PIERCE
a Perbio Science Company

Eng

Material Safety Data Sheet

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

Responsible Name **Company2**

Section 1. Chemical Product and Company Identification

Product name **AffinityPak™ Protein A Columns**

Product No. 0020356

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

In Case of Emergency CHEMTREC:
800.424.9300
OUTSIDE US:
202.483.7616

Print Date 10/6/2005
Validation Date **10/6/2005**
MSDS# 3075

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

No hazardous ingredient according to 29 CFR 1910.1200 Hazard Communication Standard (USA) and Directives 1999/45/EC-2001/59/EC (EU)

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:
SKIN, EYES.
Not applicable.

Target organs Contains material which causes damage to the following organs: skin, eyes.
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**: Not available.
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.

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Europe

Classification	**Not classified.**
Physical/chemical hazards	Not applicable.
Human health hazards	Not applicable.
Environmental hazards	Not applicable.

See Toxicological Information (section 11)

Section 4. First Aid Measures

Effects and symptoms

Inhalation	Not available.
Ingestion	Not available.
Skin Contact	Irritation of the product in case of skin contact: Not available. Sensitization of the product: Not available.
Eye Contact	Not available.
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 if irritation occurs.
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 if irritation occurs.
Notes to Physician	Not available.
Protection of first-aiders	Not available.

Section 5. Fire Fighting Measures

Flammability of the Product	Non-flammable.
Flash Points	Not applicable.
Fire Hazards in Presence of Various Substances	Not applicable.
Fire Fighting Media and Instructions	Use an extinguishing agent suitable for surrounding fires.
Protective Clothing (Fire)	Not applicable.
Hazardous thermal (de)composition products	Not applicable.

Section 6. Accidental Release Measures

Personal precautions	Safety glasses. 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.

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Section 7. Handling and Storage

Handling 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.

Exposure Limit Values

Ingredient Name	Occupational Exposure Limits
United States	

Personal Protection

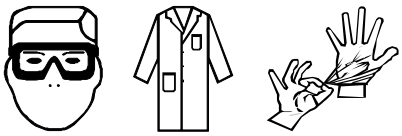
Eyes Splash goggles.

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. Jelly-like precipitate liquid.)

Color 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).

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

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

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

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

Evaporation Rate 0.36 (water) compared to (n-BUTYL ACETATE=1)

Dispersion Properties Not available.

Solubility Insoluble in cold water, hot water.

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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 Reactive with oxidizing agents.

Hazardous Polymerization Will not occur.

Hazardous Decomposition Products Not available.

Section 11. Toxicological Information

Toxicity to Animals

water:
ORAL (LD50): Acute: >90000 mg/kg [Rat].
Agarose
LD50: Not available.
LC50: Not available.
Protein A
LD50: Not available.
LC50: Not available.
Sodium Azide:
ORAL (LD50): Acute: 27 mg/kg [Rat]. 27 mg/kg [Mouse]. 23.7 mg/kg [Birds.].
DERMAL (LD50): Acute: 20 mg/kg [Rabbit]. 50 mg/kg [Rat].

Chronic Effects on Humans Contains material which causes damage to the following organs: skin, eyes.

Other Toxic Effects on Humans No specific information is available in our database regarding the other toxic effects of this material for humans.

Special Remarks on Toxicity to Animals Not available.

Special Remarks on Chronic Effects on Humans To the best of our knowledge, the toxicological properties of this substance have not been thoroughly investigated.

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.

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 causes damage to the following organs: skin, eyes.
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.

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Ecotoxicity data

Ingredient name	*Species*	*Period*

Other ecological information

Persistence/degradability

Ingredient name	*BOD_5*	*COD*

Ingredient name	*Aquatic half-life*	*Photolysis*

Bioaccumulative potential

Ingredient name	*$LogP_{ow}$*	*BCF*

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	To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by EU Directive 91/689/EC.
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	To present knowledge of the supplier, this product is not regarded as hazardous waste as defined by SFT's Directive on special waste.
Switzerland - Waste code	Not available.

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)

This product is not classified according to the EU regulations.

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HCS Classification Target organ effects

U.S. Federal Regulations

TSCA 8(b) inventory: water; Sodium Azide; Agarose
TSCA 8(d) H and S data reporting: Sodium Azide
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)
Florida: Sodium Azide
Minnesota: Sodium Azide
Massachusetts RTK: Sodium Azide
New Jersey: Sodium Azide

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

CEPA DSL: water; Sodium Azide; Agarose

CEPA NDSL: Sodium Azide

International Regulations

EINECS Not available.

DSCL (EEC) This product is not classified according to the EU regulations.

International Lists

Australia (NICNAS): water; Sodium Azide; Agarose

Germany water class: Sodium Azide

Japan (METI): water; Sodium Azide

Korea (TCCL): water; Sodium Azide; Agarose

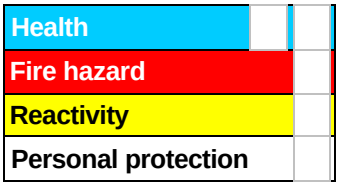
Philippines (RA6969): water; Sodium Azide; Agarose

State Regulations

Pennsylvania RTK: Sodium Azide: (environmental hazard, generic environmental hazard)
Florida: Sodium Azide
Minnesota: Sodium Azide
Massachusetts RTK: Sodium Azide
New Jersey: Sodium Azide

Section 16. Other Information

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



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.

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

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Verified by Company2.

Date of Previous Issue **No Previous Validation**

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Version **0.03**

Notice to Reader

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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.