



# Buffer Solution pH 5.00

## Safety Data Sheet

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

**Neutron<sup>®</sup>Pharmaceutical Co.**  
Manufacturer of Laboratory Chemical & Pharmaceutical Materials

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### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : Buffer Solution pH 5.00  
Product code : 1.3910

#### 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.  
Recommended use : Laboratory chemicals  
Restrictions on use : Not for food, drug or household use

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

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[info@neutronpharmaceutical.com](mailto:info@neutronpharmaceutical.com) -  
[www.neutronpharmaceutical.com](http://www.neutronpharmaceutical.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 125

### SECTION 2: Hazard(s) identification

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

##### GHS-US classification

Not classified

#### 2.2. Label elements

Not classified as a hazardous chemical.

#### 2.3. Other hazards

Other hazards not contributing to the classification : None.

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

Not applicable

### 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	98.85	Not classified
Potassium Hydrogen Phthalate	(CAS No) 877-24-7	1.02	Eye Irrit. 2B, H320
Sodium Hydroxide	(CAS No) 1310-73-2	0.09	Acute Tox. 4 (Dermal), H312 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402
Formaldehyde, 37% w/w	(CAS No) 50-00-0	0.04	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 2 (Inhalation:vapour), H330 Skin Corr. 1C, H314 Eye Dam. 1, H318 Carc. 1A, H350 STOT SE 1, H370 Aquatic Acute 2, H401

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Full text of hazard classes and H-statements : see section 16

### 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 : Allow victim to breathe fresh air. 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.
- 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 vapor.
- 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.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Potassium Hydrogen Phthalate (877-24-7)

Not applicable

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

ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	0.37 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	0.75 ppm
OSHA	OSHA PEL (STEL) (ppm)	2 ppm
IDLH	US IDLH (ppm)	20 ppm
NIOSH	NIOSH REL (TWA) (ppm)	0.016 ppm
NIOSH	NIOSH REL (ceiling) (ppm)	0.1 ppm 15 min.

##### Water (7732-18-5)

Not applicable

##### Sodium Hydroxide (1310-73-2)

ACGIH	ACGIH Ceiling (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (Sodium hydroxide; USA; Momentary value; TLV - Adopted Value)
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
IDLH	US IDLH (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
NIOSH	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>

#### 8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

Personal protective equipment : Safety glasses.



Eye protection : Chemical goggles or safety glasses.

Respiratory protection : Respiratory protection not required in normal conditions.

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

Color : Colorless

Odor : Odorless

Odor threshold : No data available

pH : 5

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Flammability (solid, gas) : Non flammable.

Vapor pressure : No data available

Relative vapor density at 20 °C : No data available

Relative density : No data available

Specific gravity / density : 1

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Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Not applicable.
Oxidizing properties	: None.

### 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.

### 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

Likely routes of exposure : Skin and eye contact

Acute toxicity : Not classified

#### Potassium Hydrogen Phthalate (877-24-7)

LD50 oral rat	≥ 3200 mg/kg
ATE US (oral)	3200.000 mg/kg body weight

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

LD50 oral rat	500 mg/kg
ATE US (oral)	500.000 mg/kg body weight
ATE US (dermal)	2000.000 mg/kg body weight
ATE US (vapors)	0.578 mg/l/4h

#### Water (7732-18-5)

LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000.000 mg/kg body weight

#### Sodium Hydroxide (1310-73-2)

ATE US (dermal)	1350.000 mg/kg body weight
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Skin corrosion/irritation : Not classified  
pH: 5

Serious eye damage/irritation : Not classified  
pH: 5

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

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<b>Formaldehyde, 37% w/w (50-00-0)</b>	
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

<b>Formaldehyde, 37% w/w (50-00-0)</b>	
LC50 fish 1	41 mg/l (LC50; 96 h)
EC50 Daphnia 1	14.7 mg/l (EC50; 24 h)
EC50 Daphnia 2	2 mg/l
Threshold limit algae 1	2.5 mg/l (EC0; 192 h)

<b>Sodium Hydroxide (1310-73-2)</b>	
LC50 fish 1	45.4 mg/l (LC50; Other; 96 h; Salmo gairdneri; Static system; Fresh water; Experimental value)

#### 12.2. Persistence and degradability

<b>Buffer Solution pH 5.00</b>	
Persistence and degradability	Not established.

<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 <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.06 g O <sub>2</sub> /g substance
ThOD	1.068 g O <sub>2</sub> /g substance
BOD (% of ThOD)	0.6 (5 days; Literature study)

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

<b>Sodium Hydroxide (1310-73-2)</b>	
Persistence and degradability	Biodegradability: not applicable. No test data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

#### 12.3. Bioaccumulative potential

<b>Buffer Solution pH 5.00</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.

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

<b>Sodium Hydroxide (1310-73-2)</b>	
Bioaccumulative potential	No bioaccumulation data available.

### 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 the global warming : No known effects from this product.  
GWPmix comment : No known effects from 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

### Department of Transportation (DOT)

In accordance with DOT  
Not regulated

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<b>Formaldehyde, 37% w/w (50-00-0)</b>	
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 %

<b>Sodium Hydroxide (1310-73-2)</b>	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

### 15.2. International regulations

#### CANADA

<b>Buffer Solution pH 5.00</b>	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

<b>Potassium Hydrogen Phthalate (877-24-7)</b>	
WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects

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<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>	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Sodium Hydroxide (1310-73-2)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Class E - Corrosive Material

### EU-Regulations

No additional information available

### National regulations

<b>Formaldehyde, 37% w/w (50-00-0)</b>
Listed on the Canadian IDL (Ingredient Disclosure List)

### 15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm

<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	Non-significant risk level (NSRL)
Yes	Yes	No	No	40 µg/day

## SECTION 16: Other information

Revision date : 12/21/2016

Other information : None.

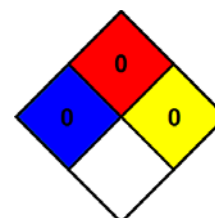
Full text of H-phrases: see section 16:

H226	Flammable liquid and vapor
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H320	Causes eye irritation
H330	Fatal if inhaled
H350	May cause cancer
H370	Causes damage to organs
H401	Toxic to aquatic life
H402	Harmful to aquatic life

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

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.



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### HMIS III Rating

Health : 0 Minimal Hazard - No significant risk to health  
Flammability : 0 Minimal Hazard - Materials that will not burn  
Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.  
Personal protection : A  
A - Safety glasses

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