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-724-02-F

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:

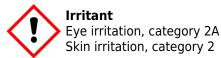
AquaPhoenix Scientific, Inc 860 Gitts Run Road Hanover, PA 17331 (717) 632-1291

Emergency telephone number:

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazards identification

Classification of the substance or mixture:



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

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SECTION 3: Composition/information on ingredients

Ingredients:

Ingredients:		
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:

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Wear protective eyeware, 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 eyeware, 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**

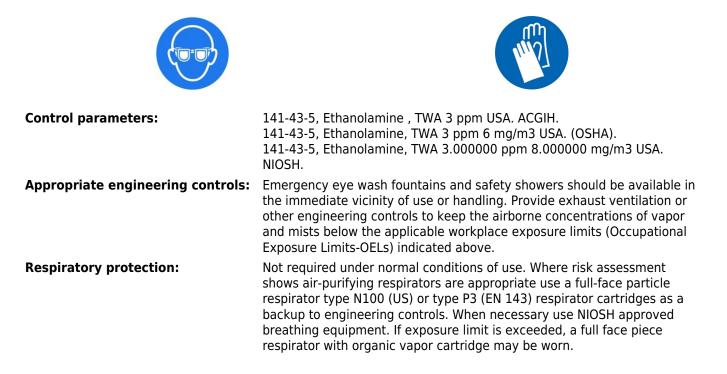
Precautions for safe handling:

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



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Protection of skin:	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.
Eye protection:	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.
General hygienic measures:	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

Appearance (physical state, color):		Explosion limit lower: Explosion limit upper:	Not determined Not determined
Odor:	Odorless to amine odor	Vapor pressure at 20°C:	Not determined
Odor threshold:	Not determined	Vapor density:	Not determined
pH-value:	Not determined	Relative density:	Not determined
Melting/Freezing point:	Not determined	Solubilities:	None
Boiling point/Boiling range:	INAT APTERMINEA	Partition coefficient (n- octanol/water):	Not determined
Flash point (closed cup):		Auto/Self-ignition temperature:	Not determined
Evaporation rate:	Not determined	Decomposition temperature:	Not determined
Flammability (solid, gaseous):	Not determined	Viscosity:	a. Kinematic: Not determined b. Dynamic: Not determined
Density at 20°C:	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:

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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 - Desmodesmus 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.

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Hazard Class: None
Packing Group: Not Regulated.
Marine Pollutant (if applicable): No
additional information.
Comments: None

Hazard Class: None Packing Group: Not Regulated. Marine Pollutant (if applicable): No additional information. Comments: None

SECTION 15: Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

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.

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NFPA: 1-0-0 HMIS: 1-0-0 GHS Full Text Phrases: None

Abbreviations and Acronyms: None