

MATERIAL SAFETY DATA SHEET

SECTION I NAME

Product BUFFER (AQUEOUS) SOLUTIONS
Chemical Synonyms pH Range I through 10 (distilled, ready for use)
Formula See Section II
Unit(s) Size 500 ml to 4 liters
C.A.S. No. None listed

CHEMTREC
 800-424-9300
 Day 716-226-6177
 Night 716-334-4222

NFPA HAZARD RATING

0	1	2	3	4
HEALTH	HEALTH	HEALTH	HEALTH	HEALTH
FLAME	FLAME	FLAME	FLAME	FLAME
REACTIVITY	REACTIVITY	REACTIVITY	REACTIVITY	REACTIVITY

LEAST SLIGHT MODERATE HIGH EXTREME

SECTION II HAZARDOUS INGREDIENTS OF MIXTURES

Principal Hazardous Component(s)
 NOTE: The concentrations of potassium acid phthalate in buffers 3 through 8, the sodium hydroxide in buffers 4 through 10, the hydrochloric acid in buffer 3, and the boric acid in buffers 9 and 10 renders these solutions practically non-toxic. Care should be exercised in handling.

Principal Hazardous Component(s)	%	TLV Units
None established		None established

SECTION III PHYSICAL DATA

Melting Point (°F) Freezes approx. 0°C.
Boiling Point (°F) 100°C (212°F).
Vapor Pressure (mm Hg) 14 (water)
Vapor Density (Air = 1) 0.7 (water)
Solubility in Water Complete
Appearance and Odor Clear, colorless liquid; no odor.

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used) Non-combustible (NA).
Extinguisher Media Use any media suitable for extinguishing supporting fire.

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH-approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products.

D.O.T. NON-REGULATED.



FREY SCIENTIFIC
 905 HICKORY LANE MANSFIELD OHIO 44905

MSDS No. Effective Date

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

Threshold Limited Value None established.

Effects of Overexposure

May cause irritation to eyes or skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Emergency and First Aid Procedures

IN CASE OF CONTACT WITH SKIN OR EYES: Flush thoroughly with water. For eyes, if irritation persists, get medical attention. IF SWALLOWED: If conscious, give one or two glasses of water and call a physician.

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SECTION VI REACTIVITY DATA

Stability Unstable Stable X
Conditions to Avoid Air, carbon dioxide, acids, and caustics.

Incompatibility (Materials to avoid)

Acids, alkalis, and air will change the buffer's ability.

Hazardous Decomposition Products

None expected.

Hazardous Polymerization

Conditions to Avoid

May Occur Will Not Occur X

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled

Flush to sewer with copious amounts of water.

Waste Disposal Method

Flush to sewer with copious amounts of water.

Discharge, treatment, or disposal may be subject to federal, state, or local laws.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection None required in normal laboratory handling.

Ventilation Local Exhaust Mechanical (General) None Required Special Other No No

Protective Gloves Rubber Eye Protection Chemical Safety glasses.

Other Protective Equipment Goggles, lab coat, proper gloves, and eye wash station.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing

Store in a cool, dry place. Wash thoroughly after handling.

Keep container tightly closed when not in use.

Other Precautions Read label on container before using.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Rev. No. No. 1 Date 1/23/87 Approved *Charles W. Secord* Chemical Safety Coordinator

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