

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/21/2024

Reviewed on 05/21/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Buffer Solution  
(Low Level NH<sub>3</sub>)
- **Article number:** MOS008
- **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  
Technical Coordinator  
Sherman Nelson shermann@aquasolutions.org
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
The product is not classified, according to the Globally Harmonized System (GHS).
  - **Label elements**
  - **GHS label elements** Not Applicable
  - **Hazard pictograms** Not Applicable
  - **Signal word** Not Applicable
  - **Hazard statements** Not Applicable
  - **Precautionary statements**  
If swallowed: Call a poison center/doctor if you feel unwell.  
If on skin: Wash with plenty of water.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Dispose of contents/container in accordance with local/regional/national/international regulations.
  - **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
- |  |  |
|--|--|
|  | Health = 1<br>Fire = 0<br>Reactivity = 0 |
|--|--|
- **HMIS-ratings (scale 0 - 4)**
- |  |                |
|--|----------------|
|  | Health = 1     |
|  | Fire = 0       |
|  | Reactivity = 0 |
- **Other hazards**
  - **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/21/2024

Reviewed on 05/21/2024

**Trade name: Buffer Solution**  
(Low Level NH<sub>3</sub>)

(Contd. of page 1)

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 6381-59-5	Potassium Sodium Tartrate Tetrahydrate	5.699%
----------------	--	--------

- **Table of Nonhazardous Ingredients**

CAS: 7732-18-5	Water	91.408%
----------------	-------	---------

CAS: 6132-04-3	Sodium Citrate Dihydrate	2.316%
----------------	--------------------------	--------

CAS: 7647-01-0	Hydrochloric Acid	0.555%
----------------	-------------------	--------

CAS: 9002-92-0	Polyoxyethylene 23 lauryl ether	0.022%
----------------	---------------------------------	--------

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **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.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground 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 section 13.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/21/2024

Reviewed on 05/21/2024

**Trade name: Buffer Solution**  
(Low Level NH<sub>3</sub>)

(Contd. of page 2)

See Section 13 for disposal information.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

CAS: 6381-59-5	Potassium Sodium Tartrate Tetrahydrate	9 mg/m <sup>3</sup>
CAS: 7647-01-0	Hydrochloric Acid	1.8 ppm
CAS: 9002-92-0	Polyoxyethylene 23 lauryl ether	2.9 mg/m <sup>3</sup>

· **PAC-2:**

CAS: 6381-59-5	Potassium Sodium Tartrate Tetrahydrate	99 mg/m <sup>3</sup>
CAS: 7647-01-0	Hydrochloric Acid	22 ppm
CAS: 9002-92-0	Polyoxyethylene 23 lauryl ether	31 mg/m <sup>3</sup>

· **PAC-3:**

CAS: 6381-59-5	Potassium Sodium Tartrate Tetrahydrate	590 mg/m <sup>3</sup>
CAS: 7647-01-0	Hydrochloric Acid	100 ppm
CAS: 9002-92-0	Polyoxyethylene 23 lauryl ether	200 mg/m <sup>3</sup>

## 7 Handling and storage

· **Handling:**

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

· **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:** None.
- **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 section 7.

· **Control parameters**

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

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

· **Breathing equipment:** Not required.

· **Protection of hands:**



Protective gloves

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/21/2024

Reviewed on 05/21/2024

**Trade name: Buffer Solution**  
(Low Level NH<sub>3</sub>)

(Contd. of page 3)

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: Clear

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined.

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

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F):** 1.06128 g/cm<sup>3</sup> (8.85638 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/21/2024

Reviewed on 05/21/2024

**Trade name: Buffer Solution**  
(Low Level NH<sub>3</sub>)

(Contd. of page 4)

<b>Kinematic:</b>	Not determined.
<b>· Solvent content:</b>	
<b>Water:</b>	91.4 %
<b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gal
<b>Solids content:</b>	8.0 %
<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:**
- **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 is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

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.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/21/2024

Reviewed on 05/21/2024

**Trade name: Buffer Solution**  
(Low Level NH<sub>3</sub>)

(Contd. of page 5)

- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, ADN, IMDG, IATA</b></li> </ul>	Not regulated
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT, ADN, IATA</b></li> <li>· <b>IMDG</b></li> </ul>	Not regulated Not Regulated Not regulated
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT, ADN, IMDG, IATA</b></li> <li>· <b>Class</b></li> </ul>	Not regulated
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>DOT, IMDG, IATA</b></li> </ul>	Not regulated
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>	No
<ul style="list-style-type: none"> <li>· <b>Special precautions for user</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	Not regulated

## 15 Regulatory information

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

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/21/2024

Reviewed on 05/21/2024

**Trade name: Buffer Solution**  
(Low Level NH<sub>3</sub>)

(Contd. of page 6)

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

Water

ACTIVE

Hydrochloric Acid

ACTIVE

Polyoxyethylene 23 lauryl ether

ACTIVE

· **Hazardous Air Pollutants**

CAS: 7647-01-0 Hydrochloric Acid

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** Not Applicable

· **Hazard pictograms** Not Applicable

· **Signal word** Not Applicable

· **Hazard statements** Not Applicable

· **Precautionary statements**

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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:**

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/21/2024

Reviewed on 05/21/2024

**Trade name: Buffer Solution**  
**(Low Level NH<sub>3</sub>)**

(Contd. of page 7)

*Date of Preparation / Last Revision:*

· **Date of preparation / last revision**

Revision 1.2, 05/21/2024: Reviewed SDS for accuracy. MH/STN

Revision 0.0, 04-30-2024: Creation date for SDS. STN

05/21/2024

· **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)

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

· **\* Data compared to the previous version altered.**

US