World Headquarters
Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

MSDS No: M00305

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Buffer Solution Hardness 1 pH 10.1 ± 0.1
Catalog Number: 42432

Hach Company
P.O.Box 389
Loveland, CO USA 80539
(970) 669-3050

Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M00305
Chemical Name: Not applicable
CAS No.: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
UN Number/PIN: NA
Intended Use: Laboratory Reagent Hardness determination
Date of MSDS Preparation:
Day: 01
Month: August
Year: 2013
MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350

2. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance: Clear, yellow liquid
Physical State: Liquid
Odor: Vinegar
CAUSES EYE BURNS HARMFUL IF ABSORBED THROUGH SKIN MAY CAUSE RESPIRATORY TRACT IRRITATION
HMIS:
Health: 2
Flammability: 1
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.
Potential Health Effects:
Eye Contact: Causes eye burns.
Skin Contact: Causes mild irritation
Skin Absorption: Will be absorbed through the skin.
Target Organs: None Reported
Ingestion: May cause: abdominal pain
Target Organs: None reported
Inhalation: May cause: respiratory tract irritation
Target Organs: None reported
Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions
Chronic Effects: None reported
Cancer / Reproductive Toxicity Information:
This product does NOT contain any IARC listed chemicals.
This product does NOT contain any NTP listed chemicals.
Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen.
Toxicologically Synergistic Products: None reported

WHMIS Hazard Classification: Class D, Division 2, Subdivision B - Toxic material (other toxic effects)
WHMIS Symbols: Other Toxic Effects

3. COMPOSITION / INFORMATION ON INGREDIENTS

Acetic Acid
Percent Range: 1.0 - 10.0
Percent Range Units: volume / volume
CAS No.: 64-19-7
LD50: Oral rat LD50 = 3310 mg/Kg
LC50: Rat LC50 11.4 mg/L (4 Hour) Human TCLo = 816 ppm / 3 minutes (Irritant) ; Mouse LC50 = 5620 ppm / 1 hour
TLV: 10 ppm (15 ppm STEL)
PEL: 10 ppm
Ingredient WHMIS Symbol: Other Toxic Effects

Demineralized Water
Percent Range: 35.0 - 45.0
Percent Range Units: volume / volume
CAS No.: 7732-18-5
LD50: LD50 oral rat = >89,800 mg/kg
LC50: None reported
TLV: Not established
PEL: Not established
Ingredient WHMIS Symbol: Not applicable

Magnesium Disodium EDTA Solution
Percent Range: < 1.0
Percent Range Units: weight / weight
CAS No.: Not applicable
LD50: None reported
LC50: None reported
TLV: Not established
PEL: Not established
Ingredient WHMIS Symbol: Not applicable

Aminomethylpropanol
Percent Range: 50.0 - 60.0
Percent Range Units: volume / volume
CAS No.: 124-68-5
LD50: Oral rat LD50 = 2900 mg/kg
LC50: None reported
TLV: Not established
PEL: Not established
Ingredient WHMIS Symbol: Other Toxic Effects

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water. Call physician if irritation develops.
Ingestion (First Aid): Give large quantities of water. Call physician immediately.
Inhalation: Remove to fresh air.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.

Flash Point: >97.2°C (>207°F)
Method: Closed cup
Flammability Limits:
Lower Explosion Limits: Not determined
Upper Explosion Limits: Not determined
Autoignition Temperature: Not determined
Hazardous Combustion Products: Toxic fumes of: nitrogen oxides. carbon monoxide, carbon dioxide.
Fire / Explosion Hazards: May react violently with: strong oxidizers
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Water. Dry chemical. Carbon dioxide Alcohol foam.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:
Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.
Containment Technique: Absorb spilled liquid with non-reactive sorbent material. Dike large spills to keep spilled material from entering sewage and drainage systems or bodies of water.
Clean-up Technique: If permitted by regulation, Cover spilled material with a dry acid, such as citric or boric. Scoop up slurry into a large beaker. Dilute with a large excess of water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a weak acid solution. Otherwise, Pick up spill for disposal and place in a closed container Dispose of in accordance with local, state and federal regulations or laws.
Evacuation Procedure: Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.
D.O.T. Emergency Response Guide Number: None

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin clothing Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Store away from: oxidizers Protect from: heat

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: chemical splash goggles
Skin Protection: lab coat disposable latex gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it.
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Keep away from: oxidizers
TLV: Not established
PEL: Not established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, yellow liquid
Physical State: Liquid
Molecular Weight: Not applicable
Odor: Vinegar
pH: of 2% solution = 10.0
Vapor Pressure: Not determined
Vapor Density (air = 1): Not determined
Boiling Point: 104.5°C (220°F)
Melting Point: Not determined

Specific Gravity/ Relative Density (water = 1; air =1): 1.033
Evaporation Rate (water = 1): 0.36
Volatile Organic Compounds Content: Not determined
Coefficient of Water / Oil: Not determined
Solubility:
Water: Soluble
Acid: Soluble
Other: Not determined
Metal Corrosivity:
Steel: 0.002 in/yr
Aluminum: Not determined

10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Conditions to Avoid: Extreme temperatures
Reactivity / Incompatibility: May react violently in contact with: oxidizers
Hazardous Decomposition: Toxic fumes of: nitrogen oxides carbon dioxide carbon monoxide
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:
LD50: None reported
LC50: None reported
Dermal Toxicity Data: None reported
Skin and Eye Irritation Data: Aminomethylpropanol: Skin at 1 hour exposure: erythema score of 1 @ 1hour, edema score of 0.67 @ 1hour - MILD; Skin at 4 hours exposure: erythema score of 1.33 @ 1 hour, edema score of 1.67 @ 1 hour - MILD
Mutation Data: Acetic Acid: Human sister chromatid exchange in Lymphocytes at 5 mmol/l
Reproductive Effects Data: None reported
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Ingredient Toxicological Data: Aminomethylpropanol: Oral rat LD50 = 2900 mg/kg; Acetic Acid: Oral rat LD50 = 3310 mg/kg

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
Mobility in soil: No data available
Ingredient Ecological Information: Aminomethylpropanol: Pleuronectes platessa 96hr LC50 = 184 mg/l; Daphnia magna 48hr EC50 = 193 mg/l; Scenedesmus subspicatus 72hr EC50 = ca.520 mg/l

13. DISPOSAL CONSIDERATIONS

Special Instructions (Disposal): Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system.
Empty Containers: Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.
NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information.

14. TRANSPORT INFORMATION

T.D.G.:
Proper Shipping Name: Not Currently Regulated
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Hazard Class: NA
UN Number/PIN: NA
Packing Group: NA
Subsidiary Risk: NA

Additional Information: There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories:

Canadian Inventory Status: All ingredients of this product are DSL/NDSL Listed.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. In-house information. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992.

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.