

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 02.05.2015**Hardness Buffer Solution****SECTION 1: Identification of the substance/mixture and of the supplier****Product name:** Hardness Buffer Solution**Manufacturer/Supplier Article number:** DUMTK-724-32**Recommended uses of the product and restrictions on use:** Laboratory Chemicals**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:****Irritant**

Eye irritation, category 2A  
Skin irritation, category 2

Skin Irrit. 2.  
Eye Irrit. 2A.

**Signal word:** Warning**Hazard statements:**

Causes skin irritation.  
Causes serious eye irritation.

**Precautionary statements:**

If medical advice is needed have product container or label at hand.  
Keep out of reach of children.  
Read label before use.  
Wash skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF ON SKIN: Wash with soap and water.  
Specific treatment (see supplemental first aid instructions on this label).  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing and wash before reuse.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.  
Continue rinsing.  
If eye irritation persists get medical advice/attention.

**Other Non-GHS Classification:** None

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

Initial preparation date: : 02.05.2015

**Hardness Buffer Solution****SECTION 3: Composition/information on ingredients****Ingredients:**

<b>Ingredients:</b>		
CAS 141-43-5	Ethanolamine	<17.59 %
CAS 7732-18-5	Deionized Water	>82.41 %
CAS 7647-01-0	Hydrochloric Acid	<5.5 %
CAS 29932-54-5	EDTA Disodium Magnesium Salt, Tetrahydrate	<0.5 %
CAS 1313-84-4	Sodium Sulfide, Nonahydrate	<0.5 %
Percentages are by weight		

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

Seek medical assistance. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult give oxygen. Loosen clothing and place exposed in a comfortable position.

**After skin contact:**

Seek medical assistance. Wash hands and exposed skin with soap and plenty of water.

**After eye contact:**

Continue rinsing eyes during transport to hospital. Immediately seek medical attention. Protect unexposed eye. Flush exposed eye gently using water for 15-20 minutes. Remove contact lenses, if present and easy to do, and continue rinsing.

**After swallowing:**

Seek medical assistance. Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

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

Irritation. Shortness of breath. Headache. Nausea. Dizziness. Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Indication of any immediate medical attention and special treatment needed:**

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

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

Use water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam. Use water spray to blanket fire, cool fire exposed containers, and flush non - ignited spills away from fire.

**Unsuitable extinguishing agents:** None**Special hazards arising from the substance or mixture:**

Remove all sources of ignition when handling. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Thermal decomposition can lead to release of irritating gases and vapors.

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

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 02.05.2015**Hardness Buffer Solution**

Wear protective eyewear, gloves, and clothing. Refer to Section 8.

**Additional information (precautions):**

Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes and clothing.

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

Ensure adequate ventilation. Ensure that air-handling systems are operational.

**Environmental precautions:**

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

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

Contain spillage. Collect with an electrically protected vacuum cleaner or by wet-brushing. Wear protective eyewear, gloves, and clothing. Always obey local regulations. If necessary use trained response staff or contractor. Evacuate personnel to safe areas. Containerize for disposal. Refer to Section 13. Keep in suitable closed containers for disposal. Refer to Section 8.

**Reference to other sections:** None**SECTION 7: Handling and storage****Precautions for safe handling:**

Prevent the buildup of electrostatic charge. Hygroscopic - store under inert gas. Avoid contact with skin, eyes and clothing. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Follow proper disposal methods. Do not eat, drink, smoke, or use personal products when handling chemical substances. Refer to Section 13.

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

Store in a cool location. Keep away from food and beverages. Protect from freezing and physical damage. Provide ventilation for containers. Keep container tightly sealed. Store away from incompatible materials.

**SECTION 8: Exposure controls/personal protection****Control parameters:**

141-43-5, Ethanolamine , TWA 3 ppm USA. ACGIH.  
 141-43-5, Ethanolamine, TWA 3 ppm 6 mg/m<sup>3</sup> USA. (OSHA).  
 141-43-5, Ethanolamine, TWA 3.000000 ppm 8.000000 mg/m<sup>3</sup> USA.  
 NIOSH.

**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.

**Respiratory protection:**

Not required under normal conditions of use. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment. If exposure limit is exceeded, a full face piece respirator with organic vapor cartridge may be worn.

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 02.05.2015**Hardness Buffer Solution**

<b>Protection of skin:</b>	Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.
<b>Eye protection:</b>	Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.
<b>General hygienic measures:</b>	Perform routine housekeeping. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes and clothing. Before re-wearing, wash contaminated clothing.

**SECTION 9: Physical and chemical properties**

<b>Appearance (physical state, color):</b>	Clear yellow liquid	<b>Explosion limit lower:</b> <b>Explosion limit upper:</b>	Not determined Not determined
<b>Odor:</b>	Odorless to amine odor	<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>	Not determined
<b>Melting/Freezing point:</b>	Not determined	<b>Solubilities:</b>	None
<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
<b>Density at 20°C:</b>	Not determined		

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

Nonreactive under normal conditions.

**Chemical stability:**

Stable under recommended conditions.

**Possible hazardous reactions:**

None under normal processing.

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

Copper, copper alloys, acids, oxidizers, galvanized iron.

**Hazardous decomposition products:**

Acrid and irritating fumes, oxides of nitrogen and carbon.

**SECTION 11: Toxicological information****Acute Toxicity:****Dermal:**

**Safety Data Sheet**

according to 29CFR1910/1200 and GHS Rev. 3

**Initial preparation date:** : 02.05.2015**Hardness Buffer Solution**

LD50 Dermal - Rabbit - 1,015 mg/kg 141-43-5.

**Chronic Toxicity:** No additional information.**Skin corrosion/irritation:** No additional information.**Serious eye damage/irritation:**

Eyes - Rabbit Result: Severe eye irritation 141-43-5.

**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:**

141-43-5, LC50 - Pimephales promelas (fathead minnow) - 227 mg/l - 96 h.

141-43-5, EC50 - Daphnia magna (Water flea) - 65 mg/l - 48 h.

141-43-5, EC50 - Desmodemus subspicatus (green algae) - 15 mg/l - 72 h.

**Persistence and degradability:** No additional information.**Bioaccumulative potential:** No additional information.**Mobility in soil:** No additional information.**Other adverse effects:** No additional information.**SECTION 13: Disposal considerations****Waste disposal recommendations:**

Combustible material. Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed together with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). 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 complete and accurate classification. Burn in a chemical incinerator equipped with an afterburner and scrubber.

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

ADR, ADN, DOT, IMDG, IATA

Not Regulated

**Limited Quantity Exception:**

None

**Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.**Non Bulk:****RQ (if applicable):** None**Proper shipping Name:** Not Regulated.

**Safety Data Sheet**

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Acute,Chronic,Fire

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

None of the ingredients are listed.

**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):**

141-43-5 Ethanolamine 100 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.

**Chemicals known to cause developmental toxicity:**

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. Note. 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.

## Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

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**NFPA:** 1-0-0

**HMIS:** 1-0-0

**GHS Full Text Phrases:** None

**Abbreviations and Acronyms:** None