

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Buffer Solution pH 4.0

Catalog Numbers:

S79929, NC9574936, NC9813033, SB98 1, SB98 10, SB98 20, SB98 500, SB981, SB9810, SB9820, SB98500, XXSB9910LI

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 ****

CAS#	Chemical Name	%	EINECS#
50-00-0	Formaldehyde	0.05	200-001-8
67-56-1	Methyl alcohol	0.02	200-659-6
877-24-7	Potassium Hydrogen Phthalate	1.0	212-889-4
7732-18-5	Water	Balance	231-791-2

Hazard Symbols: XI

Risk Phrases: 36/38

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Irritating to eyes and skin.

Potential Health Effects

Eye:

Causes eye irritation. May cause chemical conjunctivitis.

Skin:

May cause mild skin irritation.

Ingestion:

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause gastric disturbances and electrolytic imbalance.

Inhalation:

May cause allergic respiratory reaction. May cause respiratory tract irritation. Can produce delayed pulmonary edema.

Chronic:

May cause cancer according to animal studies. Effects may be delayed.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

Immediately 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. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

Treat symptomatically and supportively.

Antidote:

None reported.

**** 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. Use water spray to keep fire-exposed containers cool. Use extinguishing media appropriate to the surrounding fire. Substance is noncombustible. Containers may explode when heated.

Extinguishing Media:

Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**** 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. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

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

Storage:

Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

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 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

Appearance: clear, colorless

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Autoignition Temperature: Not available.

Flash Point: Not available.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature:

Solubility: soluble

Specific Gravity/Density:

Molecular Formula:

Molecular Weight:

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable. Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

Incompatible materials, none reported, excess heat.

Incompatibilities with Other Materials:

None reported.
Hazardous Decomposition Products:
Formaldehyde.
Hazardous Polymerization: Has not been reported

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:

CAS# 50-00-0: LP8925000
CAS# 67-56-1: PC1400000
CAS# 877-24-7: CZ4326000
CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 50-00-0: Draize test, rabbit, eye: 750 ug/24H Severe; Draize test, rabbit, eye: 750 ug Severe; Draize test, rabbit, eye: 10 mg Severe; Draize test, rabbit, skin: 2 mg/24H Severe; Draize test, rabbit, skin: 50 mg/24H Moderate; Inhalation, mouse: LC50 = 454 gm/m³/4H; Inhalation, rat: LC50 = 203 mg/m³; Oral, mouse: LD50 = 42 mg/kg; Oral, rat: LD50 = 100 mg/kg; Skin, rabbit: LD50 = 270 uL/kg.
CAS# 67-56-1: Draize test, rabbit, eye: 40 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, rat: LC50 = 64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5628 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg.
CAS# 877-24-7: Dermal, guinea pig: LD50 = >1 gm/kg; Oral, rat: LD50 = >3200 mg/kg.
CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

Carcinogenicity:

Formaldehyde -

ACGIH: A2 - suspected human carcinogen
California: carcinogen; initial date 1/1/88
NIOSH: occupational carcinogen
NTP: Suspect carcinogen
OSHA: Possible Select carcinogen
IARC: Group 2A carcinogen

Methyl alcohol -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Potassium Hydrogen Phthalate -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Water -

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 ****

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

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

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT

No information available
Canadian TDG
No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL

TSCA

CAS# 50-00-0 is listed on the TSCA inventory.
CAS# 67-56-1 is listed on the TSCA inventory.
CAS# 877-24-7 is listed on the TSCA inventory.
CAS# 7732-18-5 is listed on the TSCA inventory.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

CAS# 50-00-0 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.

OSHA:

CAS# 50-00-0 is considered highly hazardous by OSHA.

STATE

Formaldehyde can be found on the following state right to know lists:
California, New Jersey, Florida, Pennsylvania, Minnesota, .
Massachusetts.

Methyl alcohol can be found on the following state right to know
lists: California, New Jersey, Florida, Pennsylvania, Minnesota,
Massachusetts.

Potassium Hydrogen Phthalate is not present on state lists from CA,
PA, MN, MA, FL, or NJ.

Water is not present on state lists from CA, PA, MN, MA, FL, or NJ.

The following statement(s) is(are) made in order to comply with
the California Safe Drinking Water Act:

WARNING: This product contains Formaldehyde, a chemical known to the
state of California to cause cancer.

California No Significant Risk Level:

CAS# 50-00-0: no significant risk level = 40 ug/day

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI

Risk Phrases:

R 36/38 Irritating to eyes and skin.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 50-00-0: 2

CAS# 67-56-1: 1

CAS# 877-24-7: No information available.

CAS# 7732-18-5: No information available.

United Kingdom Occupational Exposure Limits

CAS# 67-56-1: OES-United Kingdom, TWA 200 ppm TWA; 266 mg/m3 TWA
CAS# 67-56-1: OES-United Kingdom, STEL 250 ppm STEL; 333 mg/m3 STEL
CAS# 67-56-1: OES-United Kingdom, STEL 250 ppm STEL; 333 mg/m3 STEL

Canada

CAS# 50-00-0 is listed on Canada's DSL List.
CAS# 67-56-1 is listed on Canada's DSL List.
CAS# 877-24-7 is listed on Canada's DSL List.
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 50-00-0 is listed on Canada's Ingredient Disclosure List.
CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.
CAS# 877-24-7 is not listed on Canada's Ingredient Disclosure List.
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 50-00-0: OEL-ARAB Republic of Egypt:TWA 2 ppm (3 mg/m3)
OEL-AUSTRALIA:TWA 1 ppm (1.5 mg/m3);STEL 2 ppm (3 mg/m3);CAR
OEL-BELGIUM:TWA 1 ppm (1.2 mg/m3);STEL 2 ppm (2.5 mg/m3);CAR
OEL-CZECHOSLOVAKIA:TWA 0.5 mg/m3;STEL 1 mg/m3
OEL-DENMARK:STEL 0.3 ppm (0.4 mg/m3);Carcinogen
OEL-FINLAND:STEL 1 ppm (1.3 mg/m3);Skin
OEL-FRANCE:STEL 2 ppm (3 mg/m3)
OEL-GERMANY:TWA 0.5 ppm (0.6 mg/m3);Carcinogen
OEL-HUNGARY:STEL 0.6 mg/m3;Carcinogen
OEL-JAPAN:TWA 0.5 ppm (0.61 mg/m3);Carcinogen
OEL-THE NETHERLANDS:TWA 1 ppm (1.5 mg/m3);STEL 2 ppm (3 mg/m3)
OEL-THE PHILIPPINES:TWA 5 ppm (6 mg/m3)
OEL-POLAND:TWA 2 mg/m3
OEL-RUSSIA:TWA 0.5 ppm;STEL 0.5 mg/m3;Skin
OEL-SWEDEN:TWA 0.5 ppm (0.6 mg/m3);STEL 1 ppm (1. mg/m3)
OEL-SWITZERLAND:TWA 0.5 ppm (0.6 mg/m3);STEL 1 pp (1.2 mg/m3)
OEL-THAILAND:TWA 3 ppm;STEL 5 ppm
OEL-TURKEY:TWA 5 ppm (6 mg/m3)
OEL-UNITED KINGDOM:TWA 2 ppm (2.5 mg/m3);STEL 2 ppm (2.5 mg/m3)
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m3);Skin

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

MSDS Creation Date: 2/24/1999 Revision #3 Date: 12/06/2000

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 special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

