental hazards Not applicable.

See Toxicological Information (section 11)

+ Section 4. First Aid Measures

Notice to Reader Get immediate medical attention.

Effects and symptoms

Inhalation Slightly hazardous in case of inhalation.

Ingestion Slightly hazardous in case of ingestion.

Skin Contact Sensitization of the product: Not available.

Slightly hazardous in case of skin contact (irritant, permeator). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Eye Contact Hazardous in case of eye contact (irritant).

Aggravating conditions Repeated or prolonged exposure is not known to aggravate medical condition.

First-Aid Measures

Inhalation In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

Skin Contact In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Eye Contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Notes to Physician Not available.

Protection of first-aiders Not available.

Section 5. Fire Fighting Measures

Flammability of the Product May be combustible at high temperature.

Flash Points Not available.

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

Fire Fighting Media and Instructions Use an extinguishing agent suitable for surrounding fires.

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

Special Remarks on Fire Hazards HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.

Vapors may form explosive mixtures with air.

Vapors may travel to source of ignition and flash back.

Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).

Vapor explosion hazard indoors, outdoors or in sewers.

Some may polymerize (P) explosively when heated or involved in a fire.

Runoff to sewer may create fire or explosion hazard.

Containers may explode when heated.

Many liquids are lighter than water.

(UltraLink Biosupport Medium)

Hazardous thermal (de)composition products Not available.

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Section 6. Accidental Release Measures

Personal precautions Splash goggles. Lab coat.

Environmental Precautions and Clean-up Methods Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Small Spill and Leak Absorb with an inert material and put the spilled material in an appropriate waste disposal.

◇ Section 7. Handling and Storage

Handling Avoid contact with eyes. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

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

Packaging materials

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 occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Exposure Limit Values

Ingredient Name

Occupational Exposure Limits

United States

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. (Suspension.)

Color Clear White.

Odor Not available.

Molecular Weight Not applicable.

Taste Not available.

pH (1% Soln/Water) Neutral.

Boiling/Condensation Point The lowest known value is 100°C (212°F) (water). Weighted average: 100°C (212°F)

Melting/Freezing Point May start to solidify at 0°C (32°F) based on data for: . Weighted average: -0.1°C (31.8°F)

Specific Gravity Weighted average: 1 (Water = 1)

Vapor Pressure The highest known value is 2.3 kPa (17.5 mm Hg) (at 20°C) (water). Weighted average: 2.3 kPa (17.25 mm Hg) (at 20°C)

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Vapor Density The highest known value is 0.62 (Air = 1) (water). Weighted average: 0.62 (Air = 1)

Evaporation Rate 0.36 () compared to Butyl acetate.

LogK_{ow} The product is more soluble in octanol.

Dispersion Properties Is not dispersed in cold water, hot water, methanol, diethyl ether, n-octanol.
See solubility in methanol, diethyl ether, n-octanol.

Solubility Easily soluble in methanol, diethyl ether.
Partially soluble in n-octanol.
Insoluble in cold water, hot water.

 **Section 10. Stability and Reactivity**

Stability and Reactivity The product is stable.

Conditions to avoid Sodium azide may react with lead or copper plumbing to form highly explosive metal azides. (Sodium Azide)

Materials to avoid Not available.

Hazardous Polymerization Will not occur.

**Hazardous Decomposition
Products** Not available.

 **Section 11. Toxicological Information**

Toxicity to Animals **water**

LD50: Not available.

LC50: Not available.

Azlactone Acrylamide Copolymer

LD50: Not available.

LC50: Not available.

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ORAL (LD50):

Acute: >90000 mg/kg [Rat].

UltraLink Biosupport Medium:

ORAL (LD50):

Acute: 5800 mg/kg [Rat]. 5340 mg/kg [Rabbit].

DERMAL (LD50):

Acute: 20000 mg/kg [Rabbit].

Triton X-100:

ORAL (LD50):

Acute: 1800 mg/kg [Rat]. 1900 mg/kg [Rat]. 3800 mg/kg

[Rat].

NeutraLite Avidin

LD50: Not available.

LC50: Not available.

Sodium Azide:

ORAL (LD50):

Acute: 27 mg/kg [Rat]. 27 mg/kg [Mouse].

DERMAL (LD50):

Acute: 20 mg/kg [Rabbit].

Chronic Effects on Humans **CARCINOGENIC EFFECTS:** Classified None. by NIOSH [UltraLink Biosupport Medium]. Classified A4 (Not classifiable for human or animal.) by ACGIH [UltraLink Biosupport Medium]. Classified None. by NIOSH [Triton X-100].

TERATOGENIC EFFECTS: Classified None. for human [UltraLink Biosupport Medium].

Other Toxic Effects on Humans Hazardous in case of eye contact (irritant).

Slightly hazardous in case of ingestion, of inhalation.

**Special Remarks on Toxicity to
Animals** Not available.

**Special Remarks on Chronic
Effects on Humans** possible irritant

**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. (Azlactone Acrylamide Copolymer)

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Reproductive toxicity No known significant effects or critical hazards.

**Over-exposure
signs/symptoms**

Inhalation No known significant effects or critical hazards.

- Ingestion* No known significant effects or critical hazards.
Skin No known significant effects or critical hazards.
Target organs Contains material which does not cause damage to the following organs: central nervous system (CNS).



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.

Ecotoxicity data

<u>Ingredient name</u>	<u>Species</u>	<u>Period</u>
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Other ecological information

Persistence/degradability

<u>Ingredient name</u>	<u>BOD₅</u>	<u>COD</u>
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<u>Ingredient name</u>	<u>Aquatic half-life</u>	<u>Photolysis</u>
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Bioaccumulative potential

<u>Ingredient name</u>	<u>LogP_{ow}</u>	<u>BCF</u>
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- Mobility* : Not available.
Other adverse effects : No known significant effects or critical hazards.



Section 13. Disposal Considerations

Waste Stream Not available.

Methods of disposal The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

European waste catalogue (EWC) Not available.

Hazardous waste The classification of the product may meet the criteria for a hazardous waste

Denmark – Carcinogenic waste Not available.

Denmark - Waste card number Not available.

Denmark - Waste group Not available.

Sweden - thermoset plastic waste Not available.

Sweden - Waste group Not available.

Austria - Waste catalogue Not available.

Norway - Waste number Not available.

Norway - Hazardous waste The classification of the product may meet the criteria for a hazardous waste

Switzerland - Waste code Not available.

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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- Irritating to eyes.
S2- Keep out of the reach of children. S46- If swallowed, seek medical advice immediately and show this container or label.



Irritant

HCS Classification

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U.S. Federal Regulations TSCA 4(a) final test rules: UltraLink Biosupport Medium
TSCA 8(a) PAIR: Triton X-100
TSCA 8(b) inventory: water; Sodium Azide; Triton X-100; ; UltraLink Biosupport Medium
TSCA 8(d) H and S data reporting: Sodium Azide; UltraLink Biosupport Medium
TSCA 12(b) one time export: UltraLink Biosupport Medium
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.
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.

State regulations Pennsylvania RTK: Sodium Azide: (environmental hazard, generic environmental hazard); UltraLink Biosupport Medium: (environmental hazard, generic environmental hazard)
Florida: Sodium Azide
Minnesota: Sodium Azide
Massachusetts RTK: Sodium Azide; UltraLink Biosupport Medium
Massachusetts spill list: UltraLink Biosupport Medium
New Jersey: Sodium Azide; UltraLink Biosupport Medium

WHMIS (Canada) Class D-2A: Material causing other toxic effects (VERY TOXIC).

CEPA DSL: water; Sodium Azide; Triton X-100; ; UltraLink Biosupport Medium

CEPA NDSL: Sodium Azide

International Regulations

EINECS Not available.

DSCL (EEC) R36- Irritating to eyes.

International Lists

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Australia (NICNAS): water; Sodium Azide; Triton X-100; ; UltraLink Biosupport Medium

Germany water class: Sodium Azide; UltraLink Biosupport Medium

Japan (METI): water; Sodium Azide; ; UltraLink Biosupport Medium

Korea (TCCL): water; Sodium Azide; Triton X-100; ; UltraLink Biosupport Medium

Philippines (RA6969): water; Sodium Azide; Triton X-100; ; UltraLink Biosupport Medium

State Regulations Pennsylvania RTK: Sodium Azide: (environmental hazard, generic environmental hazard); UltraLink Biosupport Medium: (environmental hazard, generic environmental hazard)

Florida: Sodium Azide

Minnesota: Sodium Azide

Massachusetts RTK: Sodium Azide; UltraLink Biosupport Medium

Massachusetts spill list: UltraLink Biosupport Medium

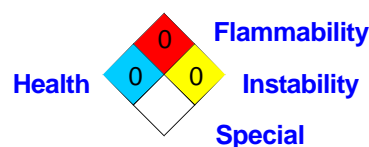
New Jersey: Sodium Azide; UltraLink Biosupport Medium

Section 16. Other Information

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

Health	1
Fire hazard	0
Reactivity	0
Personal protection	C

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 referred to in sections 2 and 3 - Europe R36- Irritating to eyes.

Full text of classifications referred to in sections 2 and 3 - Europe Xi - Irritant

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

Validated by Company2 on 5/18/2005.

Verified by Company2.

Date of Previous Issue No Previous Validation

Printed 5/18/2005.

Version 0.02

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.