

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

1.1. Product identifier

Product form : Mixture
Product name. : Buffer Solution pH 1.68
Product code : LC12210

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

LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
16063 Zelienople, PA - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Corr. 1C H314
Eye Dam. 1 H318

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS-US) : P260 - Do not breathe mist, vapours, spray
P264 - Wash exposed skin thoroughly after handling
P280 - Wear protective gloves, eye protection
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER/doctor/...
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container to comply with local, state and federal regulations

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. Substances

Not applicable
Full text of H-phrases: see section 16

3.2. Mixture

Name	Product identifier	%	GHS-US classification
Water	(CAS No) 7732-18-5	98.55	Not classified

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Name	Product identifier	%	GHS-US classification
Oxalic Acid, Dihydrate	(CAS No) 6153-56-6	1.26	Skin Corr. 1B, H314 Eye Dam. 1, H318
Potassium Hydroxide	(CAS No) 1310-58-3	0.19	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Eye Dam. 1, H318

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. Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

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

- Symptoms/injuries : Causes severe skin burns and eye damage.
- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : Gastrointestinal complaints. Nausea. Vomiting. Diarrhoea.

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

Obtain medical assistance.

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 : Thermal decomposition generates : Corrosive vapours.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter 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 : Gloves. 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. Do not breathe the mist, vapours, spray.

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Hygiene measures : Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : incompatible materials. Keep container closed when not in use.
Incompatible products : Strong bases. Strong oxidizers.
Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Oxalic Acid, Dihydrate (6153-56-6)		
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
USA ACGIH	ACGIH STEL (mg/m ³)	2 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³

Potassium Hydroxide (1310-58-3)		
USA ACGIH	ACGIH Ceiling (mg/m ³)	2 mg/m ³

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 face shield.
Skin and body protection : Wear suitable protective clothing.
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
Appearance : Clear, colorless liquid.
Colour : Colourless.
Odour : Odourless.
Odour threshold : No data available
pH : 1.68
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
Self 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.
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.

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Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong oxidizers. Strong bases.

10.6. Hazardous decomposition products

Potassium oxide. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Oxalic Acid, Dihydrate (6153-56-6)	
LD50 oral rat	7500 mg/kg
LD50 dermal rat	20000 mg/kg

Potassium Hydroxide (1310-58-3)	
LD50 oral rat	333 mg/kg (Rat; Experimental value,Rat; Experimental value)

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

Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 1.68
Serious eye damage/irritation	: Causes serious eye damage. pH: 1.68
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classifiedBased on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classifiedBased on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classifiedBased on available data, the classification criteria are not met
Aspiration hazard	: Not classifiedBased on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Caustic burns/corrosion of the skin.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Gastrointestinal complaints. Nausea. Vomiting. Diarrhoea.

SECTION 12: Ecological information

12.1. Toxicity

Oxalic Acid, Dihydrate (6153-56-6)	
LC50 fishes 1	34.1 mg/l (96 h; Pimephales promelas; ANHYDROUS FORM)
LC50 other aquatic organisms 1	100 - 1000 mg/l (96 h; ANHYDROUS FORM)
EC50 Daphnia 1	137 mg/l (48 h; Daphnia magna; ANHYDROUS FORM)
LC50 fish 2	160 mg/l (48 h; Leuciscus idus; ANHYDROUS FORM)

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Oxalic Acid, Dihydrate (6153-56-6)	
TLM fish 1	4000 mg/l (24 h; Lepomis macrochirus; ANHYDROUS FORM)
Threshold limit other aquatic organisms 1	100 - 1000,96 h; ANHYDROUS FORM
Threshold limit algae 1	790 mg/l (168 h; Scenedesmus quadricauda; ANHYDROUS FORM)
Threshold limit algae 2	80 mg/l (192 h; Microcystis aeruginosa; ANHYDROUS FORM)

Potassium Hydroxide (1310-58-3)	
LC50 fishes 1	> 28.6 mg/l (96 h; Pisces; LETHAL)
LC50 fish 2	80 mg/l (Gambusia affinis)
TLM fish 1	80 ppm (24 h; Gambusia affinis)

12.2. Persistence and degradability

Buffer Solution pH 1.68	
Persistence and degradability	Not established.

Oxalic Acid, Dihydrate (6153-56-6)	
Persistence and degradability	Readily biodegradable in water. Readily biodegradable in water in anaerobic conditions. Photolysis in water. Biodegradable in the soil. Photolysis in the air.

Potassium Hydroxide (1310-58-3)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Buffer Solution pH 1.68	
Bioaccumulative potential	Not established.

Oxalic Acid, Dihydrate (6153-56-6)	
Log Pow	-1.74 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable.

Potassium Hydroxide (1310-58-3)	
Log Pow	No data available
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

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 ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

Other information : No supplementary information available.

Overland transport

No additional information available

Transport by sea

No additional information available

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Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Oxalic Acid, Dihydrate (6153-56-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Potassium Hydroxide (1310-58-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

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

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WHMIS Classification Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Oxalic Acid, Dihydrate (6153-56-6)

Not listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Class E - Corrosive Material

Potassium Hydroxide (1310-58-3)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification Class E - Corrosive Material

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

Oxalic Acid, Dihydrate (6153-56-6)

Not listed on the Canadian Ingredient Disclosure List

Potassium Hydroxide (1310-58-3)

Listed on the Canadian Ingredient Disclosure List

15.3. US State regulations

Oxalic Acid, Dihydrate (6153-56-6)

U.S. - Pennsylvania - RTK (Right to Know) List

Potassium Hydroxide (1310-58-3)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Indication of changes : Revision - See : *

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)

Acute toxicity (oral), Category 4

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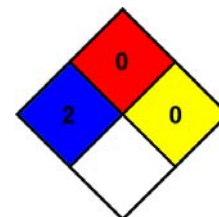
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Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1C
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

NFPA health hazard : 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention 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 : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

Personal Protection : B

SDS US (GHS HazCom 2012)

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