

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

## 1 Identification

- **Product identifier**
- **Trade name:** Ammonium Hydroxide Chloride Buffer
- **Product code:** AH1200SS
- **Recommended use and restriction on use**
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**  
AquaPhoenix Scientific, Inc.  
860 Gitts Run Road  
Hanover, PA 17331 USA  
Tel +1 (717)632-1291  
Toll-Free: (866)632-1291  
info@aquaphoenixsci.com
- **Distributor:**  
AquaPhoenix Scientific  
860 Gitts Run Road,  
Hanover, PA 17331  
(717) 632-1291
- **Emergency telephone number:**  
ChemTel Inc.  
(800)255-3924 (North America)  
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
Met. Corr.1 H290 May be corrosive to metals.  
Skin Corr. 1C H314 Causes severe skin burns and eye damage.  
Eye Dam. 1 H318 Causes serious eye damage.  
STOT SE 3 H335 May cause respiratory irritation.

### · Label elements

#### · GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

#### · Hazard pictograms:



GHS05 GHS07

- **Signal word:** Danger
- **Hazard statements:**  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.
- **Precautionary statements:**  
P260 Do not breathe mist/vapors/spray.

(Cont'd. on page 2)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

**Trade name: Ammonium Hydroxide Chloride Buffer**

(Cont'd. of page 1)

P264 Wash thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/protective clothing/eye protection.  
 P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 If on skin (or hair): 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.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P406 Store in corrosive resistant container with a resistant inner liner.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

1336-21-6	Ammonia, aqueous solution	35.02%
	Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318 STOT SE 3, H335	
12125-02-9	ammonium chloride	6.61%
	Acute Tox. 4, H302; Eye Irrit. 2A, H319	
7732-18-5	Water	58.37%

· **Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
 For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately rinse with water.

If skin irritation continues, consult a doctor.

Seek immediate help for blistering or open wounds.

· **After eye contact:**

Protect unharmed eye.

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; immediately call for medical help.

(Cont'd. on page 3)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

**Trade name: Ammonium Hydroxide Chloride Buffer**

(Cont'd. of page 2)

- **Most important symptoms and effects, both acute and delayed:**
  - Coughing
  - Dizziness
  - Caustic effect on skin and mucous membranes.
  - Danger of severe eye injury.
  - May cause respiratory irritation.
  - Gastric or intestinal disorders when ingested.
- **Danger:**
  - Danger of gastric perforation.
  - Causes serious eye damage.
- **Indication of any immediate medical attention and special treatment needed:**
  - Medical supervision for at least 48 hours.
  - If necessary oxygen respiration treatment.
  - If medical advice is needed, have product container or label at hand.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No relevant information available.
- **Special hazards arising from the substance or mixture**
  - During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:**
  - Wear self-contained respiratory protective device.
  - Wear fully protective suit.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  - Isolate area and prevent access.
  - Ensure adequate ventilation.
  - Wear protective equipment. Keep unprotected persons away.
  - For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions**
  - Do not allow to enter sewers/ surface or ground water.
  - Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up**
  - Wipe up small spills with paper towel and discard.
  - For larger spills, add sawdust, chalk or other inert binding material, then sweep up and discard.
  - Send for recovery or disposal in suitable receptacles.
- **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.

## 7 Handling and storage

(Cont'd. on page 4)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

**Trade name: Ammonium Hydroxide Chloride Buffer**

(Cont'd. of page 3)

- **Handling**
- **Precautions for safe handling:**
  - Use only in well ventilated areas.
  - Prevent formation of aerosols.
  - Avoid splashes or spray in enclosed areas.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
  - Store only in the original receptacle.
  - Unsuitable material for receptacle: aluminium.
  - Unsuitable material for receptacle: steel.
- **Information about storage in one common storage facility:**
  - Store away from foodstuffs.
  - Do not store together with acids.
  - Store away from metals.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

### 12125-02-9 ammonium chloride

REL (USA)	Short-term value: 20 mg/m <sup>3</sup> Long-term value: 10 mg/m <sup>3</sup>
TLV (USA)	Short-term value: 20 mg/m <sup>3</sup> Long-term value: 10 mg/m <sup>3</sup>
EL (Canada)	Short-term value: 20 mg/m <sup>3</sup> Long-term value: 10 mg/m <sup>3</sup> fume
EV (Canada)	Short-term value: 20 mg/m <sup>3</sup> Long-term value: 10 mg/m <sup>3</sup> fume
LMPE (Mexico)	Short-term value: 20 mg/m <sup>3</sup> Long-term value: 10 mg/m <sup>3</sup>

- **Exposure controls**
- **General protective and hygienic measures:**
  - The usual precautionary measures for handling chemicals should be followed.
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - Avoid contact with the eyes and skin.
- **Engineering controls:** Provide adequate ventilation.
- **Breathing equipment:** Suitable respiratory protective device recommended.

(Cont'd. on page 5)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

**Trade name: Ammonium Hydroxide Chloride Buffer**

(Cont'd. of page 4)

· **Protection of hands:**



Protective gloves

· **Material of gloves**

Nitrile rubber, NBR

Neoprene gloves

Butyl rubber, BR

Fluorocarbon rubber (Viton)

Natural rubber, NR

Sensibilization by the components in the glove materials is possible.

· **Not suitable are gloves made of the following materials:** PVA gloves

· **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Alkaline resistant protective clothing

· **Limitation and supervision of exposure into the environment**

No relevant information available.

## 9 Physical and chemical properties

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

· **Appearance:**

Form: Liquid

Color: Colorless

· **Odor:** Ammonia-like

· **Odor threshold:** Not determined.

· **pH-value at 20 °C (68 °F):** >11.0

· **Melting point/Melting range:** Not determined.

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

· **Flash point:** The product is not flammable.

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

· **Auto-ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

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

· **Explosion limits**

Lower: Not determined.

Upper: Not determined.

· **Oxidizing properties:** Non-oxidizing.

· **Vapor pressure:** Not determined.

(Cont'd. on page 6)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

**Trade name: Ammonium Hydroxide Chloride Buffer**

(Cont'd. of page 5)

· <b>Density at 20 °C (68 °F):</b>	1.02-1.04 g/cm <sup>3</sup> (8.51-8.68 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>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity</b>	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <b>Other information</b>	No relevant information available.

## 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**  
Strong exothermic reaction with acids.  
Reacts with strong oxidizing agents.  
Reacts with certain metals.  
Hazardous gases may be released if heated above the decomposition point.
- **Conditions to avoid** No relevant information available.
- **Incompatible materials**  
Acids.  
Oxidizers  
Metals.
- **Hazardous decomposition products**  
Ammonia  
Under fire conditions only:  
Nitrogen oxides  
Chlorine compounds

## 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:** Based on available data, the classification criteria are not met.
  - **LD/LC50 values that are relevant for classification:**
- |                              |      |                  |
|------------------------------|------|------------------|
| 12125-02-9 ammonium chloride |      |                  |
| Oral                         | LD50 | 1650 mg/kg (rat) |
- **Primary irritant effect:**
  - **On the skin:** Caustic effect on skin and mucous membranes.
  - **On the eye:** Strong irritant with the danger of severe eye injury.

(Cont'd. on page 7)

# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

**Trade name: Ammonium Hydroxide Chloride Buffer**

(Cont'd. of page 6)

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

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

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

None of the ingredients are listed.

· **Probable route(s) of exposure:**

Ingestion.  
Inhalation.  
Eye contact.  
Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

Causes severe skin burns and eye damage.  
Irritating to respiratory system.

· **Repeated dose toxicity:** No relevant information available.

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

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

· **Reproductive toxicity:** Based on available data, the classification criteria are not met.

· **STOT-single exposure:** May cause respiratory irritation.

· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity** Toxic for aquatic organisms

· **Persistence and degradability** No relevant information available.

· **Bioaccumulative potential:** No relevant information available.

· **Mobility in soil:** No relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Very toxic for fish

· **Additional ecological information**

· **General notes:**

Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Very toxic for aquatic organisms

· **Other adverse effects** No relevant information available.

## 13 Disposal considerations

· **Uncleaned packagings**

· **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

(Cont'd. on page 8)







# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

Trade name: Ammonium Hydroxide Chloride Buffer

(Cont'd. of page 7)

· UN-Number	UN2672
· DOT, ADR/RID/ADN, IMDG, IATA	
· UN proper shipping name	Ammonia solution
· DOT	AMMONIA SOLUTION, ENVIRONMENTALLY HAZARDOUS
· ADR/RID/ADN	AMMONIA SOLUTION, MARINE POLLUTANT
· IMDG	AMMONIA SOLUTION
· IATA	
· Transport hazard class(es)	
· DOT	
	
· Class	8
· Label	8
· ADR/RID/ADN	
 	
· Class	8 (C5)
· Label	8
· IMDG	
 	
· Class	8
· Label	8
· IATA	
	
· Class	8
· Label	8
· Packing group	III
· DOT, ADR/RID/ADN, IMDG, IATA	
· Environmental hazards	
· Marine pollutant:	Symbol (fish and tree)
· Special precautions for user	Warning: Corrosive substances
· Hazard identification number (Kemler code):	80
· EMS Number:	F-A,S-B

(Cont'd. on page 9)



# Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

**Trade name: Ammonium Hydroxide Chloride Buffer**

(Cont'd. of page 8)

- |  |                 |
|--|-----------------|
| · <b>Segregation groups</b>  | Alkalis         |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **United States (USA)**
- **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

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

1336-21-6 Ammonia, aqueous solution

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

1336-21-6 Ammonia, aqueous solution

12125-02-9 ammonium chloride

7732-18-5 Water

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

None of the ingredients are listed.

## 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.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

(Cont'd. on page 10)

## Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: March 22, 2020

**Trade name: Ammonium Hydroxide Chloride Buffer**

(Cont'd. of page 9)

DOT: US Department of Transportation  
IATA: International Air Transport Association  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
OSHA: Occupational Safety & Health Administration  
Met. Corr. 1: Corrosive to metals – Category 1  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Skin Corr. 1C: Skin corrosion/irritation – Category 1C  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

### • Sources

Website, European Chemicals Agency (echa.europa.eu)  
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)  
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)  
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6  
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.  
Safety Data Sheets, Individual Manufacturers

SDS Prepared by:  
ChemTel  
1305 North Florida Avenue  
Tampa, Florida USA 33602-2902  
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573  
Website: www.chemtel.com