

Material Safety Data Sheet  
Buffer Solution pH 4.0 (Color-Coded Red)

Buffer  
obsolete

New ~~Rev~~ Review

MSDS# 41128

Section 1 - Chemical Product and Company Identification

MSDS Name: Buffer Solution pH 4.0 (Color-Coded Red)  
Catalog Numbers: NC9200576, SB101-20, SB101-4, SB101-500  
Synonyms: None.

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: 43

CAS#: 50-00-0  
Chemical Name: Formaldehyde  
%: 0.05  
EINECS#: 200-001-8  
Hazard Symbols: XI  
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Risk Phrases: 11 23/24/25 39/23/24/25

CAS#: 67-56-1  
Chemical Name: Methyl alcohol  
%: 0.02  
EINECS#: 200-659-6  
Hazard Symbols: F T  
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Risk Phrases:

CAS#: 877-24-7  
Chemical Name: Potassium hydrogen phthalate  
%: 1.0  
EINECS#: 212-889-4  
Hazard Symbols:  
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Risk Phrases:

S#: 7732-18-5  
Chemical Name: Water  
%: 98.91  
EINECS#: 231-791-2  
Hazard Symbols:

CAS#: 16423-68-0  
Chemical Name: Red #3  
%: 0.02  
EINECS#: 240-474-8  
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 irritation. Target Organs: No data found.

##### 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 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: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. 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.

Ingestion: If victim is conscious and alert, give 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. 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. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out.

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;

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

Storage: Store in a cool, dry place. No special precautions indicated.

### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Formaldehyde	0.3 ppm Ceiling	0.016 ppm TWA 20 ppm IDLH	0.75 ppm TWA; 0.5 ppm Action Level; 0.75 ppm TWA; 2 ppm STEL (Irritant and potential cancer hazard - see 29 CFR 1910.1048)
Methyl alcohol	200 ppm; 250 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route	200 ppm TWA; 260 mg/m3 TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m3 TWA
Potassium hydrogen phthalate	none listed	none listed	none listed
Water	none listed	none listed	none listed
Red #3	none listed	none listed	none listed

OSHA Vacated PELs: Formaldehyde: 3 ppm TWA (unless specified in 1910.1048) Methyl alcohol: 200 ppm TWA; 260 mg/m3 TWA Potassium hydrogen phthalate: None listed Water: None listed Red #3: 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 chemical splash goggles.

Skin: Wear butyl rubber 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 red

Odor: odorless

pH: 4.0

Vapor Pressure: Not available

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

Decomposition Temperature: Not available

Solubility in water: Soluble

Specific Gravity/Density: 1.0

Molecular Formula: Mixture

Molecular Weight: Not available

#### Section 10 - Stability and Reactivity

Chemical Stability:	Stable.
Conditions to Avoid:	Excess heat.
Incompatibilities with Other Materials	None reported.
Hazardous Decomposition Products	None reported.
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  
CAS# 16423-68-0: LM5950000

RTECS:

**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, eye: 37% Severe;  
Draize test, rabbit, skin: 2 mg/24H Severe;  
Draize test, rabbit, skin: 50 mg/24H Moderate;  
Inhalation, mouse: LC50 = 454 mg/m3/4H;  
Inhalation, mouse: LC50 = 505 mg/m3/2H;  
Inhalation, rat: LC50 = 203 mg/m3;  
Inhalation, rat: LC50 = 578 mg/m3/2H;  
Inhalation, rat: LC50 = 250 ppm/2H;  
Oral, mouse: LD50 = 42 mg/kg;  
Oral, mouse: LD50 = 385 mg/kg;  
Oral, mouse: LD50 = 500 mg/kg;  
Oral, rat: LD50 = 100 mg/kg;  
Oral, rat: LD50 = 500 mg/kg;  
Skin, rabbit: LD50 = 270 uL/kg;  
Skin, rabbit: LD50 = 270 mg/kg;

LD50/LC50:

RTECS:

**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, rabbit: LC50 = 81000 mg/m3/14H;  
Inhalation, rat: LC50 = 64000 ppm/4H;  
Oral, mouse: LD50 = 7300 mg/kg;  
Oral, rabbit: LD50 = 14200 mg/kg;  
Oral, rat: LD50 = 5600 mg/kg;  
Skin, rabbit: LD50 = 15800 mg/kg;

RTECS:

**CAS# 877-24-7:** Dermal, guinea pig: LD50 = >1 gm/kg;  
Oral, rat: LD50 = >3200 mg/kg;

RTECS.

CAS# 16423-68-0: Oral, mouse: LD50 = 1264 mg/kg;

Oral, rat: LD50 = 1840 mg/kg;

Carcinogenicity: Formaldehyde - ACGIH: A2 - Suspected Human Carcinogen California: carcinogen, initial date 1/1/88  
(gas) NTP: Suspect carcinogen IARC: Group 1 carcinogen  
Methyl alcohol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Potassium hydrogen phthalate - 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.  
Red #3 - 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:

USA RQ: CAS# 50-00-0: 100 lb final RQ; 45.4 kg final RQ

USA RQ: CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

#### 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# 50-00-0: 2

CAS# 67-56-1: 1

CAS# 877-24-7: Not available

CAS# 7732-18-5: Not available

CAS# 16423-68-0: 1

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.  
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#### 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.  
CAS# 16423-68-0 is listed on the TSCA  
Inventory.

#### Section 16 - Other Information

MSDS Creation Date: 10/16/1998

Revision #11 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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