



Material Safety Data Sheet  
Phosphate Buffered Saline Solution

MSDS# 91348

Section 1 - Chemical Product and Company Identification

MSDS Name: Phosphate Buffered Saline Solution  
Catalog Numbers: BP2438-20, BP2438-4  
Synonyms: PBS.  
Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
For information in the US, call: 201-796-7100  
Emergency Number US: 201-796-7100  
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

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Risk Phrases:  
CAS#: 7647-14-5  
Chemical Name: Sodium Chloride  
%: 5-10  
EINECS#: 231-598-3  
Hazard Symbols:  
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Risk Phrases:  
CAS#: 7732-18-5  
Chemical Name: Water  
%: 87+  
EINECS#: 231-791-2  
Hazard Symbols:  
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Risk Phrases:  
CAS#: 7758-11-4  
Chemical Name: Potassium phosphate dibasic  
%: 0-5  
EINECS#: 231-834-5  
Hazard Symbols:  
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Risk Phrases:  
CAS#: 7778-77-0  
Chemical Name: Potassium phosphate monobasic  
%: <1.0  
EINECS#: 231-913-4  
Hazard Symbols:  
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Text for R-phrases: see Section 16

Hazard Symbols: None listed

Risk Phrases: None listed

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Caution! This is expected to be a low hazard for usual industrial handling. May cause eye, skin, and respiratory tract irritation. Target Organs: None.

#### Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause irritation of the digestive tract. Low hazard for usual industrial handling.

Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling.

Chronic: No information found.

### Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician:

### Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 1; flammability: 0; instability: 0;

### Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Provide ventilation.

### Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated.

## Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium Chloride	none listed	none listed	none listed
Water	none listed	none listed	none listed
Potassium phosphate dibasic	none listed	none listed	none listed
Potassium phosphate monobasic	none listed	none listed	none listed

OSHA Vacated PELs: Sodium Chloride: None listed Water: None listed Potassium phosphate dibasic: None listed Potassium phosphate monobasic: None listed

### Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a

**Respirators:** NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear, colorless

Odor: weak odor

pH: Not available

Vapor Pressure: Not available

Vapor Density: >1.0

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: > 100 deg C (> 212.00°F)

Freezing/Melting Point: > 0 deg C (> 32.00°F)

Decomposition Temperature: Not available

Solubility in water: Soluble

Specific Gravity/Density:

Molecular Formula: Solution

Molecular Weight: 0

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable.

**Conditions to Avoid:** Incompatible materials, excess heat.

**Incompatibilities with Other Materials:** Strong acids, strong bases.

**Hazardous Decomposition Products:** Carbon monoxide, carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

CAS# 7647-14-5: VZ4725000

CAS# 7732-18-5: ZC0110000

RTECS#: CAS# 7758-11-4: None listed  
CAS# 7778-77-0: TC6615500

RTECS:

**CAS# 7647-14-5:** Draize test, rabbit, eye: 100 mg Mild;  
Draize test, rabbit, eye: 100 mg/24H Moderate;  
Draize test, rabbit, eye: 10 mg Moderate;  
Draize test, rabbit, skin: 50 mg/24H Mild;  
Draize test, rabbit, skin: 500 mg/24H Mild;  
Inhalation, rat: LC50 = >42 gm/m3/1H;  
Oral, mouse: LD50 = 4 gm/kg;

LD50/LC50: Oral, rat: LD50 = 3000 mg/kg;  
Skin, rabbit: LD50 = >10 gm/kg;

RTECS:

**CAS# 7732-18-5:** Oral, rat: LD50 = >90 mL/kg;

RTECS:

**CAS# 7758-11-4:**

RTECS:

**CAS# 7778-77-0:** Skin, rabbit: LD50 = >4640 mg/kg;

Carcinogenicity: Sodium Chloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Potassium phosphate dibasic - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Potassium phosphate monobasic - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

#### Section 12 - Ecological Information

Not available

#### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

#### Section 14 - Transport Information

US DOT

Shipping Name: Not regulated as a hazardous material

Hazard Class:

UN Number:

Packing Group:

Canada TDG

Shipping Name: Not available

Hazard Class:

UN Number:

Packing Group:

#### Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available

Risk Phrases:

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 7647-14-5: 0

CAS# 7732-18-5: Not available

CAS# 7758-11-4: 1

Canada

CAS# 7647-14-5 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

CAS# 7758-11-4 is listed on Canada's DSL List

CAS# 7778-77-0 is listed on Canada's DSL List

Canadian WHMIS Classifications: Not available

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 7647-14-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 7758-11-4 is not listed on Canada's Ingredient Disclosure List.

CAS# 7778-77-0 is not listed on Canada's Ingredient Disclosure List.

US Federal

TSCA

CAS# 7647-14-5 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

CAS# 7758-11-4 is listed on the TSCA Inventory.

CAS# 7778-77-0 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 1/11/2000

Revision #10 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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