

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

Responsible Name MSDS Administrator

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

Product Name BupH MES Buffered Saline Packs

Product no. 28390 1888890 28390B

Supplier	<i>In USA:</i> Pierce P.O. Box 117 Rockford, IL 61105 USA 815.968.0747 or 1.800.874.3723	<i>In Europe:</i> 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:
703.527.3887

Print date 4/25/2006
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MSDS# 1371

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

<u>Ingredient name</u>	<u>CAS number</u>	<u>%</u>	<u>EC number</u>	<u>Classification</u>
MES Free acid monohydrate	145224-94-8	65 - 80		Xi; R36/37/38
Sodium Chloride	7647-14-5	25 - 45	231-598-3	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!
 CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
 Avoid contact with skin and clothing. Avoid breathing dust. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

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

Potential acute health effects

Eyes Irritating to eyes.

Skin Irritating to skin.

Inhalation Irritating to respiratory system.

Ingestion No known significant effects or critical hazards.

Potential chronic health effects

Carcinogenic effects **CARCINOGENIC EFFECTS:** Classified None. by OSHA, None. by NIOSH [MES Free acid monohydrate]. Classified None. by OSHA, None. by NIOSH [Sodium Chloride].

MUTAGENIC EFFECTS: Classified SUSPECTED for human [Sodium Chloride]. Mutagenic for bacteria and/or yeast. [Sodium Chloride].

TERATOGENIC EFFECTS: Classified SUSPECTED for human [Sodium Chloride].

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

Classification	<input checked="" type="checkbox"/> Xi; R36/37/38
Physical/chemical hazards	Not applicable.
Human health hazards	<input checked="" type="checkbox"/> Irritating to eyes, respiratory system and skin.
Environmental hazards	<input checked="" type="checkbox"/> Not applicable.

See toxicological Information (section 11)

+ Section 4. First aid measures

Notice to reader Get immediate medical attention.

Effects and symptoms

Inhalation	<input checked="" type="checkbox"/> Hazardous in case of inhalation (lung irritant).
Ingestion	<input checked="" type="checkbox"/> Not available.
Skin contact	<input checked="" type="checkbox"/> Sensitization of the product: Not available. Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Eye contact	<input checked="" type="checkbox"/> Hazardous in case of eye contact (irritant).
Aggravating conditions	<input checked="" type="checkbox"/> 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

Inhalation	<input checked="" type="checkbox"/> Inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Eye contact	<input checked="" type="checkbox"/> 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

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.

Hazardous thermal decomposition products These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...), sulfur oxides (SO₂, SO₃...), halogenated compounds, hydrogen chloride. Some metallic oxides.

Section 6. Accidental release measures

Personal precautions Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Environmental precautions and clean-up methods Use a shovel to put the material into a convenient waste disposal container.

Small spill and leak Use appropriate tools to put the spilled solid in a convenient waste disposal container.

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Section 7. Handling and storage

Handling Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing dust. 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 Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

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 Solid. (Solidcrystalline powder.)

Color White.

Odor Not available.

Molecular weight Not applicable.

Taste Not available.

pH (1% Soln/Water) 4.5 to 5 (Conc. (% w/w): 2.3) [Acidic.]

Melting/freezing point 304°C (1479.2°F) based on data for: Sodium Chloride. Weighted average: 456.62°C (853.9°F)

Vapor pressure The highest known value is 0.1 kPa (1 mm Hg) (at 20°C) (Sodium Chloride).

Dispersion properties See solubility in water.

Solubility Soluble in cold water, hot water.
Very slightly soluble in methanol.

Section 10. Stability and reactivity

Stability and Reactivity The product is stable.

Conditions to avoid Not available.

Materials to avoid Reactive with oxidizing agents.

Hazardous polymerization Will not occur.

Hazardous Decomposition Products These products are halogenated compounds, hydrogen chloride.

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Section 11. Toxicological information

Toxicity to Animals **MES Free acid monohydrate**

LD50: Not available.

LC50: Not available.

Sodium Chloride:

ORAL (LD50):

Acute: 3000 mg/kg [Rat]. 4000 mg/kg [Mouse].

DERMAL (LD50):

Acute: >10000 mg/kg [Rabbit].

DUST (LC50):

Acute: >42000 mg/m³ 1 hour(s) [Rat].

Chronic Effects on Humans **CARCINOGENIC EFFECTS:** Classified None. by OSHA, None. by NIOSH [MES Free acid monohydrate]. Classified None. by OSHA, None. by NIOSH [Sodium Chloride].

MUTAGENIC EFFECTS: Classified SUSPECTED for human [Sodium Chloride]. Mutagenic for bacteria and/or yeast. [Sodium Chloride].

TERATOGENIC EFFECTS: Classified SUSPECTED for human [Sodium Chloride].

DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female [PROVEN] [Sodium Chloride]. Classified Development toxin [POSSIBLE] [Sodium Chloride].

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

Special Remarks on Toxicity to Animals Not available.

Special Remarks on Chronic Effects on Humans Exposure can cause stomach pains, vomiting and diarrhea. (Sodium Chloride)

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.



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

Ingredient name

Species

Period

Other ecological information

Persistence/degradability

Ingredient name

BOD₅

COD

Ingredient name

Aquatic half-life

Photolysis

Bioaccumulative potential

Ingredient name

LogP_{ow}

BCF

Mobility : No known significant effects or critical hazards.

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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.

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.
 S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.



Irritant

HCS Classification Irritating material

U.S. Federal Regulations CA 8(b) inventory: Sodium Chloride

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: Sodium Chloride
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium Chloride: Immediate (Acute) Health Hazard, Delayed (Chronic) 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.

State regulations No products were found.

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

EPA DSL: Sodium Chloride

International Regulations

EINECS Not available.

DSCL (EEC) R36/37/38- Irritating to eyes, respiratory system and skin.

International Lists Australia (NICNAS): Sodium Chloride

Germany water class: Sodium Chloride

Japan (METI): Sodium Chloride

Korea (TCCL): Sodium Chloride

Philippines (RA6969): Sodium Chloride

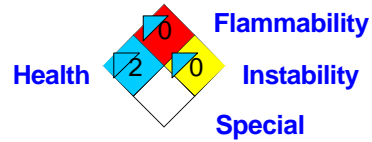
State Regulations No products were found.

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 R36/37/38- Irritating to eyes, respiratory system and skin.

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 MSDS Administrator on 4/25/2006.

Verified by MSDS Administrator.

Date of previous issue No Previous Validation

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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.