

Buffer Solution pH 4.0 (Color-Coded Red)
41128

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

MSDS Name: Buffer Solution pH 4.0 (Color-Coded Red)

Catalog Numbers:

CRNSB101 500, CRN
SB101500

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#
0-00-0	Red Food Color	0.02	unlisted
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

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

EMERGENCY OVERVIEW

Appearance: clear, colorless.

Caution! May cause irritation. May cause cancer based on animal studies.

Target Organs: None.

Potential Health Effects

Eye:

May cause eye irritation.

Skin:

May cause mild skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Low hazard for usual industrial handling.

Ingestion:

Low hazard for usual industrial handling. May cause gastric

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disturbances and electrolytic imbalance.

Inhalation:

May cause allergic respiratory reaction. May cause respiratory tract irritation. Low hazard for usual industrial handling.

Chronic:

May cause cancer according to animal studies.

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

Eyes:

Get medical aid. Gently lift eyelids and flush continuously with water.

Skin:

Get medical aid if irritation develops or persists. Flush skin with plenty of soap and water.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water.
Get medical aid.

Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration.

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.

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.

Explosion Limits, Lower: Not available.

Upper: Not available.

**** 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.

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

Handling:

Use with adequate ventilation. Avoid contact with eyes. Keep container tightly closed.

Storage:

Store in a cool, dry place.

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

Engineering Controls:

Good general ventilation should be sufficient to control airborne levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Red Food Color	none listed	none listed	none listed
Formaldehyde	C 0.3 ppm; C 0.37 mg/m3	0.016 ppm TWA; NIOSH Potential Occupational Carcinogen - see Appendix A Potential NIOSH carcinogen.	0.75 ppm TWA PEL; 2 ppm STEL; 0.5 ppm TWA action level; Irritant and potential cancer hazard (29 CFR 1910.1048)
Methyl alcohol	200 ppm; 262 mg/m3; 250 ppm STEL; 328 mg/m3 STEL; skin - potential for cutaneous	200 ppm TWA; 260 mg/m3 TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m3 TWA

	absorption		
Potassium Hydrogen Phthalate	none listed	none listed	none listed
Water	none listed	none listed	none listed

OSHA Vacated PELs:

Red Food Color:

No OSHA Vacated PELs are listed for this chemical.

Formaldehyde:

3 ppm TWA (unless specified in 1910.1048)

Methyl alcohol:

200 ppm TWA; 260 mg/m3 TWA

Potassium Hydrogen Phthalate:

No OSHA Vacated PELs are listed for this chemical.

Water:

No OSHA Vacated PELs are listed for this chemical.

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

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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: 4.0
 Vapor Pressure: Not available.
 Vapor Density: 0.7 (Water)
 Evaporation Rate: >1.0 (Ether=1)
 Viscosity: Not available.
 Boiling Point: 212 deg F
 Freezing/Melting Point: 32 deg F
 Decomposition Temperature: Not available.
 Solubility: Soluble in water
 Specific Gravity/Density: 1.0
 Molecular Formula: Mixture
 Molecular Weight: Not available

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

Chemical Stability:

Stable.

Conditions to Avoid:

None reported.

Incompatibilities with Other Materials:

Not available.

Hazardous Decomposition Products:

None.

Hazardous Polymerization: Not available.

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

RTECS#:

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

LD50/LC50:

Not available.
CAS# 50-00-0: Inhalation, mouse: LC50 =400 mg/m3/2H; Inhalation,
rat: LC50 =203 mg/m3; Oral, mouse: LD50 = 42 mg/kg; Oral, rat: LD50 =
100 mg/kg; Skin, rabbit: LD50 = 270 mg/kg.

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CASH 67-56-1: 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.

CASH 877-24-7.

CASH 7732-18-5: Oral, rat: LD50 = >90 mL/kg.

Carcinogenicity:

Red Food Color -

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

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:

~Methanol has been shown to produce fetotoxicity in the embr
yo or fetus in laboratory animals. Specific developmenta
l abnormalities include: musculoskeletal, urogenital and
cardiovascular systems,

Teratogenicity:

Effects on the newborn from formaldehyde exposure have been reported
in rats by inhalation, such as behavioral effects, biochemical and
metabolic effects and reduced weight gain. Cytological changes were
also noted. Specific developmental abnormalities were reported by the
intraperitoneal route of exposure in mice.

Reproductive Effects:

Paternal effects were reported in male rats by inhalation, oral
ingestion and intraperitoneal injection of formaldehyde. Organs
effected included the prostate, seminal vesicle, Cowpers gland,
urethra, testes, sperm duct and epididymis. Spermatogenesis was also
affected.

Neurotoxicity:

No data available.

Mutagenicity:

No data available.

Other Studies:

No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Environmental Fate:

No information reported.

Physical/Chemical:

No information available.

Other:

None.

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

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

RCRA D-Series Maximum Concentration of Contaminants:

None listed.

RCRA D-Series Chronic Toxicity Reference Levels: None listed.

RCRA F-Series: None listed.

RCRA P-Series: None listed.

RCRA U-Series: CASH 50-00-0: waste number U122. CASH

67-56-1: waste number U154 (Ignitable waste).

CASH 50-00-0 is banned from land disposal according to RCRA. CASH 67-56-1 is banned from land disposal according to RCRA.

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

US DOT

No information available

IMO

No information available.

IATA

No information available.

RID/ADR

No information available.

Canadian TDG

No information available.

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

US FEDERAL

TSCA

CASH 0-00-0 is not listed on the TSCA inventory.

It is for research and development use only.

CASH 50-00-0 is listed on the TSCA inventory.

CASH 67-56-1 is listed on the TSCA inventory.

CASH 877-24-7 is listed on the TSCA inventory.

CASH 7732-18-5 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.

SARA

Section 302 (RQ)

CASH 50-00-0: final RQ = 100 pounds (45.4 kg)

CASH 67-56-1: final RQ = 5000 pounds (2270 kg)

Section 302 (TPQ)

CASH 50-00-0: TPQ = 500 pounds; RQ = 100 pounds (does not meet toxicity criteria but because of high production volume and recognized toxicity is considered a chemical of concern)

SARA Codes

CAS # 50-00-0: acute, chronic.

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CAS # 67-56-1: acute, flammable.

CAS # 877-24-7: acute.

Section 313

This material contains Formaldehyde (CASH 50-00-0, 0.05%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This chemical is not at a high enough concentration to be reportable under Section 313.

Clean Air Act:

CASH 50-00-0 is listed as a hazardous air pollutant (HAP).

CASH 67-56-1 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CASH 50-00-0 is listed as a Hazardous Substance under the CWA.

FROM: Fisher Scientific TO: Extension PAGES: 2

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:

CASH 50-00-0 is considered highly hazardous by OSHA.

STATE

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

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.

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

California No Significant Risk Level:

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

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CASH 0-00-0: No information available.

CASH 50-00-0: 2

CASH 67-56-1: 1

CASH 877-24-7: No information available.

CASH 7732-18-5: No information available.

Canada

CASH 50-00-0 is listed on Canada's DSL/NDSL List.

CASH 67-56-1 is listed on Canada's DSL/NDSL List.

CASH 877-24-7 is listed on Canada's DSL/NDSL List.

CASH 7732-18-5 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of Not controlled..

CASH 0-00-0 is not listed on Canada's Ingredient Disclosure List.

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CASH 50-00-0 is not listed on Canada's Ingredient Disclosure List.

CASH 67-56-1 is not listed on Canada's Ingredient Disclosure List.

CASH 877-24-7 is not listed on Canada's Ingredient Disclosure List.

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

Exposure Limits

CASH 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

CASH 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m3);Skin. OEL-AUSTRALIA:TWA 200 ppm (260 mg/m3);STEL 250 ppm;Skin. OEL-BELGIUM:TWA 200 ppm (262 mg/m3);STEL 250 ppm;Skin. OEL-CZECHOSLOVAKIA:TWA 100 mg/m3;STEL 500 mg/m3. OEL-DENMARK:TWA 200 ppm (260 mg/m3);Skin. OEL-FINLAND:TWA 200 ppm (260 mg/m3);STEL 250 ppm;Skin. OEL-FRANCE:TWA 200 ppm (260 mg/m3);STEL 1000 ppm (1300 mg/m3). OEL-GERMANY:TWA 200 ppm (260 mg/m3);Skin. OEL-HUNGARY:TWA 50 mg/m3;STEL 100 mg/m3;Skin JAN9. OEL-JAPAN:TWA 200 ppm (260 mg/m3);Skin. OEL-THE NETHERLANDS:TWA 200 ppm (260 mg/m3);Skin. OEL-THE PHILIPPINES:TWA 200 ppm (260 mg/m3). OEL-POLA

FROM: Fisher Scientific TO: Extension PAGES: 2

ND:TWA 100 mg/m3. OEL-RUSSIA:TWA 200 ppm;STEL 5 mg/m3;Skin. OEL-SWEDEN
:TWA 200 ppm (250 mg/m3);STEL 250 ppm (350 mg/m3);Skin. OEL-SWITZERLAN
D:TWA 200 ppm (260 mg/m3);STEL 400 ppm;Skin. OEL-THAILAND:TWA 200 ppm
(260 mg/m3). OEL-TURKEY:TWA 200 ppm (260 mg/m3). OEL-UNITED KINGDOM:TW
A 200 ppm (260 mg/m3);STEL 250 ppm;Skin. OEL IN BULGARIA, COLOMBIA, JC
RDAN, KOREA check ACGIH TLV. OEL IN NEW ZEALAND, SINGAPORE, VIETNAM ch
eck ACGI TLV

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

MSDS Creation Date: 2/13/1995 Revision #4 Date: 9/02/1997

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 Fisher 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 Fisher has been advised of the possibility of such damages.
