



# Buffer Solution pH 4.00 Red

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 09/27/2013

Revision date: 08/06/2014

Supersedes: 09/27/2013

Version: 1.1

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Buffer Solution pH 4.00 Red  
Product code : MSI B2283

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.

#### 1.3. Details of the supplier of the safety data sheet

Midland Scientific, Inc.  
1202 South 11th Street  
Omaha, NE 68108  
T 800-642-5263 - F 402-346-7694  
[www.midlandsci.com](http://www.midlandsci.com)

#### 1.4. Emergency telephone number

No additional information available

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Not classified

#### 2.2. Label elements

##### GHS-US labelling

No labelling applicable

#### 2.3. Other hazards

Other hazards not contributing to the classification : None.

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	98.94	Not classified
Potassium Hydrogen Phthalate	(CAS No) 877-24-7	1.02	Eye Irrit. 2B, H320
Formaldehyde, 37% w/w	(CAS No) 50-00-0	0.04	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Carc. 1B, H350 Aquatic Acute 2, H401

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.  
First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

# Buffer Solution pH 4.00 Red

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Reactivity : None.

### 5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment : Safety glasses.

Emergency procedures : Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour.

Hygiene measures : Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container closed when not in use.

Incompatible products : Strong oxidizers.

Incompatible materials : None known.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Formaldehyde, 37% w/w (50-00-0)

USA ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	0.37 mg/m <sup>3</sup>
USA ACGIH	ACGIH Ceiling (ppm)	0.3 ppm

# Buffer Solution pH 4.00 Red

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Formaldehyde, 37% w/w (50-00-0)

USA OSHA	OSHA PEL (TWA) (ppm)	0.75 ppm
USA OSHA	OSHA PEL (STEL) (ppm)	2 ppm

### 8.2. Exposure controls

Appropriate engineering controls	: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Personal protective equipment	: Avoid all unnecessary exposure.
Hand protection	: Wear protective gloves.
Eye protection	: Chemical goggles or safety glasses.
Respiratory protection	: Wear appropriate mask.
Other information	: Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: pink
Odour	: Odourless
Odour threshold	: No data available
pH	: 4
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 1
Solubility	: Soluble in water. Water:
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not applicable.
Oxidising properties	: None.
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

None.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None.

### 10.4. Conditions to avoid

Extremely high or low temperatures.

# Buffer Solution pH 4.00 Red

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Formaldehyde. Carbon monoxide. Carbon dioxide.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Potassium Hydrogen Phthalate (877-24-7)	
LD50 oral rat	≥ 3200 mg/kg
ATE US (oral)	3200 mg/kg bodyweight

Formaldehyde, 37% w/w (50-00-0)	
LD50 oral rat	500 mg/kg
ATE US (oral)	500 mg/kg bodyweight
ATE US (vapours)	0.578 mg/l/4h

Water (7732-18-5)	
LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000 mg/kg bodyweight

Skin corrosion/irritation : Not classified

pH: 4

Serious eye damage/irritation : Not classified

pH: 4

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Formaldehyde, 37% w/w (50-00-0)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

### 12.1. Toxicity

Formaldehyde, 37% w/w (50-00-0)	
LC50 fishes 1	41 mg/l (96 h; Brachydanio rerio; Pure substance)
EC50 Daphnia 1	14.7 mg/l (24 h; Daphnia magna; Pure substance)
LC50 fish 2	62 - 109 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Pure substance)
EC50 Daphnia 2	2 mg/l
TLM fish 1	50 - 200,96 h; Poecilia reticulata; Pure substance
TLM fish 2	10 - 100, Pisces; Pure substance
TLM other aquatic organisms 1	10 - 100,96 h
Threshold limit algae 1	2.5 mg/l (192 h; Scenedesmus quadricauda; Pure substance)
Threshold limit algae 2	0.39 mg/l (192 h; Microcystis aeruginosa; Solution <50%)

### 12.2. Persistence and degradability

Buffer Solution pH 4.00 Red	
Persistence and degradability	Not established.

# Buffer Solution pH 4.00 Red

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>Potassium Hydrogen Phthalate (877-24-7)</b>	
Persistence and degradability	Not established.

<b>Formaldehyde, 37% w/w (50-00-0)</b>	
Persistence and degradability	Readily biodegradable in water. Biodegradability in soil: no data available. No (test) data on mobility of the components available. Photodegradation in the air.
Biochemical oxygen demand (BOD)	0.64 g O /g substance
Chemical oxygen demand (COD)	1.06 g O /g substance
ThOD	1.068 g O /g substance
BOD (% of ThOD)	(5 day(s)) 0.60

<b>Water (7732-18-5)</b>	
Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

<b>Buffer Solution pH 4.00 Red</b>	
Bioaccumulative potential	Not established.

<b>Potassium Hydrogen Phthalate (877-24-7)</b>	
Bioaccumulative potential	Not established.

<b>Formaldehyde, 37% w/w (50-00-0)</b>	
Log Pow	-0.78 - 0.0
Bioaccumulative potential	Bioaccumulation: not applicable.

<b>Water (7732-18-5)</b>	
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

<b>Formaldehyde, 37% w/w (50-00-0)</b>	
Ecology - soil	Toxic to flora.

### 12.5. Other adverse effects

Effect on ozone layer : No additional information available  
Effect on the global warming : No known ecological damage caused by this product.  
Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT  
Not regulated for transport

### Additional information

Other information : No supplementary information available.

### ADR

Transport document description :

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

# Buffer Solution pH 4.00 Red

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### Formaldehyde, 37% w/w (50-00-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory	
RQ (Reportable quantity, section 304 of EPA's List of Lists) :	100 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	0,1 %

### 15.2. International regulations

#### CANADA

<b>Buffer Solution pH 4.00 Red</b>	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

<b>Potassium Hydrogen Phthalate (877-24-7)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects

<b>Formaldehyde, 37% w/w (50-00-0)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class B Division 3 - Combustible Liquid Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects Class E - Corrosive Material

<b>Water (7732-18-5)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

#### Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

#### 15.2.2. National regulations

No additional information available

### 15.3. US State regulations

<b>Formaldehyde, 37% w/w (50-00-0)</b>				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	Yes			

## SECTION 16: Other information

Revision date : 08/06/2014

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 2	Hazardous to the aquatic environment — Acute Hazard, Category 2
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2B	Serious eye damage/eye irritation, Category 2B
Flam. Liq. 3	Flammable liquids, Category 3
Skin Corr. 1B	Skin corrosion/irritation, Category 1B

# Buffer Solution pH 4.00 Red

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Skin Sens. 1A	Sensitisation — Skin, category 1A
H226	Flammable liquid and vapour
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H320	Causes eye irritation
H331	Toxic if inhaled
H350	May cause cancer
H401	Toxic to aquatic life

NFPA health hazard

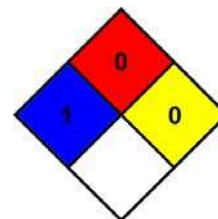
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



### HMIS III Rating

Health

: 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability

: 0 Minimal Hazard

Physical

: 0 Minimal Hazard

Personal Protection

: A

SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*