

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

**Product name** Elution Buffer

**Product No.** 89864H

**Supplier** Pierce Biotechnology  
P.O. Box 117  
Rockford, IL 61105  
USA  
815.968.0747 or  
1.800.874.3723

**Manufacturer** Pierce Milwaukee LLC  
2202 N. Bartlett Avenue  
Milwaukee, WI 53202-1009  
USA  
1.877.886.7629

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

**Print Date** 2/13/2003  
**Validation Date** **2/13/2003**  
**MSDS#** 4198

**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) SDS	151-21-3	0.1-1	205-788-1	Xn	R20/21/22, 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:  
LUNGS, DIGESTIVE SYSTEM, SKIN, EYES.  
MAY BE HARMFUL IF SWALLOWED.  
Do not ingest. Wash thoroughly after handling.

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

**Potential Acute Health Effects** Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation (lung irritant).

**Carcinogenic Effects Data** **CARCINOGENIC EFFECTS:** Classified None. by NIOSH [SDS].  
**MUTAGENIC EFFECTS:** Not available.  
**TERATOGENIC EFFECTS:** Classified None. for human [SDS].

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

**Overexposure /Signs/Symptoms** Not available.

**Europe**

**Classification** Not controlled under dsd (Europe).  
**Physical/chemical hazards** Not applicable.  
**Human health hazards** Not applicable.  
**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 (lung irritant).  
*Ingestion* Slightly hazardous in case of ingestion.  
*Skin Contact* Sensitization of the product: Not available.  
 Slightly hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.  
*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 if symptoms appear.  
*Ingestion* Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.  
*Skin Contact* Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.  
*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 if irritation occurs.  
*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* Not considered to be flammable.

*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, CO<sub>2</sub>), sulfur oxides (SO<sub>2</sub>, SO<sub>3</sub>...). Some metallic oxides.

## 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. **Neutralize the residue with a dilute solution of acetic acid.** Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

*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. If necessary: **Neutralize the residue with a dilute solution of acetic acid.** 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* Do not ingest. 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*

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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>
<b>United States</b>	
1) SDS	Not available.
<b>Sweden</b>	
1) SDS	Not available.
<b>Denmark</b>	
1) SDS	Not available.
<b>Norway</b>	
1) SDS	Not available.
<b>France</b>	
1) SDS	Not available.
<b>Netherlands</b>	
1) SDS	Not available.
<b>Germany</b>	
1) SDS	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** Odorless.

**Molecular Weight** Not applicable.

**Taste** Not available.

**pH (1% Soln/Water)** Basic.

**Color** Colorless.

**Boiling/Condensation Point** The lowest known value is 100°C (212°F) (Nuclease-Free Water).

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

**Specific Gravity** Weighted average: 0.98 (Water = 1)

**Vapor Pressure** The highest known value is 2.3 kPa (@ 20°C) (Nuclease-Free Water).

**Vapor Density** The highest known value is 0.62 (Air = 1) (Nuclease-Free Water).

**Evaporation Rate** 0.36 (Nuclease-Free Water) compared to Butyl acetate.

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*LogK<sub>ow</sub>* The product is more soluble in water.

*Dispersion Properties* See solubility in water.

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

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 **Section 10. Stability and Reactivity**

*Stability and Reactivity* The product is stable.

*Conditions to avoid* Not available.

*Materials to avoid* Slightly reactive to reactive with oxidizing agents, reducing agents, alkalis.

*Hazardous Decomposition Products* These products are carbon oxides (CO, CO<sub>2</sub>), sulfur oxides (SO<sub>2</sub>, SO<sub>3</sub>...). Some metallic oxides.

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 **Section 11. Toxicological Information**

*Toxicity to Animals* Acute oral toxicity (LD<sub>50</sub>): 1288 mg/kg [Rat]. (SDS).

*Chronic Effects on Humans* **CARCINOGENIC EFFECTS:** Classified None. by NIOSH [SDS].  
**TERATOGENIC EFFECTS:** Classified None. for human [SDS].

*Other Toxic Effects on Humans* Slightly hazardous in case of eye contact (irritant), of ingestion, of inhalation (lung irritant).

*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* Not available.

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 **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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 **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.*

**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.

**HCS Classification** Target organ effects.

**U.S. Federal Regulations** TSCA 8(b) inventory: Trisodium Citrate; SDS; Nuclease-Free Water  
 TSCA 8(d) H and S data reporting: SDS  
 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: SDS  
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: SDS: immediate health hazard, delayed health hazard  
 SARA 313 toxic chemical notification and release reporting: 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.

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

CEPA DSL: Trisodium Citrate; SDS; Nuclease-Free Water

**International Regulations**

**EINECS** Not available.

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

**International Lists** Australia (NICNAS): Trisodium Citrate; SDS; Nuclease-Free Water

Germany water class: SDS

VCI WGK: No products were found.

Korea (TCCL): Trisodium Citrate; SDS; Nuclease-Free Water

Philippines (RA6969): Trisodium Citrate; SDS; Nuclease-Free Water

**State Regulations** No products were found.

**California prop. 65:** No products were found.

**Section 16. Other Information**

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

Health	*	0
Fire Hazard		0
Reactivity		0
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.

## Elution Buffer

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*Full text of R-Phrases* Harmful by inhalation, in contact with skin and if swallowed.  
*referenced under headings 2 and 3:* 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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Validated by Regulatory Affairs on 2/13/2003.

Verified by Regulatory Affairs.

Date of Previous Issue No Previous  
Validation

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Version

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### 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.*