

# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 08.28.2016

Page 1 of 10

Revision date: 08.29.2016

## Hardness Buffer Solution

### SECTION 1: Identification

#### Product identifier

**Product name:** Hardness Buffer Solution

**Product code:** PMCHA7405-B

#### Recommended use of the product and restriction on use

**Relevant identified uses:** Laboratoire

**Uses advised against:** Not determined or not applicable.

**Reasons why uses advised against:** Not determined or not applicable.

#### Manufacturer or supplier details

**Manufacturer:**

**United States**

AquaPhoenix Scientific  
860 Gitts Run Road  
Hanover  
PA 17331  
(717) 632-1291

**Supplier:**

**Canada**

PMC Water System Services Services, Inc  
124 Connie Cres. Unit#9 Concord  
ON  
Canada L4K-1L7  
(800) 668-0946

#### Emergency telephone number:

**United States**

Emergency Phone No. (800) 255-3924

### SECTION 2: Hazard identification

#### GHS classification:

Skin corrosion, category 1A

Serious eye damage, category 1

Acute aquatic hazard, category 1

#### Label elements

##### Hazard pictograms:



**Signal word:** Danger

#### Hazard statements:

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

#### Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 08.28.2016

Page 2 of 10

Revision date: 08.29.2016

## Hardness Buffer Solution

P273 Avoid release to the environment.

P321 Specific treatment (see supplemental first aid instructions on this label).

P363 Wash contaminated clothing before reuse.

P304+P340+P310 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353+P310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

P305+P351+P338+P310 IF IN EYES: 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.

P391 Collect spillage.

P405 Store locked up.

P501 Dispose of contents and container as instructed in Section 13.

**Hazards not otherwise classified:** None

## SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 1336-21-6	Ammonium Hydroxide	35-75
CAS number: 12125-02-9	Ammonium Chloride	<10
CAS number: 7732-18-5	Water	40-90
CAS number: 6381-92-6	EDTA Disodium Salt Dihydrate	<5
CAS number: 12135-76-1	Ammonium Sulfide	<5
CAS number: 29932-54-5	EDTA, Disodium, Mg salt, tetrahydrate	<5

**Additional Information:** None

## SECTION 4: First-aid measures

### Description of first-aid measures

#### General notes:

Not determined or not available.

#### After inhalation:

Move exposed individual to fresh air

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

Immediately call a POISON CONTROL CENTER or seek medical attention

#### After skin contact:

## Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

**Initial preparation date:** 08.28.2016

Page 3 of 10

**Revision date:** 08.29.2016

### Hardness Buffer Solution

Immediately remove all contaminated clothing  
Wash affected area with soap and water  
Immediately call a POISON CONTROL CENTER or seek medical attention

#### After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes  
Remove contact lens(es) if able to do so during rinsing  
Immediately call a POISON CONTROL CENTER or seek medical attention

#### After ingestion:

Immediately call a POISON CONTROL CENTER or seek medical attention  
Do not induce vomiting  
Rinse mouth and then drink plenty of water

#### Most important symptoms and effects, both acute and delayed

##### Acute symptoms and effects:

Not determined or not available.

##### Delayed symptoms and effects:

Not determined or not available.

#### Immediate medical attention and special treatment

##### Specific treatment:

Not determined or not available.

##### Notes for the doctor:

Not determined or not available.

### SECTION 5: Fire-fighting measures

#### Extinguishing media

##### Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

##### Unsuitable extinguishing media:

Not determined or not applicable.

#### Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

#### Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing  
Refer to Section 8  
Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

#### Special precautions:

Heating causes a rise in pressure, risk of bursting and combustion  
Shut off sources of ignition  
Carbon monoxide and carbon dioxide may form upon combustion

### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation  
Ensure air handling systems are operational

# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 08.28.2016

Page 4 of 10

Revision date: 08.29.2016

## Hardness Buffer Solution

Wear protective eye wear, gloves and clothing

### Environmental precautions:

Should not be released into the environment  
Prevent from reaching drains, sewer or waterway

### Methods and material for containment and cleaning up:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)  
Dispose of contents / container in accordance with local regulations

### Reference to other sections:

Not determined or not applicable.

## SECTION 7: Handling and storage

### Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.  
Avoid breathing mist or vapor.  
Use only with adequate ventilation.

### Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.  
Store away from foodstuffs.

## SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

### Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Ammonium Chloride	12125-02-9	ACGIH TLV: 10 mg/m <sup>3</sup>
	Ammonium Hydroxide	1336-21-6	ACGIH TLV TWA 25 ppm (NH <sub>3</sub> )
	Ammonium Hydroxide	1336-21-6	ACGIH TLV STEL 35 ppm (NH <sub>3</sub> )
	Ammonium Chloride	12125-02-9	ACGIH TLV TWA 10.0 mg/m <sup>3</sup>
	Ammonium Chloride	12125-02-9	ACGIH TLV STEL 20.0 mg/m <sup>3</sup>
NIOSH	Ammonium Chloride	12125-02-9	NIOSH REL TWA 10.0 mg/m <sup>3</sup>
	Ammonium Chloride	12125-02-9	NIOSH REL ST 20.0 mg/m <sup>3</sup>
	Ammonium Hydroxide	1336-21-6	NIOSH REL TWA 25 ppm (NH <sub>3</sub> )
	Ammonium Hydroxide	1336-21-6	NIOSH REL TWA 18 mg/m <sup>3</sup> (NH <sub>3</sub> )
	Ammonium Hydroxide	1336-21-6	NIOSH REL ST 35 ppm (NH <sub>3</sub> )
	Ammonium Hydroxide	1336-21-6	NIOSH REL ST 27 mg/m <sup>3</sup> (NH <sub>3</sub> )
United States (OSHA)	Ammonium Hydroxide	1336-21-6	OSHA PEL TWA 50 ppm (NH <sub>3</sub> )
	Ammonium Hydroxide	1336-21-6	OSHA PEL TWA 35 mg/m <sup>3</sup> (NH <sub>3</sub> )
	Ammonium Hydroxide	1336-21-6	ACGIH TLV: 17 mg/m <sup>3</sup> , OSHA PEL: 35 mg/m <sup>3</sup> .

### Biological limit values:

No biological exposure limits noted for the ingredient(s).

# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 08.28.2016

Page 5 of 10

Revision date: 08.29.2016

## Hardness Buffer Solution

### Information on monitoring procedures:

Not determined or not applicable.

### Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

### Personal protection equipment

#### Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

#### Skin and body protection:

Select glove material impermeable and resistant to the substance.

#### Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

### General hygienic measures:

Wash hands before breaks and at the end of work.

Avoid contact with skin, eyes and clothing.

Perform routine housekeeping.

Wash contaminated clothing before reusing.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance (physical state, color):</b>	Clear, colorless liquid
<b>Odor:</b>	Not available
<b>Odor threshold:</b>	Not available
<b>pH-value:</b>	Not available
<b>Melting/Freezing point:</b>	Not available
<b>Boiling point/range:</b>	Not available
<b>Flash point:</b>	Not available
<b>Evaporation rate:</b>	Not available
<b>Flammability (solid, gaseous):</b>	Not available
<b>Explosion limit upper:</b>	Not available
<b>Explosion limit lower:</b>	Not available
<b>Vapor pressure:</b>	Not available
<b>Vapor density:</b>	Not available
<b>Density:</b>	Not available
<b>Relative density:</b>	Not available
<b>Solubilities:</b>	Not determined or not available.
<b>Partition coefficient (n-octanol/water):</b>	Not available
<b>Auto/Self-ignition temperature:</b>	Not available
<b>Decomposition temperature:</b>	Not available
<b>Dynamic viscosity:</b>	Not available

# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 08.28.2016

Page 6 of 10

Revision date: 08.29.2016

## Hardness Buffer Solution

<b>Kinematic viscosity:</b>	Not available
<b>Explosive properties</b>	Not determined or not available.
<b>Oxidizing properties</b>	Not determined or not available.

### Other information

## SECTION 10: Stability and reactivity

### Reactivity:

Does not react under normal conditions of use and storage.

### Chemical stability:

Stable under normal conditions of use and storage.

### Possibility of hazardous reactions:

None under normal conditions of use and storage.

### Conditions to avoid:

None known.

### Incompatible materials:

None known.

### Hazardous decomposition products:

None known.

## SECTION 11: Toxicological information

### Acute toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

### Substance data:

Name	Route	Result
Ammonium Chloride	oral	LD50 Rat -
		LD50 - Mouse: 1300 mg/kg
Ammonium Hydroxide	oral	LD50 - Rat - 350 mg/kg
EDTA Disodium Salt Dihydrate	oral	LD50 Oral - Rat - 3700 mg/kg

### Skin corrosion/irritation

**Assessment:** Causes severe skin burns and eye damage

**Product data:** No data available.

### Substance data:

Name	Result
Ammonium Sulfide	Causes skin damage
Ammonium Hydroxide	Causes severe skin burns and eye damage.

### Serious eye damage/irritation

**Assessment:** Causes serious eye damage

**Product data:** No data available.

### Substance data:

# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 08.28.2016

Page 7 of 10

Revision date: 08.29.2016

## Hardness Buffer Solution

Name	Result
Ammonium Sulfide	Causes serious eye damage
Ammonium Chloride	Causes serious eye irritation.

### Respiratory or skin sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**International Agency for Research on Cancer (IARC):** None of the ingredients are listed.

**National Toxicology Program (NTP):** None of the ingredients are listed.

### Germ cell mutagenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Reproductive toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (single exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Specific target organ toxicity (repeated exposure)

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

### Aspiration toxicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product data:** No data available.

**Substance data:** No data available.

**Information on likely routes of exposure:** No data available.

**Symptoms related to the physical, chemical and toxicological characteristics:** No data available.

**Other information:** No data available.

## SECTION 12: Ecological information

### Acute (short-term) toxicity

**Assessment:** Very toxic to aquatic life

**Product data:** No data available.

**Substance data:**

# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 08.28.2016

Page 8 of 10

Revision date: 08.29.2016

## Hardness Buffer Solution

Name	Result
Ammonium Hydroxide	LC50 - Coho salmon - 0.45 mg/L - 96 h

### Chronic (long-term) toxicity

**Product data:** No data available.

**Substance data:** No data available.

### Persistence and degradability

**Product data:** No data available.

**Substance data:** No data available.

### Bioaccumulative potential

**Product data:** No data available.

**Substance data:** No data available.

### Mobility in soil

**Product data:** No data available.

**Substance data:** No data available.

**Other adverse effects:** No data available.



## SECTION 13: Disposal considerations

### Disposal methods:



It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

## SECTION 14: Transport information

### Canadian Transportation of Dangerous Goods (TDG)

UN number	UN 2672
UN proper shipping name	Ammonia Solution. Marine Pollutant (Ammonium hydroxide)
UN transport hazard class(es)	8  
Packing group	III
Environmental hazards	Marine Pollutant
Special precautions for user	None

### International Maritime Dangerous Goods (IMDG)

UN number	UN 2672
UN proper shipping name	Ammonia Solution. Marine Pollutant (Ammonium hydroxide)
UN transport hazard class(es)	8  
Packing group	III
Environmental hazards	Marine Pollutant



# Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 08.28.2016



Page 9 of 10

Revision date: 08.29.2016

## Hardness Buffer Solution

Special precautions for user	None
------------------------------	------

### International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN 2672
UN proper shipping name	Ammonia Solution. Marine Pollutant (Ammonium hydroxide)
UN transport hazard class(es)	8  
Packing group	III
Environmental hazards	Marine Pollutant
Special precautions for user	None

### Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Bulk Name	None
Ship type	None
Pollution category	None

## SECTION 15: Regulatory information

### Canada regulations

#### Domestic substances list (DSL):

7732-18-5	Water	Listed
12135-76-1	Ammonium Sulfide	Listed
6381-92-6	EDTA Disodium Salt Dihydrate	Listed
29932-54-5	EDTA, Disodium, Mg salt, tetrahydrate	Not Listed
1336-21-6	Ammonium Hydroxide	Listed
12125-02-9	Ammonium Chloride	Listed
1336-21-6	Ammonium Hydroxide	Listed

Non-domestic substances list (NDSL): Not determined.

## SECTION 16: Other information

Abbreviations and Acronyms: None

### Disclaimer:

This product has been classified in accordance with hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no

## Safety Data Sheet

According to Canadian Hazardous Products Regulations and WHMIS 2015

**Initial preparation date:** 08.28.2016

Page 10 of 10

**Revision date:** 08.29.2016

### Hardness Buffer Solution

liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

**NFPA:** 3-0-0

**HMIS:** 3-0-0

**Initial preparation date:** 08.28.2016

**Revision date:** 08.29.2016

**End of Safety Data Sheet**