

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 01.13.2015**Hardness Buffer Solution****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Hardness Buffer Solution**Manufacturer/Supplier Article number:** DUHA7405-A**Recommended uses of the product and restrictions on use:** Laboratory**Manufacturer Details:**

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

**Supplier Details:**

Dubois Chemicals Inc.  
3630 East Kemper Rd, Cincinnati, OH 45241  
(800) 438-2647

**Emergency telephone number:**

Emergency Phone No. (800) 255-3924

**SECTION 2: Hazards identification****Classification of the substance or mixture:****Corrosive**

Serious eye damage, category 1  
Skin corrosion, category 1A

**Irritant**

Specific target organ toxicity - single exposure, category 3, respiratory irritation  
Acute toxicity (oral), category 4

**Environmentally Damaging**

Chronic aquatic hazard, category 2

Acute aquatic hazard, category 2

**Signal word:** Danger**Hazard statements:**

Causes severe skin burns and eye damage.  
Harmful if swallowed.  
May cause respiratory irritation.  
Toxic to aquatic life with long lasting effects.

**Precautionary statements:**

Wear protective gloves/protective clothing/eye protection/face protection.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wash skin thoroughly after handling.  
Avoid release to the environment.  
If swallowed: Rinse mouth. Do not induce vomiting.

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

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.

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.

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.

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

Wash contaminated clothing before reuse.

Collect spillage.

Store in a well ventilated place. Keep container tightly closed.

Store locked up.

Dispose of contents and container as instructed in Section 13.

**Other Non-GHS Classification:** None**SECTION 3: Composition/information on ingredients****Ingredients:**

<b>Ingredients:</b>		
CAS 1336-21-6	Ammonium Hydroxide	7.28 %
CAS 12125-02-9	Ammonium Chloride	54.23 %
CAS 29932-54-5	Disodium Magnesium EDTA, Tetrahydrate	0.64 %
CAS 7732-18-5	Deionized Water	37.83 %
Percentages are by weight		

**SECTION 4: First aid measures****Description of first aid measures****After inhalation:**

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. If breathing difficult, give oxygen. Get medical assistance if cough or other symptoms appear. Loosen clothing as necessary and position individual in a comfortable position. Give artificial respiration if necessary.

**After skin contact:**

Wash affected area with soap and water. Seek medical advice if discomfort or irritation persists. Wash affected area with soap and water. Rinse/flush exposed skin gently using water for 15-20 minutes. Seek medical attention immediately.

**After eye contact:**

Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Rinse or flush exposed eye gently using water for 15-20 minutes. Immediately get medical assistance.

**After swallowing:**

Rinse mouth thoroughly. Have exposed individual drink sips of water. Dilute mouth with water or milk after rinsing. Seek medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention if irritation, discomfort, or vomiting persists.

**Most important symptoms and effects, both acute and delayed:**

Shortness of breath. Nausea. Headache. Irritation.

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If seeking medical attention, provide SDS document to physician. If seeking medical attention, provide SDS document to physician. If seeking medical attention, provide SDS document to physician. Physician should treat symptomatically.

**SECTION 5: Firefighting measures****Extinguishing media****Suitable extinguishing agents:**

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam.

**Unsuitable extinguishing agents:** None

**Special hazards arising from the substance or mixture:**

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors.

**Advice for firefighters:****Protective equipment:**

Wear protective eyewear, gloves, and clothing.

**Additional information (precautions):**

Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid generating dust. Do not inhale gases, fumes, dust, mist, vapor, and aerosols.

**SECTION 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures:**

Ensure adequate ventilation. When necessary use NIOSH approved breathing equipment.

**Environmental precautions:**

Prevent from reaching drains, sewer or waterway. Do not let product enter drains.

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

If necessary use trained response staff or contractor. If necessary use trained response staff or contractor. Wear protective eyewear, gloves, and clothing. Clean up spills immediately, observing precautions in Section 8. Sweep up and containerize for disposal. Always obey local regulations. Dispose of empty containers as unused product. Refer to Section 13. Refer to Section 8. Refer to Section 8. Absorb with suitable material. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Wear protective eyewear, gloves, and clothing. Always obey local regulations. For disposal instructions refer to Section 13. If necessary use trained response staff or contractor. Sweep up and shovel. Keep in suitable closed containers for disposal.

**Reference to other sections:** None

**SECTION 7: Handling and storage****Precautions for safe handling:**

Wash hands after handling. Use only in well ventilated areas. Avoid contact with skin, eyes and clothing. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 8. Wash hands after handling. Wear protective eyewear, gloves, and clothing. Do not eat, drink, smoke, or use personal products when handling chemical substances.

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

Store with like hazards. Store away from incompatible materials. Refer to Section 5. Protect from freezing and physical damage. Store in a cool location. Provide ventilation for containers. Store away from oxidizing agents. Keep container tightly closed. Store in a cool location. Provide ventilation for containers. Keep container tightly closed.

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**Hardness Buffer Solution****SECTION 8: Exposure controls/personal protection****Control parameters:**

1336-21-6, Ammonium Hydroxide, ACGIH TLV: 17 mg/m<sup>3</sup>.  
 1336-21-6, Ammonium Hydroxide, OSHA PEL: 35 mg/m<sup>3</sup>.  
 1336-21-6, Ammonium Hydroxide, OSHA TWA 25 ppm (18 mg/m<sup>3</sup>) ST 35 ppm (27 mg/m<sup>3</sup>).  
 12125-02-9, Ammonium Chloride, ACGIH TLV: 10 mg/m<sup>3</sup>.

**Appropriate engineering controls:**

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Normal ventilation is adequate. 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. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling. Ensure that dust-handling systems (exhaust ducts, dust collectors, vessels, and processing equipment) are designed to prevent the escape of dust into the work area.

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are refer to Section 6. When necessary use NIOSH approved breathing equipment.

**Protection of skin:**

Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Wear protective clothing.

**Eye protection:**

Safety glasses with side shields or goggles.

**General hygienic measures:**

Wash hands before breaks and at the end of work. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin. Before re-wearing, wash contaminated clothing. Perform routine housekeeping to prevent dust generation.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear, colorless liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Ammonia Like	<b>Vapor pressure at 20°C:</b>	Not determined
<b>Odor threshold:</b>	Not determined	<b>Vapor density:</b>	Not determined
<b>pH-value:</b>	Not determined	<b>Relative density:</b>	Approx. 1
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	Infinite solubility in water.
<b>Boiling point/Boiling range:</b>	Not determined	<b>Partition coefficient (n-octanol/water):</b>	Not determined
<b>Flash point (closed cup):</b>	Not determined	<b>Auto/Self-ignition temperature:</b>	Not determined
<b>Evaporation rate:</b>	Not determined	<b>Decomposition temperature:</b>	Not determined
<b>Flammability (solid, gaseous):</b>	Not determined	<b>Viscosity:</b>	a. Kinematic: Not determined b. Dynamic: Not determined

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<b>Density at 20°C:</b>	Not determined

**SECTION 10: Stability and reactivity****Reactivity:**

None under normal processing.

**Chemical stability:**

Stable under normal conditions.

**Possible hazardous reactions:**

Reacts explosively with potassium chlorate or bromine trifluoride. Reacts violently with bromide pentafluoride, ammonium compounds, nitrates, and iodine heptafluoride. Hazardous decomposition products formed under fire conditions.

**Conditions to avoid:** None**Incompatible materials:**

Strong acids. Strong bases. Silver salts. Strong oxidizers.

**Hazardous decomposition products:**

Ammonia. Hydrogen chloride. Magnesium oxide. Carbon oxides (CO, CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>), sodium oxides.

**SECTION 11: Toxicological information****Acute Toxicity:** No additional information.**Chronic Toxicity:** No additional information.**Skin corrosion/irritation:** No additional information.**Serious eye damage/irritation:** No additional information.**Respiratory or skin sensitization:** No additional information.**Carcinogenicity:** No additional information.**Germ cell mutagenicity:** No additional information.**Reproductive Toxicity:** No additional information.**STOT-single and repeated exposure:** No additional information.**Additional toxicological information:**

No additional information.

**SECTION 12: Ecological information****Ecotoxicity:** No additional information.**Persistence and degradability:**

Not persistent.

**Bioaccumulative potential:**

No information available. Not readily biodegradable.

**Mobility in soil:** No additional information.**Other adverse effects:** No additional information.**SECTION 13: Disposal considerations****Waste disposal recommendations:**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations. Ensure

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complete and accurate classification. Do not allow product to reach sewage system or open water. Offer surplus and non-recyclable solutions to a licensed disposal company. Dispose of empty containers as unused product. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11).

**SECTION 14: Transport information****US DOT****UN Number:**

ADR, ADN, DOT, IMDG, IATA

UN2672

**Limited Quantity Exception:**

None

**Bulk:****RQ (if applicable):** None**Proper shipping Name:** Ammonia Solution.**Hazard Class:** 8**Packing Group:** III.**Marine Pollutant (if applicable):** No**Comments:** None**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Ammonia Solution.**Hazard Class:** 8**Packing Group:** III.**Marine Pollutant (if applicable):** No**Comments:** None**SECTION 15: Regulatory information****United States (USA)****SARA Section 311/312 (Specific toxic chemical listings):**

Acute

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

1336-21-6 Ammonium hydroxide.

**RCRA (hazardous waste code):**

None of the ingredients are listed.

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

All ingredients are listed.

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

1336-21-6 Ammonium hydroxide 1,000 lbs.

12125-02-9 Ammonium chloride 5,000 lbs.

**Proposition 65 (California):****Chemicals known to cause cancer:**

None of the ingredients are listed.

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

None of the ingredients are listed.

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

None of the ingredients are listed.

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None of the ingredients are listed.

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

All ingredients are listed.

**SECTION 16: Other information**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled 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 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:** 4-1-0**HMIS:** 4-1-0**GHS Full Text Phrases:** None**Abbreviations and Acronyms:**

IMDG	International Maritime Code for Dangerous Goods.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service (division of the American Chemical Society).
NFPA	National Fire Protection Association (USA).
HMIS	Hazardous Materials Identification System (USA).
WHMIS	Workplace Hazardous Materials Information System (Canada).
DNEL	Derived No-Effect Level (REACH).
IMDG	International Maritime Code for Dangerous Goods.
PNEC.	Predicted No-Effect Concentration (REACH).
CFR	Code of Federal Regulations (USA)
PNEC.	Predicted No-Effect Concentration (REACH).
SARA	Superfund Amendments and Reauthorization Act (USA).
RCRA.	Resource Conservation and Recovery Act (USA).
TSCA.	Toxic Substances Control Act (USA).
NPRI	National Pollutant Release Inventory (Canada).
DOT	US Department of Transportation.
IATA	International Air Transport Association.
GHS	Globally Harmonized System of Classification and Labelling of Chemicals.
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WHMIS Workplace Hazardous Materials Information System (Canada).  
DNEL Derived No-Effect Level (REACH).  
IMDG International Maritime Code for Dangerous Goods.  
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CFR Code of Federal Regulations (USA)  
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