



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** BUFFER SOLUTION, pH 5.50

### Other means of identification

**Product code** 1636

**Recommended use** professional, scientific and technical activities: other professional, scientific and technical activities

**Recommended restrictions** None known.

### Manufacturer/Importer/Supplier/Distributor information

**Company name** GFS Chemicals, Inc.

**Address** P.O. Box 245

Powell

OH

43065

US

### Telephone

Phone

740-881-5501

Toll Free

800-858-9682

Fax

740-881-5989

### Website

www.gfschemicals.com

### E-mail

service@gfschemicals.com

### Emergency phone number

Emergency Assistance

Chemtrec 800-424-9300

## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**OSHA hazard(s)** Not classified.

### Label elements

**Hazard symbol** No symbol.

**Signal word** Not available.

**Hazard statement** Not available.

### Precautionary statement

#### Prevention

Wash thoroughly after handling. Wear eye/face protection.

#### Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

#### Storage

Not available.

#### Disposal

Not available.

**Hazard(s) not otherwise classified (HNOC)** Not classified.

## 3. Composition/information on ingredients

### Mixtures

#### Hazardous components

Chemical name	CAS number	%
SODIUM HYDROXIDE	1310-73-2	<0.2

#### Non-hazardous components

Chemical name	CAS number	%
WATER	7732-18-5	>98
POTASSIUM ACID PHTHALATE	877-24-7	<1
THYMOL	89-83-8	<0.01

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

## 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). Use extinguishing agent suitable for type of surrounding fire.
<b>Unsuitable extinguishing media</b>	Not available.
<b>Specific hazards arising from the chemical</b>	None known.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Not available.
<b>Methods and materials for containment and cleaning up</b>	Dilute with water. Stop the flow of material, if this is without risk. Neutralize small amounts with sodium bicarbonate or lime and flush to sewer with large amounts of water.  Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.
<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not contaminate water.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid prolonged exposure. Avoid release to the environment.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in original tightly closed container. Use care in handling/storage. Store in accordance with local/regional/national/international regulation.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
SODIUM HYDROXIDE (CAS 1310-73-2)	PEL	2 mg/m3

#### US. ACGIH Threshold Limit Values

Components	Type	Value
SODIUM HYDROXIDE (CAS 1310-73-2)	Ceiling	2 mg/m3

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
SODIUM HYDROXIDE (CAS 1310-73-2)	Ceiling	2 mg/m3

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Wear chemical goggles.
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<b>Skin protection</b>	
<b>Hand protection</b>	Wear protective gloves.
<b>Other</b>	Normal work clothing (long sleeved shirts and long pants) is recommended.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Not available.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Appearance</b>	Clear.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Colorless.
<b>Odor</b>	Odorless.
<b>Odor threshold</b>	Not available.
<b>pH</b>	5.50 @ 25 C
<b>Melting point/freezing point</b>	32 °F (0 °C) estimated
<b>Initial boiling point and boiling range</b>	212 °F (100 °C)
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	miscible
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	1.01 g/cm3
<b>Percent volatile</b>	> 98 %
<b>Specific gravity</b>	1.005

## 10. Stability and reactivity

<b>Reactivity</b>	Not available.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	None known.
<b>Incompatible materials</b>	None known.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	Based on available data, the classification criteria are not met.
<b>Inhalation</b>	Due to lack of data the classification is not possible.
<b>Skin contact</b>	Due to lack of data the classification is not possible.
<b>Eye contact</b>	Due to lack of data the classification is not possible.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity

Product	Species	Test Results
BUFFER SOLUTION, pH 5.50 (CAS Mixture)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Mouse	99999 mg/kg
<i>Inhalation</i>		
LC50	Mouse	99999 mg/l
	Rat	99999 mg/l
<i>Oral</i>		
LD50	Guinea pig	99999 mg/kg
	Mouse	99999 mg/kg
	Rabbit	99999 mg/kg
	Rat	99999 mg/kg
<i>Other</i>		
LD50	Mouse	25974.0254 mg/kg, estimated

Components	Species	Test Results
SODIUM HYDROXIDE (CAS 1310-73-2)		
<b>Acute</b>		
<i>Other</i>		
LD50	Mouse	40 mg/kg
THYMOL (CAS 89-83-8)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Guinea pig	880 mg/kg
	Mouse	1800 mg/kg
	Rat	980 mg/kg
<i>Other</i>		
LD50	Mouse	100 mg/kg

\* Estimates for product may be based on additional component data not shown.

<b>Skin corrosion/irritation</b>	Due to lack of data the classification is not possible.
<b>Serious eye damage/eye irritation</b>	May irritate eyes. Due to lack of data the classification is not possible.
<b>Respiratory sensitization</b>	Due to lack of data the classification is not possible.
<b>Skin sensitization</b>	Due to lack of data the classification is not possible.
<b>Germ cell mutagenicity</b>	Due to lack of data the classification is not possible.
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<b>Reproductive toxicity</b>	Due to lack of data the classification is not possible.
<b>Specific target organ toxicity - single exposure</b>	Due to lack of data the classification is not possible.
<b>Specific target organ toxicity - repeated exposure</b>	Due to lack of data the classification is not possible.

<b>Aspiration hazard</b>	Due to lack of data the classification is not possible.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.
<b>Further information</b>	This product has no known adverse effect on human health.

## 12. Ecological information

**Ecotoxicity** Contains a substance which causes risk of hazardous effects to the environment.

Product	Species		Test Results
BUFFER SOLUTION, pH 5.50 (CAS Mixture)			
Crustacea	EC50	Daphnia	23060 mg/l, 48 hours, estimated
	LC50	Daphnia	99999 mg/l, 48 Hours
Fish	LC50	Fish	83000 mg/l, 96 Hours
			99999 mg/l, 24 Hours
			99999 mg/l, 48 Hours
			35287 mg/l, 96 Hours
Components	Species		Test Results
SODIUM HYDROXIDE (CAS 1310-73-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	34.59 - 47.13 mg/l, 48 hours
			34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Cockle (Cerastoderma edule)	330 - 1000 mg/l, 48 hours
		Common shrimp, sand shrimp (Crangon crangon)	33 - 100 mg/l, 48 hours
	LC50	Bony fish superclass (Osteichthyes)	33 - 100 mg/l, 48 hours
		Goldfish (Carassius auratus)	160 mg/l, 24 hours
		Guppy (Poecilia reticulata)	145 mg/l, 24 hours
		Western mosquitofish (Gambusia affinis)	125 mg/l, 24 hours
			125 mg/l, 48 hours
			125 mg/l, 96 hours
THYMOL (CAS 89-83-8)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	3.2 mg/l, 96 hours

\* Estimates for product may be based on additional component data not shown.

**Persistence and degradability** None known.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**

THYMOL 3.3

**Mobility in soil** Not available.

**Other adverse effects** Not available.

## 13. Disposal considerations

**Disposal instructions** Neutralize with soda ash/slaked lime and discharge to sewer with lots of water. Dispose in accordance with all applicable regulations.

**Local disposal regulations** Not available.

**Hazardous waste code** Not regulated.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

**DOT**

Not regulated as a hazardous material by DOT.

**IATA**

Not regulated as a dangerous good.

**IMDG**

Not regulated as a dangerous good.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** No information available.

**15. Regulatory information**

**US federal regulations** All components are on the U.S. EPA TSCA Inventory List.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not on regulatory list.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

SODIUM HYDROXIDE (CAS 1310-73-2) LISTED

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - No  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance** No

**SARA 311/312 Hazardous chemical** No

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number**

Not listed.

**Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))**

Not regulated.

**DEA Exempt Chemical Mixtures Code Number**

Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

**US state regulations** California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**US. Massachusetts RTK - Substance List**

SODIUM HYDROXIDE (CAS 1310-73-2)

**US. New Jersey Worker and Community Right-to-Know Act**

Not regulated.

**US. Pennsylvania RTK - Hazardous Substances**

SODIUM HYDROXIDE (CAS 1310-73-2)

**US. Rhode Island RTK**

SODIUM HYDROXIDE (CAS 1310-73-2)

**US. California Proposition 65****US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	June-26-2013
<b>Version #</b>	01
<b>Further information</b>	Not available.
<b>Disclaimer</b>	The information in the sheet was written based on the best knowledge and experience currently available. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
<b>Revision Information</b>	Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Ingredients Physical & Chemical Properties: Multiple Properties