

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

Responsible Name MSDS Administrator

## ? Section 1. Chemical Product and Company Identification

**Product Name** Stable Peroxide Substrate Buffer (1X)

**Product no.** 1855910 1860544 NCI3406B NCI4065B

<b>Supplier</b>	<b>In USA:</b> Pierce P.O. Box 117 Rockford, IL 61105 USA 815.968.0747 or 1.800.874.3723	<b>In Europe:</b> Perbio Science Industriezone III Industrielaan 27 9320 Erembodegem-Aalst Belgium Tel:+32 53 83 44 04 Fax:+32 53 83 76 38	<b>Manufacturer</b>	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:  
703.527.3887

**Print date** 10/26/2006  
**Validation date** 10/26/2006  
**MSDS#** 3773

**Use of the substance/preparation** 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:  
EYES.

**Target organs**  Contains material which causes damage to the following organs: eyes.

**Routes of entry** 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**  **CARCINOGENIC EFFECTS:** Classified None. by OSHA, None. by NIOSH [Stable Peroxide Substrate Buffer Component 1]. Classified None. by OSHA, None. by NIOSH [Stable Peroxide Substrate Buffer Component 2]. Classified None. by OSHA, None. by NIOSH [Stable Peroxide Substrate Buffer Component 3].

**MUTAGENIC EFFECTS:** Not available.

**TERATOGENIC EFFECTS:** Classified SUSPECTED for human [Stable Peroxide Substrate Buffer Component 3].

**Medical conditions aggravated by overexposure** Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**Over-exposure signs/symptoms** Not available.

Europe

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<b>Classification</b>	Not classified.
<i>Physical/chemical hazards</i>	Not applicable.
<i>Human health hazards</i>	Not applicable.
<i>Environmental hazards</i>	Not applicable.

See toxicological Information (section 11)

## **Section 4. First aid measures**

### Effects and symptoms

<i>Inhalation</i>	<input checked="" type="checkbox"/> Not available.
<i>Ingestion</i>	<input checked="" type="checkbox"/> Not available.
<i>Skin contact</i>	<input checked="" type="checkbox"/> Irritation of the product in case of skin contact: Not available. Sensitization of the product: Not available.
<i>Eye contact</i>	<input checked="" type="checkbox"/> Not available.
<i>Aggravating conditions</i>	Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

### First-Aid measures

<i>Inhalation</i>	<input checked="" type="checkbox"/> Inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<i>Ingestion</i>	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.
<i>Skin contact</i>	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.
<i>Eye contact</i>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
<i>Notes to physician</i>	Not available.
<i>Protection of first-aiders</i>	Not available.

## **Section 5. Fire fighting measures**

<i>Flammability of the product</i>	Non-flammable.
<i>Flash Points</i>	Not applicable.
<i>Fire hazards in presence of various substances</i>	Not applicable.
<i>Fire fighting media and instructions</i>	Use an extinguishing agent suitable for surrounding fires.
<i>Protective clothing (fire)</i>	Not applicable.
<i>Hazardous thermal decomposition products</i>	Not applicable.

## **Section 6. Accidental release measures**

<i>Personal precautions</i>	<input checked="" type="checkbox"/> Safety glasses. Lab coat.
<i>Environmental precautions and clean-up methods</i>	Absorb with an inert material and put the spilled material in an appropriate waste disposal.
<i>Small spill and leak</i>	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

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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**  
**United States**

**Occupational Exposure Limits**

### 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** Liquid. (Clear sparkling liquid.)

**Color** Colorless.

**Odor** Not available.

**Molecular weight** Not applicable.

**Taste** Not available.

**pH (1% Soln/Water)** 5 to 5.2 [Acidic.]

**Boiling/condensation point** The lowest known value is 100°C (212°F) (water).

**Melting/freezing point** May start to solidify at 0°C (32°F) based on data for: water.

**Critical temperature** The lowest known value is 374.2°C (705.6°F) (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)

**Viscosity** Dynamic: The highest known value is 1 cP (water)

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

**Dispersion properties** See solubility in water, methanol, acetone.

**Solubility** Easily soluble in cold water, hot water, methanol, acetone.  
Insoluble in 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 reducing agents, metals, acids.
- 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].  
**Stable Peroxide Substrate Buffer Component 1**  
 LD50: Not available.  
 LC50: Not available.  
**Stable Peroxide Substrate Buffer Component 2:**  
 ORAL (LD50): Acute: 5040 mg/kg [Mouse]. 3000 mg/kg [Rat]. 330 mg/kg [Rabbit].  
**Stable Peroxide Substrate Buffer Component 3:**  
 ORAL (LD50): Acute: 1200 mg/kg [Rat]. 1060 mg/kg [Mouse].
- Chronic Effects on Humans**  **CARCINOGENIC EFFECTS:** Classified None. by OSHA, None. by NIOSH [Stable Peroxide Substrate Buffer Component 1]. Classified None. by OSHA, None. by NIOSH [Stable Peroxide Substrate Buffer Component 2]. Classified None. by OSHA, None. by NIOSH [Stable Peroxide Substrate Buffer Component 3].  
**TERATOGENIC EFFECTS:** Classified SUSPECTED for human [Stable Peroxide Substrate Buffer Component 3].  
**DEVELOPMENTAL TOXICITY:** Classified Reproductive system/toxin/female [POSSIBLE] [Stable Peroxide Substrate Buffer Component 3].  
 Contains material which causes damage to the following organs: 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** Not available.
- Special Remarks on Other Toxic Effects on Humans**  Exposure can cause nausea, headache and vomiting. Material is irritating to mucous membranes and upper respiratory tract. (Stable Peroxide Substrate Buffer Component 2)
- 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: eyes.



## Section 12. Ecological information

- Mobility** Not available.
- Persistence/degradability** Not available.
- Bioaccumulative potential** Not available.
- Ecotoxicity** Not available.

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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>BOD<sub>5</sub></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<sub>ow</sub></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** 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.

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**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**  CA: No products were found.  
 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** No products were found.

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

CEPA DSL: Stable Peroxide Substrate Buffer Component 1; water; Stable Peroxide Substrate Buffer Component 2

**International Regulations**

**EINECS** Not available.

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

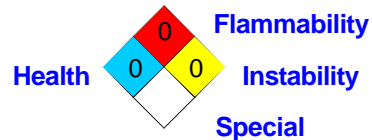
**International Lists**  Germany water class: Stable Peroxide Substrate Buffer Component 1; Stable Peroxide Substrate Buffer Component 2; Stable Peroxide Substrate Buffer Component 3

**State Regulations** No products were found.

**Section 16. Other information**

<b>Hazardous Material Information System (U.S.A.)</b>	<b>Health</b>	*	0
	<b>Fire hazard</b>		0
	<b>Reactivity</b>		0
	<b>Personal protection</b>		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.

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

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Date of previous issue

12/2/2005

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Version

1.02

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.*