

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/02/2021

Reviewed on 12/02/2021

## 1 Identification

- **Product identifier**
- **Trade name:** Buffer Reference Solution  
pH 9.21 +/- 0.01 @25°C
- **Article number:** SPX874
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson [shermann@aquasolutions.org](mailto:shermann@aquasolutions.org)
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 2 H330 Fatal if inhaled.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS06

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
Sodium Borate Decahydrate
- **Hazard statements**  
Fatal if inhaled.
- **Precautionary statements**  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
[In case of inadequate ventilation] wear respiratory protection.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Immediately call a poison center/doctor.  
Specific treatment is urgent (see on this label).  
Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/02/2021

Reviewed on 12/02/2021

**Trade name: Buffer Reference Solution**  
**pH 9.21 +/- 0.01 @25°C**

(Contd. of page 1)

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 1303-96-4	Sodium Borate Decahydrate	0.381%
----------------	---------------------------	--------

- **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	99.619%
----------------	-------	---------

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
 Immediately remove any clothing soiled by the product.  
 Remove breathing apparatus only after contaminated clothing have been completely removed.  
 In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
 Supply fresh air or oxygen; call for doctor.  
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
 No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/02/2021

Reviewed on 12/02/2021

**Trade name: Buffer Reference Solution**  
**pH 9.21 +- 0.01 @25°C**

(Contd. of page 2)

- **Special hazards arising from the substance or mixture**  
 During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Mount respiratory protective device.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Dispose contaminated material as waste according to item 13.  
 Ensure adequate ventilation.
- **Reference to other sections**  
 See Section 7 for information on safe handling.  
 See Section 8 for information on personal protection equipment.  
 See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

CAS: 1303-96-4	Sodium Borate Decahydrate	6 mg/m <sup>3</sup>
----------------	---------------------------	---------------------

- **PAC-2:**

CAS: 1303-96-4	Sodium Borate Decahydrate	190 mg/m <sup>3</sup>
----------------	---------------------------	-----------------------

- **PAC-3:**

CAS: 1303-96-4	Sodium Borate Decahydrate	1,100 mg/m <sup>3</sup>
----------------	---------------------------	-------------------------

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Open and handle receptacle with care.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/02/2021

Reviewed on 12/02/2021

**Trade name: Buffer Reference Solution**  
**pH 9.21 +- 0.01 @25°C**

(Contd. of page 3)

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

**CAS: 1303-96-4 Sodium Borate Decahydrate**

REL Long-term value: 5 mg/m<sup>3</sup>

TLV Short-term value: 6\* mg/m<sup>3</sup>

Long-term value: 2\* mg/m<sup>3</sup>

\*as inhalable fraction, A4

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Goggles recommended during refilling.

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

**Form:** Liquid

**Color:** Colorless

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

**Melting point/Melting range:** 0 °C (32 °F)

**Boiling point/Boiling range:** 100 °C (212 °F)

· **Flash point:** Not applicable.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/02/2021

Reviewed on 12/02/2021

**Trade name: Buffer Reference Solution**  
**pH 9.21 +- 0.01 @25°C**

(Contd. of page 4)

· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	1.00278 g/cm <sup>3</sup> (8.3682 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	99.6 %
<b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gal
<b>Solids content:</b>	0.4 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>ATE (Acute Toxicity Estimate)</b>		
Inhalative	LC50/4h	1.31 mg/l

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/02/2021

Reviewed on 12/02/2021

**Trade name: Buffer Reference Solution**  
**pH 9.21 +- 0.01 @25°C**

(Contd. of page 5)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
 Toxic

Very toxic

- **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
---

None of the ingredients is listed.
------------------------------------

· <b>NTP (National Toxicology Program)</b>
--

None of the ingredients is listed.
------------------------------------

· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
--

None of the ingredients is listed.
------------------------------------

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |                                  |               |
|----------------------------------|---------------|
| · <b>UN-Number</b>               |               |
| · <b>DOT, IMDG, IATA</b>         | Not regulated |
| · <b>UN proper shipping name</b> |               |
| · <b>DOT, IMDG, IATA</b>         | Not regulated |

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/02/2021

Reviewed on 12/02/2021

**Trade name: Buffer Reference Solution**  
**pH 9.21 +- 0.01 @25°C**

(Contd. of page 6)

- |  |                 |
|--|-----------------|
| <b>· Transport hazard class(es)</b>  |                 |
| <b>· DOT, ADN, IMDG, IATA</b>  |                 |
| <b>· Class</b>   | Not regulated   |
| <b>· Packing group</b>   |                 |
| <b>· DOT, IMDG, IATA</b>   | Not regulated   |
| <b>· Environmental hazards:</b>  | Not applicable. |
| <b>· Special precautions for user</b>  | Not applicable. |
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| <b>· UN "Model Regulation":</b>  | Not regulated   |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
 No further relevant information available.
- **Sara**

<b>· Section 355 (extremely hazardous substances):</b>
--

None of the ingredients is listed.
------------------------------------

<b>· Section 313 (Specific toxic chemical listings):</b>
--

None of the ingredients is listed.
------------------------------------

<b>· TSCA (Toxic Substances Control Act):</b>
---

Water	ACTIVE
Sodium Borate Decahydrate	ACTIVE

<b>· Hazardous Air Pollutants</b>
-----------------------------------

None of the ingredients is listed.
------------------------------------

<b>· Proposition 65</b>
-------------------------

<b>· Chemicals known to cause cancer:</b>
---

None of the ingredients is listed.
------------------------------------

<b>· Chemicals known to cause reproductive toxicity for females:</b>
--

None of the ingredients is listed.
------------------------------------

<b>· Chemicals known to cause reproductive toxicity for males:</b>
--

None of the ingredients is listed.
------------------------------------

<b>· Chemicals known to cause developmental toxicity:</b>
---

None of the ingredients is listed.
------------------------------------

<b>· Carcinogenic categories</b>
----------------------------------

<b>· EPA (Environmental Protection Agency)</b>
--

CAS: 1303-96-4 Sodium Borate Decahydrate	I (oral)
--	----------

<b>· TLV (Threshold Limit Value)</b>
--------------------------------------

CAS: 1303-96-4 Sodium Borate Decahydrate	A4
--	----

<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>
---

None of the ingredients is listed.
------------------------------------

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/02/2021

Reviewed on 12/02/2021

**Trade name: Buffer Reference Solution**  
**pH 9.21 +/- 0.01 @25°C**

(Contd. of page 7)

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS06

- **Signal word** *Danger*
- **Hazard-determining components of labeling:**  
*Sodium Borate Decahydrate*
- **Hazard statements**  
*Fatal if inhaled.*
- **Precautionary statements**  
*Do not breathe dust/fume/gas/mist/vapors/spray.*  
*Use only outdoors or in a well-ventilated area.*  
*[In case of inadequate ventilation] wear respiratory protection.*  
*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
*Immediately call a poison center/doctor.*  
*Specific treatment is urgent (see on this label).*  
*Store in a well-ventilated place. Keep container tightly closed.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

- **Department issuing SDS:** *Environment protection department.*
- **Contact:**
- **Date of preparation / last revision**  
*Revision 0.0 12/02/2021: Creation date for SDS. STN*  
*12/02/2021 / -*
- **Abbreviations and acronyms:**  
*IMDG: International Maritime Code for Dangerous Goods*  
*DOT: US Department of Transportation*  
*IATA: International Air Transport Association*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*ELINCS: European List of Notified Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*NFPA: National Fire Protection Association (USA)*  
*HMIS: Hazardous Materials Identification System (USA)*  
*VOC: Volatile Organic Compounds (USA, EU)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*vPvB: very Persistent and very Bioaccumulative*  
*NIOSH: National Institute for Occupational Safety*  
*OSHA: Occupational Safety & Health*  
*TLV: Threshold Limit Value*  
*PEL: Permissible Exposure Limit*  
*REL: Recommended Exposure Limit*  
*Acute Tox. 2: Acute toxicity – Category 2*

US