```
PAGE: 1
                                                              BB8235001
     DATE: 08/06/99
                                               ACCT:
                                                                                      PO NBR: MARY PINKERTON VC 8-5-99
     INDEX: D92172444
                                              CAT NO: SB108500
                         **** MATERIAL SAFETY DATA SHEET ****
Buffer Solution pH 7
41136
         **** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****
MSDS Name: Buffer Solution pH 7
Catalog Numbers:
AC258590000, AC258590010, S79929-1, NC9574937, SB108 1, SB108 10, SB108 20,
SB108 500, SB10810, SB10810, SB10820, SB108500, XXSB10910LI
Synonyms:
None
Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887
            **** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****
 Chemical Name
         CAS#
        1310-73-2 Sodium hydroxide
                                                                  1.0 215-185-5
                                                                           99.0 231-791-2
        7732-18-5 Water
                                                                             1.0 231-913-4
        7778-77-0 Potassium phosphate monobasic
                      **** SECTION 3 - HAZARDS IDENTIFICATION ****
                                    EMERGENCY OVERVIEW
 Appearance: clear, colorless.
Caution! This is expected to be a low hazard for usual industrial
 handling. May cause irritation.
Target Organs: None.
 Potential Health Effects
      Eye:
May cause eye irritation.
             May cause skin irritation. Low hazard for usual industrial handling
             May cause irritation of the digestive tract.
       Inhalation:
            May cause respiratory tract irritation. Low hazard for usual industrial handling.
       Chronic:
             None
                        **** SECTION 4 - FIRST AID MEASURES ****
       Eyes:
Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid
       Skin:
Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.
             If victim is conscious and alert, give 2-4 cupfuls of milk or water.
Get medical aid if irritation or symptoms occur.
             Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. Get medical aid if cough or other
              symptoms appear.
        Notes to Physician:
              Treat symptomatically and
        Antidote:
              None reported.
                       **** SECTION 5 - FIRE FIGHTING MEASURES ****
             neral 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. Substance is noncombustible.
        General Information:
        is noncompustible.
Extinguishing Media:
Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.
Autoignition Temperature: Not available.
         Flash Point: Not available.
```

NFPA Rating: Not published

```
ACCT:
                                                     888235001
  DATE: 08/06/99
   INDEX: D92172444
                                        CAT NO: SB108500
                                                                          PO NBR: MARY PINKERTON VC 8-5-99
   Explosion Limits, Lower: N/A
                     Upper: N/A
              **** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****
  General Information: Use proper personal protective equipment as indicated in Section 8.
   Spills/Leaks:
        Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Clean up spills immediately,
        observing precautions in the Protective Equipment section. Provide
                 **** SECTION 7 - HANDLING and STORAGE ****
        Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and
         inhalation.
   Storage:
Store in a cool, dry place. Keep containers tightly closed
         **** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****
   Engineering Controls:
         Good general ventilation should be sufficient to control airborne
                               Exposure Limits
                                                                        OSHA - Final PELs
   Chemical Name
                                  ACGIH
                                                        NIOSH
                                                    10 mg/m3 IDLH 2 mg/m3 TWA
 Sodium hydroxide C 2 mg/m3
                                                                     none listed
                       none listed
                                             none listed
 Potassium phosphate none listed
                                                 none listed
                                                                         none listed
  monobasic
    OSHA Vacated PELs:
         Sodium hydroxide:
No OSHA Vacated PELs are listed for this chemical.
            No OSHA Vacated PELs are listed for this chemical
         Potassium phosphate monobasic:
No OSHA Vacated PELs are listed for this chemical.
    Personal Protective Equipment
                      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 gloves to prevent skin exposure.
            Clothing:
Wear appropriate protective clothing to minimize contact with skin.
          Respirators:
                       Follow the OSHA respirator regulations found in 29CFR 1910,134 or European Standard EN 149. Always use a
                       NIOSH or European Standard EN 149 approved respirator
                       when necessary.
             **** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****
Physical State:
                              Liquid clear, colorless
Appearance:
Odor:
                              None reported
                             Not available.
14 mm Hg @20C
Not available.
Vapor Pressure:
Vapor Density:
Evaporation Rate:
                                Not available
                             Not available.
100 deg C
Viscosity:
Boiling Point:
Freezing/Melting Point: 0 deg C
Decomposition Temperature: Not available.
Solubility: soluble
Specific Gravity/Density: Not a
Molecular Formula: Not
                                Not available.
 Molecular Weight:
                                 Not available
                 **** SECTION 10 - STABILITY AND REACTIVITY ****
```

Chemical Stability: Stable.

Conditions to Avoid:

PAGF: 2

```
INDEX: D92172444
                                              CAT NO: SB108500
                                                                                      PO NBR: MARY PINKERTON VC 8-5-99
    Incompatibilities with Other Materials:
There is no information for any incompatibilities for this substance.
Hazardous Decomposition Products:
     Hazardous Polymerization: Has not been reported.
                 **** SECTION 11 - TOXICOLOGICAL INFORMATION ****
     RTECS#
    RTECS#:
CAS# 1310-73-2: WB4900000
CAS# 7732-18-5: ZC0110000
CAS# 7778-77-0 unlisted.
LD50/LC50:
Not available.
CAS# 7732-18-5: Oral, rat: LD50 = 90 mL/kg.
CAS# 7778-77-0.
     Carcinogenicity:
Sodium hydroxide
           Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
        Water
       Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Potassium phosphate monobasic –
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
     Epidemiology:
No information available
     Teratogenicity:
     No information available.
Reproductive Effects:
No information available.
     Neurotoxicity:
           No information available.
     Mutagenicity:
No information available.
     Other Studies:
           No data available
                    **** SECTION 12 - ECOLOGICAL INFORMATION ****
     Ecotoxicity:
No information available.
     Environmental Fate:
           No information reported
     Physical/Chemical:
No information available.
     Other:
           None
                   **** SECTION 13 - DISPOSAL CONSIDERATIONS ****
Dispose of in a manner consistent with federal, state, and local regulations. RCRA P-Series: None listed. RCRA U-Series: None listed.
                    **** SECTION 14 - TRANSPORT INFORMATION ****
     US DOT
           No information available
     IMO
           Not regulated as a hazardous material.
           Not regulated as a hazardous material.
     RID/ADR
     Not regulated as a hazardous material. Canadian TDG
           No information available.
                    **** SECTION 15 - REGULATORY INFORMATION ****
 US FEDERAL
      TSCA
           CAS# 1310-73-2 is listed on the TSCA inventory.
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 7778-77-0 is listed on the TSCA inventory.
         Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
         Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule
         Section 12b
         None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
        Section 302 (RQ)
CAS# 1310-73-2: final RQ = 1000 pounds (454 kg)
         Section 302 (TPQ)
           None of the chemicals in this product have a TPQ
        SARA Codes
CAS # 1310-73-2: acute, reactive.
```

DATE:

08/06/99

ACCT:

888235001

PAGE: 3

```
CAS # 7778-77-0: acute.
             Section 313
                 No chemicals are reportable under Section 313.
       Clean Air Act:
                 This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
       Clean Water Act:
CAS# 1310-73-2 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority
                 Pollutants under the CWA
                None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
                  None of the chemicals in this product are considered highly hazardous
                 by OSHA.
        Sodium hydroxide can be found on the following state right to know
        lists: California, New Jersey, Florida, Pennsylvania, Minnesota,
        Massachusetts.
       Water is not present on state lists from CA, PA, MN, MA, FL, or NJ.
Potassium phosphate monobasic is not present on state lists from CA,
PA, MN, MA, FL, or NJ.
California No Significant Risk Level:
None of the chemicals in this product are listed.
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: Not available.
                  Risk Phrases:
                 Safety Phrases
   Sarety Prinsases:
S 24/25 Avoid contact with skin and eyes.
WGK (Water Danger/Protection)
CAS# 1310-73-2: 1
CAS# 7732-18-5: No information available.
CAS# 7778-77-0: 1
Canada
    Canada
                 CAS# 1310-73-2 is listed on Canada's DSL/NDSL List.
CAS# 7732-18-5 is listed on Canada's DSL/NDSL List.
CAS# 7778-77-0 is listed on Canada's DSL/NDSL List.
                 CAS# ///8-//-U is listed on Canada's SDS/NDSL_LIST.
This product has a WHMIS classification of Not controlled.
CAS# 1310-73-2 is not listed on Canada's Ingredient Disclosure List.
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 7778-77-0 is not listed on Canada's Ingredient Disclosure List.
   Exposure Limits

CAS# 1/10-1/-0 is not listed on Canada's ingree

Exposure Limits

CAS# 1310-73-2: OEL-AUSTRALIA:TWA 2 mg/m3

OEL-BELGIUM:STEL 2 mg/m3

OEL-DENMARK:TWA 2 mg/m3
                OEL-FINLAND:TWA 2 mg/m3
OEL-FRANCE:TWA 2 mg/m3
OEL-GERMANY:TWA 2 mg/m3
                OEL-GERMANY:TWA 2 mg/m3
OEL-JAPAN:STEL 2 mg/m3
OEL-THE NETHERLANDS:TWA 2 mg/m3
OEL-THE PHILIPPINES:TWA 2 mg/m3
OEL-SWEDEN:TWA 2 mg/m3
OEL-SWITZERLAND:TWA 2 mg/m3;STEL 4 mg/m3
OEL-SWITZERLAND:TWA 2 mg/m3
OEL-TURKEY:TWA 2 mg/m3
OEL-TURKEY:TWA 2 mg/m3
OEL-UNITED KINGDOM:TWA 2 mg/m3;STEL 2 mg/m3
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
```

ACCT:

CAT NO: \$8108500

888235001

DATE: 08/06/99

INDEX: D92172444

PAGE: 4

PO NBR: MARY PINKERTON VC 8-5-99

MSDS Creation Date: 8/31/1995 Revision #7 Date: 11/30/1998

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 way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any capacity indicated and controlled the company be suitable. 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.

\*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*