

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
Product name : Water Hardness Buffer
Product code : LC26840

1.2. Recommended use and restrictions on use

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. Supplier

LabChem, Inc.
1010 Jackson's Pointe Ct.
Zelienople, PA 16063 - 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 +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Reproductive toxicity Category 1B	H360	May damage fertility or the unborn child
Full text of H statements : see section 16		

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H315 - Causes skin irritation
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P264 - Wash exposed skin thoroughly after handling.
P280 - Wear protective gloves, eye protection.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P332+P313 - If skin irritation occurs: Get medical advice/attention.

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P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Water	CAS-No.: 7732-18-5	93.25	Not classified
Sodium Tetraborate, Decahydrate	CAS-No.: 1303-96-4	4	Repr. 1B, H360
Sodium Potassium Tartrate, Tetrahydrate	CAS-No.: 6381-59-5	1	Not classified
Sodium Sulfide, Nonahydrate	CAS-No.: 1313-84-4	1	Met. Corr. 1, H290 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400
Sodium Hydroxide	CAS-No.: 1310-73-2	0.65	Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402
EDTA, Magnesium Disodium Salt	CAS-No.: 14402-88-1	0.1	Not classified

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 exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Allow affected person to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : 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.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/effects : May damage fertility or the unborn child.

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Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

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. Gloves.
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. Avoid release to the environment.

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.
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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. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use.
Hygiene measures	: Wash exposed skin thoroughly after handling.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : metals. Keep container closed when not in use.
Incompatible products	: Strong acids. metals.
Incompatible materials	: Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Water Hardness Buffer	
No additional information available	
Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)	
No additional information available	
Sodium Tetraborate, Decahydrate (1303-96-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	2 mg/m ³
ACGIH STEL (mg/m ³)	6 mg/m ³
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	5 mg/m ³
Sodium Hydroxide (1310-73-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Sodium hydroxide
ACGIH Ceiling (mg/m ³)	2 mg/m ³
Remark (ACGIH)	TLV® Basis: URT, eye, & skin irr
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Sodium hydroxide
OSHA PEL (TWA) [1]	2 mg/m ³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH	10 mg/m ³
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (Ceiling)	2 mg/m ³
Sodium Sulfide, Nonahydrate (1313-84-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA [ppm]	1 ppm
ACGIH STEL (ppm)	5 ppm
Water (7732-18-5)	
No additional information available	

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EDTA, Magnesium Disodium Salt (14402-88-1)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear appropriate mask

Personal protective equipment symbol(s):



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	: characteristic
Odor threshold	: No data available
pH	: No data available
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
Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available

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Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Contact with acids liberates toxic gas.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. metals.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Sulfur compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Sodium Tetraborate, Decahydrate (1303-96-4)

LD50 oral rat	2660 mg/kg
LD50 dermal rabbit	10000 mg/kg
ATE US (oral)	2660 mg/kg body weight
ATE US (dermal)	10000 mg/kg body weight

Sodium Sulfide, Nonahydrate (1313-84-4)

LD50 oral rat	1122 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	< 340 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
ATE US (oral)	100 mg/kg body weight

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Sodium Sulfide, Nonahydrate (1313-84-4)

ATE US (dermal)	300 mg/kg body weight
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Water (7732-18-5)

LD50 oral rat	≥ 90000 mg/kg
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ATE US (oral)	90000 mg/kg body weight
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Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: May damage fertility or the unborn child.
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Likely routes of exposure	: Skin and eye contact. Inhalation.
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: May damage fertility or the unborn child.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water	: Toxic to aquatic life.
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Sodium Tetraborate, Decahydrate (1303-96-4)

EC50 Daphnia 1	1085 mg/l
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Sodium Hydroxide (1310-73-2)

LC50 fish 1	189 mg/l (48 h, Leuciscus idus, Fresh water, Experimental value)
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EC50 Daphnia 1	40.4 mg/l (48 h, Ceriodaphnia sp., Experimental value, Locomotor effect)
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Sodium Sulfide, Nonahydrate (1313-84-4)

LC50 fish 1	0.003 mg/l (Equivalent or similar to OECD 203, 96 h, Puntius gonionotus, Flow-through system, Fresh water, Experimental value, Anhydrous form)
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12.2. Persistence and degradability

Water Hardness Buffer

Persistence and degradability	Not established.
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Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)

Persistence and degradability	Not established.
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Sodium Tetraborate, Decahydrate (1303-96-4)

Persistence and degradability	Not established.
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Sodium Hydroxide (1310-73-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

Sodium Sulfide, Nonahydrate (1313-84-4)	
Persistence and degradability	Biodegradable in water.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

Water (7732-18-5)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.

Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)	
Bioaccumulative potential	Not established.

Sodium Tetraborate, Decahydrate (1303-96-4)	
Bioaccumulative potential	Not established.

Sodium Hydroxide (1310-73-2)	
Bioaccumulative potential	Not bioaccumulative.

Sodium Sulfide, Nonahydrate (1313-84-4)	
BCF other aquatic organisms 1	0.08 – 1.6 l/kg (6 day(s), <i>Macoma balthica</i> , Flow-through system, Marine water, Experimental value, Anhydrous form)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

Water (7732-18-5)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

Sodium Hydroxide (1310-73-2)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

Sodium Sulfide, Nonahydrate (1313-84-4)	
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

Other information : Avoid release to the environment.

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SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Sodium Sulfide, Nonahydrate	CAS-No. 1313-84-4	1%
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Sodium Hydroxide (1310-73-2)

RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

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15.2. International regulations

CANADA

Sodium Potassium Tartrate, Tetrahydrate (6381-59-5)

Listed on the Canadian DSL (Domestic Substances List)

Sodium Tetraborate, Decahydrate (1303-96-4)

Listed on the Canadian DSL (Domestic Substances List)

Sodium Hydroxide (1310-73-2)

Listed on the Canadian DSL (Domestic Substances List)

Sodium Sulfide, Nonahydrate (1313-84-4)

Not listed on the Canadian DSL (Domestic Substances List)

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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

Revision date : 07/13/2022

Other information : None.

Full text of H- and EUH-statements: see section 16

H290	May be corrosive to metals
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H301	Toxic if swallowed
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H311	Toxic in contact with skin
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H314	Causes severe skin burns and eye damage
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H315	Causes skin irritation
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H318	Causes serious eye damage
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H319	Causes serious eye irritation
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H360	May damage fertility or the unborn child
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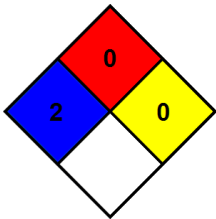
H400	Very toxic to aquatic life
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H402	Harmful to aquatic life
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NFPA health hazard	: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.	
NFPA fire hazard	: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.	
NFPA reactivity	: 0 - Material that in themselves are normally stable, even under fire conditions.	
Hazard Rating		
Health	: 2 Moderate Hazard - Temporary or minor injury may occur	
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	: G - Safety glasses, Gloves, Vapor respirator	

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