

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Buffer solution pH 4.0 (20 °C)

Product Number : 33665  
Brand : Fluka

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Irritant, Corrosive

##### GHS Classification

Skin irritation (Category 2)  
Eye irritation (Category 2A)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H315 Causes skin irritation.  
H319 Causes serious eye irritation.

Precautionary statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

##### HMIS Classification

Health hazard: 3  
Flammability: 0  
Physical hazards: 0

##### NFPA Rating

Health hazard: 3  
Fire: 0  
Reactivity Hazard: 0

##### Potential Health Effects

###### Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.

**Skin**  
**Eyes**  
**Ingestion**

May be harmful if absorbed through skin. Causes skin burns. Causes skin irritation.  
Causes eye burns. Causes eye irritation.  
May be harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Classification	Concentration
<b>Citric acid</b>		
CAS-No. 77-92-9 EC-No. 201-069-1	Eye Irrit. 2; H319	1 - 5 %
<b>Sodium hydroxide</b>		
CAS-No. 1310-73-2 EC-No. 215-185-5 Index-No. 011-002-00-6	Skin Corr. 1A; H314	1 - 5 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

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### 4. FIRST AID MEASURES

**General advice**

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

**Conditions of flammability**

Not flammable or combustible.

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sodium oxides

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

**Environmental precautions**

Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE

**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Sodium hydroxide	1310-73-2	CEIL	2 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		C	2 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	2 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		C	2 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Eye, skin, & Upper Respiratory Tract irritation			
		C	2 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits

**Personal protective equipment****Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	liquid
Colour	no data available

**Safety data**

pH	no data available
Melting point/freezing point	no data available
Boiling point	no data available

Flash point	no data available
Ignition temperature	no data available
Auto-ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	1.005 g/cm <sup>3</sup>
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

Bases, Oxidizing agents, Strong oxidizing agents, Strong acids, Reducing agents, Organic materials, Nitrates

### Hazardous decomposition products

Other decomposition products - no data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sodium oxides

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

no data available

#### Inhalation LC50

no data available

#### Dermal LD50

#### Other information on acute toxicity

no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

Eyes: no data available

### Respiratory or skin sensitisation

no data available

### Germ cell mutagenicity

no data available

## **Carcinogenicity**

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

## **Reproductive toxicity**

no data available

## **Teratogenicity**

no data available

## **Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

## **Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

## **Aspiration hazard**

no data available

## **Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns. Causes skin irritation.
<b>Eyes</b>	Causes eye burns. Causes eye irritation.

## **Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## **Synergistic effects**

no data available

## **Additional Information**

RTECS: Not available

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## **12. ECOLOGICAL INFORMATION**

### **Toxicity**

no data available

### **Persistence and degradability**

no data available

### **Bioaccumulative potential**

no data available

### **Mobility in soil**

no data available

### **PBT and vPvB assessment**

no data available

### **Other adverse effects**

no data available

## 13. DISPOSAL CONSIDERATIONS

### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

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## 15. REGULATORY INFORMATION

### OSHA Hazards

Irritant, Corrosive

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Phenylmercury chloride	100-56-1	1987-01-01

### SARA 311/312 Hazards

Acute Health Hazard

### Massachusetts Right To Know Components

	CAS-No.	Revision Date
Sodium hydroxide	1310-73-2	2007-03-01

### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	
Sodium hydroxide	1310-73-2	2007-03-01

### New Jersey Right To Know Components

	CAS-No.	Revision Date
Water	7732-18-5	
Citric acid	77-92-9	
Sodium hydroxide	1310-73-2	2007-03-01

### California Prop. 65 Components

	CAS-No.	Revision Date
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.	100-56-1	1990-07-01
Phenylmercury chloride		

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## 16. OTHER INFORMATION

### Text of H-code(s) and R-phrases mentioned in Section 3

Eye Irrit.	Eye irritation
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
Skin Corr.	Skin corrosion

**Further information**

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