Material Safety Data Sheet

Section 1 – Chemical Product and Company Identification

Catalog Numbers: HA7405-A, HA7405-B, HA7405-C, HA7405-D, HA7405-P, HA7405-Q, HA7405-G, HA7405-T
Product Identity: Hardness Buffer

Chemical Family: Not Applicable
Synonyms: Not Available
Recommended Use: Laboratory chemicals

Manufacturer's Name: AquaPhoenix Scientific, Inc., 9 Barnhart Dr., Hanover, PA 17331, (866) 632-1291
Emergency Contact Number (24hr): Chemtel (800) 255-3924

Issue Date: 12/29/06
Revision Date: 07/03/08, 04/12/10, 10/5/10, 02/19/12

Section 2 – Hazard Identification

Emergency Overview
Warning. Hazardous fumes and liquid. Use with adequate ventilation. Avoid breathing vapor. Avoid contact with skin, eyes, and clothing. Do not induce vomiting. Get medical attention. Wash areas of contact for at least 15 minutes. For eyes, get medical attention.
Appearance: Clear, colorless liquid **Odor:** Ammonia odor
Target Organs: Respiratory system, eyes, skin.
Potential Health Effects/ Routes of Exposure:
Eyes: May cause severe burns and eye damage.
Skin: May cause serious damage to the skin, skin burns, redness, and pain.
Ingestion: May cause corrosion to the stomach and esophagus, with perforation and peritonitis; chest, mouth and abdomen pain, coughing, vomiting, collapse. Small doses can be fatal.
Inhalation: Causes irritation to the upper respiratory tract, burns, pulmonary edema, and death.
Chronic Effect / Carcinogenicity: None. (IARC, NTP, OSHA)
Aggravated Medical Conditions No information available
These chemicals are not considered hazardous by OSHA.
See section 11 for toxicological information. See section 12 for potential environmental effects.

Section 3 – Composition, Information on Ingredients

Ammonium Hydroxide, CAS# 1336-21-6, <52% w/v
Ammonium Chloride, CAS# 12125-02-9, <7% w/v
EDTA Mg Salt, CAS# 15954-95-7, <1% w/v
Water, purified, CAS# 7732-18-5, >40% w/v

Section 4 – First Aid

Eyes: Immediately flush eyes with water for at least 15 minutes. Immediately get medical assistance.
Skin: Flush with water for 15 minutes. Get medical assistance if irritation develops.
Ingestion: DO NOT induce vomiting. Dilute with water or milk. Get medical assistance.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.
Notes to Physician Treat symptomatically.

Section 5 – Fire Fighting Measures

Flash Point: Not Applicable **Autoignition Temperature** No information available.
Explosion Limits Upper No data available **Lower** No data available

Extinguishing Media: Any means suitable for extinguishing fire. Use water spray to blanket fire, cool fire exposed containers, and flush non-ignited spills away from fire.
Unsuitable Extinguishing Media: No information available
Fire & Explosion Hazards: Flammable vapors may accumulate in confined spaces.
Fire Fighting Instructions / Equipment: Use normal procedures. Use protective clothing. Use NIOSH-approved breathing equipment.
Hazardous Combustion Products: No information Available
Sensitivity to mechanical impact No information available.
Sensitivity to static discharge No information available.
Specific Hazards Arising from the Chemical: No information available.
NFPA Rating: (estimated) Health: 3; Flammable: 0; Reactivity: 0

Section 6 – Accidental Release Measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.
Environmental Precautions Should not be released into the environment.
Methods for Containment and Clean Up Cover with mixture of sodium carbonate/calcium carbonate, clay, and sand. Pick up and place in suitable container and in fume hood add water. Neutralize with dilute hydrochloric acid, let stand in over night and flush to drain with plenty of water. Keep in suitable and closed containers for disposal

Section 7 – Handling and Storage

Handling: Wash hands after handling. Avoid contact with skin and eyes. Do not mix with acids.
Storage: Keep container tightly closed. Protect from freezing and physical damage. Store below 25 C. Empty containers may be hazardous since they may contain product residue.

Section 8 – Exposure Controls, Personal Protection

Ammonium Hydroxide, CAS# 1336-21-6, ACGIH TLV: 17mg/m3, OSHA PEL: 35mg/m3.
Ammonium Chloride, CAS# 12125-02-9, ACGIH TLV: 10mg/m3, OSHA PEL: NA
EDTA Mg Salt, CAS# 15954-95-7, ACGIH TLV: NA, OSHA PEL: NA
Water, purified, CAS# 7732-18-5, ACGIH TLV: NA, OSHA PEL: NA
Engineering Measures/ General Hygiene: Local/general exhaust is recommended. Ensure eyewash and safety showers are available.
Personal Protection Equipment: Skin Protection: Chemical resistant gloves.
Eye/Face Protection: Safety Glasses or goggles. **Respiratory Protection:** If the TLV is exceeded, a full-face chemical cartridge respirator may be worn up to 50 times the TLV or the maximum use of concentration specified for the respirator supplier.

Section 9 – Physical and Chemical Properties

Appearance/Physical State: Clear, colorless liquid

Odor: Ammonia odor	**% Volatility:** No Information Available
Boiling Point: No Information Available	**Specific Gravity:** Approx 1
Melting Point: No Information Available	**Vapor Pressure:** No Information Available
Vapor Density: No Information Available	**Flash Point:** Not Applicable
Evaporation Rate: No Information Available	**Coefficient of water/oil distribution:** Not Available
pH: No Information Available	**Odor Threshold:** Not Available
Flammability: No Information Available	**Decomposition Temperature:** No Information Available
Solubility: Infinite	**Partition Coefficient n-octanol/water:** No data available
Relative Density: No Information Available	**Molecular Weight:** Not available

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal conditions of use and storage.
Incompatible Materials: Strong oxidizers, nitric acids, calcium hypochlorite bleaches, gold, mercury, silver, halogens.

Conditions to Avoid: No information available.
Hazardous Decomposition Products: Oxides of Nitrogen and ammonia.
Hazardous Polymerization: Does not occur
Hazardous Reactions: None under normal processing.

Section 11 – Toxicological Information

Routes of Exposure/Symptoms/Corrosiveness – See Section 2
LD50 orl-rat: 350mg/kg (Ammonium Hydroxide), 1650 mg/kg (Ammonium Chloride)
LC50 inhalation-rat: NA
Irritation: No Information Available
Toxicologically Synergistic: No Information Available
Chronic Exposure
Carcinogenicity No Information Available
Sensitization No information available.
Mutagenic Effects No Information Available
Reproductive Effects No Information Available
Developmental Effects (Immediate/Delayed) No information available.
Teratogenicity No information available.
Other Adverse Effects No Information Available
Endocrine Disruptor Information No information available

Section 12 – Ecological Information

Ecotoxicity: Expected to be very toxic to aquatic life
Persistence and Degradability: No Information Available **Mobility:** No Information Available
Bioaccumulation/ Accumulation: No Information Available

Section 13 – Disposal Considerations

Waste Disposal/Waste Disposal of Packaging: Ventilate area of spill. Cover spill with mixture of sodium carbonate/calcium carbonate, clay, and sand. Pick up and place in suitable container and in fume hood add water. Neutralize with dilute hydrochloric acid, let stand in over night and flush to drain with plenty of water. Dispose of solid with normal refuse. Wash area of spill with plenty of water. All chemical waster generators must determine whether a discarded chemical is classified as hazardous waste. Comply with all local, state, and federal regulations.

Section 14 – Transport Information

DOT – UN2672, Ammonia Solution, 8, III

Section 15 – Regulatory Information (not meant to be all inclusive)

OSHA Status: These chemicals are considered hazardous by OSHA.
Canada DSL: These items are listed on Canada's DSL list.
TSCA: The components of this solution are listed on the TSCA Inventory
SARA Title III Section 313: Not Applicable
RCRA Status: Not Applicable
CERCLA Reportable Quantity: Ammonium Chloride – 5000 lbs, Ammonium Hydroxide – 1000 lbs.
WHMIS: E: Corrosive Material
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Section 16 – Additional Information

Disclaimer: The information on this MSDS applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for his/her own particular use. No warranty is implied regarding the accuracy of the data or the results to be obtained from the products use.