



## Material Safety Data Sheet Buffer Solutions pH 3.00, 4.00, and 5.00

### Section 1 - Chemical Product and Company Identification

**MSDS Name:**

Buffer Solutions pH 3.00, 4.00, and 5.00

**Catalog Numbers:**

LC12250, LC12270, LC12280, LC12300

**Synonyms:**

Acid phthalate buffers, potassium biphthalate buffers, potassium dihydrogen phthalate buffers, neutralized phthalate buffers

**Company Identification:**LabChem Inc  
200 William Pitt Way  
Pittsburgh, PA 15238**Company Phone Number:**

(412) 826-5230

**Emergency Phone Number:**

(800) 424-9300

**CHEMTREC Phone Number:**(800) 424-9300 or  
011-703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	balance
877-24-7	Potassium hydrogen phthalate	>1
50-00-0	Formaldehyde	0.04
7647-01-0	Hydrochloric acid	0-0.1
1310-73-2	Sodium hydroxide	0-0.1

### Section 3 - Hazards Identification

#### Emergency Overview

**Appearance:** Clear, colorless solution (LC12280- clear, red solution)**Caution!** May cause irritation to eyes, skin, respiratory and gastrointestinal tracts. May cause cancer. May cause adverse liver and kidney effects.**Target Organs:** Liver, kidneys, eyes, skin, respiratory and gastrointestinal tract**Potential Health Effects****Eye:**

May cause eye irritation.

**Skin:**

May cause skin irritation.



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**Ingestion:**

Causes gastrointestinal irritation with nausea, vomiting and diarrhea.

**Inhalation:**

May cause respiratory tract irritation.

**Chronic:**

May cause dermatitis and conjunctivitis. May cause adverse liver and kidney effects. May cause cancer.

### Section 4 - First Aid Measures

**Eyes:**

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once.

**Skin:**

Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid.

**Ingestion:**

Give conscious victim 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid at once.

**Inhalation:**

Move victim to fresh air immediately. If breathing is difficult, administer oxygen. Give artificial respiration if necessary. Get medical aid at once.

**Notes to Physician:**

Treat symptomatically and supportively.

### 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.

**Extinguishing Media:**

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

**Autoignition Temperature:**

Not available

**Flash Point:**

Not applicable

**NFPA Rating:**

Health- 1, Flammability- 0, Instability- 0

**Explosion Limits:**

Lower: n/a Upper: n/a

### Section 6 - Accidental Release Measures

**General Information:**

Use proper personal protective equipment as indicated in Section 8.



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### Spills/Leaks:

Absorb spill with inert material such as sand, vermiculite, or diatomaceous earth, and transfer to a suitable container labeled for later disposal.

## Section 7 - Handling and Storage

### Handling:

Wash thoroughly after handling. Do not ingest or inhale. Do not get in eyes, on skin, or on clothing.

### Storage:

Store tightly capped in a cool, dry, well-ventilated area away from incompatible materials.

## Section 8 - Exposure Controls, Personal Protection

### Engineering Controls:

Facilities using or storing this material should be equipped with an eyewash and safety shower. Provide local exhaust or general dilution ventilation to keep airborne levels below the permissible exposure limits.

### Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Water	None listed	None listed	None listed
Potassium hydrogen phthalate	None listed	None listed	None listed
Formaldehyde	0.3 ppm Ceiling	0.016 ppm TWA 0.1 ppm Ceiling 20 ppm IDLH	0.75 ppm TWA 2 ppm STEL
Hydrochloric acid	2 ppm Ceiling	5 ppm Ceiling 50 ppm IDLH	5 ppm Ceiling
Sodium hydroxide	2 mg/m <sup>3</sup> Ceiling	10 mg/m <sup>3</sup> IDLH	2 mg/m <sup>3</sup> TWA

### OSHA Vacated PELs:

Formaldehyde: 3 ppm TWA, 5 ppm Ceiling, 10 ppm STEL  
Hydrochloric acid: 5 ppm Ceiling

## 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. Do not wear contact lenses when working with chemicals.

### Skin:

Wear appropriate protective gloves to prevent skin exposure.

### Clothing:

Wear appropriate protective clothing to prevent skin exposure.

### Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134. Always use a NIOSH-approved respirator when necessary.



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### Section 9 - Physical and Chemical Properties

<b>Physical State:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless
<b>pH:</b>	3-5
<b>Vapor Pressure:</b>	Not available
<b>Vapor Density:</b>	Not available
<b>Evaporation Rate:</b>	Not available
<b>Viscosity:</b>	Not available
<b>Boiling Point:</b>	Not available
<b>Freezing/Melting Point:</b>	Not available
<b>Decomposition Temperature:</b>	Not available
<b>Solubility in water:</b>	Soluble
<b>Specific Gravity/Density:</b>	1.0
<b>Molecular Formula:</b>	Not available
<b>Molecular Weight:</b>	Not available

### Section 10 - Stability and Reactivity

**Chemical Stability:**

Stable under normal temperatures and pressures.

**Conditions to Avoid:**

Incompatible materials, excess heat.

**Incompatibilities with Other Materials:**

Strong oxidizing agents, nitric acid, metals, aldehydes, reducing agents, nitro compounds, halogenated hydrocarbons.

**Hazardous Decomposition Products:**

Carbon monoxide, carbon dioxide, potassium and sodium oxides, potassium fume, hydrogen chloride gas

**Hazardous Polymerization:**

Has not been reported.

### Section 11 - Toxicological Information

**RTECS:**

CAS# 7732-18-5: ZC0110000  
CAS# 877-24-7: CZ4326000  
CAS# 50-00-0: LP8925000  
CAS# 7647-01-0: MW4025000.  
CAS# 1310-73-2: WB4900000.

**LD50/LC50:**

CAS# 7732-18-5:  
Oral, rat: LD50 = >90 mL/kg  
CAS# 877-24-7:  
Oral, rat: LD50 = >3200 mg/kg  
Skin, guinea pig: LD50 = >1 g/kg



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CAS# 50-00-0:

Inhalation, rat: LC50 = 0.578 mg/L/4H

Oral, rat: LD50 = 500 mg/kg

CAS# 7647-01-0:

Inhalation, rat: LC50 = 3124 ppm/1H

Oral, rat: LD50 = 700 mg/kg

Skin, rabbit: LD50 = 5010 mg/kg

CAS# 1310-73-2:

Draize test, rabbit, eye: 1% Severe

Draize test, rabbit, skin: 500 mg/24H Severe

### **Carcinogenicity:**

CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NTP, OSHA, or California Proposition 65.

CAS# 877-24-7: Not listed as a carcinogen by ACGIH, IARC, NTP, OSHA, or California Proposition 65.

CAS# 50-00-0: Listed as a carcinogen by ACGIH, IARC, NTP, OSHA, and California Proposition 65.

CAS# 7647-01-0: Not listed as a carcinogen by ACGIH, IARC, NTP, OSHA, or California Proposition 65.

CAS# 1310-73-2: Not listed as a carcinogen by ACGIH, IARC, NTP, OSHA, or California Proposition 65.

### **Epidemiology:**

See actual entry in RTECS for complete information.

### **Teratogenicity:**

Teratogenic effects have occurred in laboratory animals.

### **Reproductive:**

Experiments have shown reproductive toxicity effects on laboratory animals.

### **Mutagenicity:**

Mutagenic effects have occurred in microorganisms.

### **Neurotoxicity:**

No information found.

## Section 12 - Ecological Information

No information found.

## Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

## Section 14 - Transport Information

### **US DOT**

**Shipping Name:** Not regulated

**Hazard Class:**

**UN Number:**

**Packing Group:**



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### Section 15 - Regulatory Information

#### US Federal

##### TSCA:

- CAS# 7732-18-5 is listed on the TSCA Inventory.
- CAS# 877-24-7 is listed on the TSCA Inventory.
- CAS# 50-00-0 is listed on the TSCA Inventory.
- CAS# 7647-01-0 is listed on the TSCA Inventory.
- CAS# 1310-73-2 is listed on the TSCA Inventory.

##### SARA Reportable Quantities (RQ):

- CAS# 50-00-0: final RQ = 100 pounds (45.4 kg)
- CAS# 7647-01-0: final RQ = 5000 pounds (2270 kg)
- CAS# 1310-73-2: final RQ = 1000 pounds (454 kg)

##### CERCLA/SARA Section 313:

This material contains Hydrochloric acid (CAS# 7647-01-0, 0-0.1%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

##### OSHA - Highly Hazardous:

- CAS# 50-00-0 is considered highly hazardous by OSHA.
- CAS# 7647-01-0 is considered highly hazardous by OSHA.

#### US State

##### State Right to Know:

- Formaldehyde can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
- Hydrochloric acid can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
- Sodium hydroxide can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

##### California Regulations:

WARNING: Catalog numbers LC12250, LC12270, LC12280, and LC12300 contain formaldehyde, a chemical known to the state of California to cause cancer or birth defects or other reproductive harm.

#### European/International Regulations

##### Canadian DSL/NDSL:

- CAS# 7732-18-5 is listed on Canada's DSL List.
- CAS# 877-24-7 is listed on Canada's DSL List.
- CAS# 50-00-0 is listed on Canada's DSL List.
- CAS# 7647-01-0 is listed on Canada's DSL List.
- CAS# 1310-73-2 is listed on Canada's DSL List.

##### Canada Ingredient Disclosure List:

- CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
- CAS# 877-24-7 is not listed on Canada's Ingredient Disclosure List.
- CAS# 50-00-0 is listed on Canada's Ingredient Disclosure List.
- CAS# 7647-01-0 is listed on Canada's Ingredient Disclosure List.
- CAS# 1310-73-2 is listed on Canada's Ingredient Disclosure List.



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**Section 16 - Other Information**

MSDS Creation Date: February 14, 1998

Revision Date: October 11, 2010

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