

World Headquarters
Hach Company
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MSDS No: M00305

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Buffer Solution Hardness 1 pH 10,1 ± 0,1
Catalog Number: 42449

HACH LANGE GmbH
Willstätterstrasse 11
40549 Düsseldorf, Germany
+49 -(0)211 -52880

Emergency Telephone Numbers:
(Poison Information Center Main)
(+49 (0) 6131 19240) 24 HR

SDS Number: M00305
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Hardness determination
CAS No.: Not applicable
Hazard: Causes eye burns. May cause irritation.
Date of MSDS Preparation:
Day: 27
Month: April
Year: 2007
Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32 -(0)70 -245245,
France: +33 -(0)1 -40370404, Italy: +39 -02-66101029, Netherlands: +31 -(0)30 -2748888, Switzerland: +41 -
(0)1 -2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Acetic Acid

EEC Number: 2005807
CAS No.: 64-19-7
Percent Range: 1,0 - 10,0
Percent Range Units: volume / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: 10 ppm (15 ppm STEL)
PEL: 10 ppm
EU Occupational Exposure Limits: 10 ppm (25 mg/m³)

Demineralized Water

EEC Number: 2317912
CAS No.: 7732-18-5
Percent Range: 35,0 - 45,0
Percent Range Units: volume / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not established
PEL: Not established

EU Occupational Exposure Limits: Not established

Other component

EEC Number: Not applicable

CAS No.: Not applicable

Percent Range: < 1,0

Percent Range Units: volume / volume

Ingredient EEC Symbol: Not applicable

Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: Not established

Aminomethylpropanol

EEC Number: 2047098

CAS No.: 124 -68 -5

Percent Range: 50,0 - 60,0

Percent Range Units: volume / volume

Ingredient EEC Symbol: Xi - IRRITATING

Ingredient R phrase(s) (R phrase details given in Heading 16): R 36/38 R 52/53

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: Not established

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Clear, yellow li quid

Odor: Vinegar

EU Symbols: Xi - IRRITATING

R PHRASES: R 36/38: Irritating to eyes and skin. R 52/53: Harmful to aquatic organisms, may cause long -term adverse effects in the aquatic environment.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes irritation

Skin Contact (EC): Causes mild irritation

Skin Absorption (EC): Will be absorbed through the skin.

Target Organs (SA E): None Reported

Ingestion (EC): May cause: abdominal pain

Target Organs (Ing E): None Reported

Inhalation: May cause: respiratory tract irritation

Target Organs (Inh E): 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.

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen.

Toxicologically Synergistic Products: None reported

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.

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.

Extinguishing Media NOT To Be Used: Not applicable. Not applicable. Not applicable. Not applicable.

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: 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.

Evacuation Procedure: Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.

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.

Special Packaging Instructions: Not applicable.

Use of the substance/preparation: Hardness determination.

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: chemical splash goggles

Skin / Hand Protection: lab coat, disposable latex gloves

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

EU Occupational Exposure Limits: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, yellow liquid
Physical State: Liquid
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
Flash Point: >97,2°C (>207°F)
Method: Closed cup
Autoignition Temperature: Not determined
Flammability Limits:
Lower Explosion Limits: Not determined
Upper Explosion Limits: Not determined
Specific Gravity (water = 1): 1,033
Evaporation Rate (water = 1): 0,36
Volatile Organic Compounds Content : Not determined
Partition Coefficient (n -octanol / water): Not determined
Solubility:
Water: Soluble
Acid: Soluble
Other: Not determined
Metal Corrosivity:
Steel: 0,002 in/yr
Aluminum: Not determined

10. STABILITY / 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

This product does NOT contain any IARC listed chemicals.

12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product.

Ingredient Ecological Information: --

No ecological data available for the ingredients of this product.

13. DISPOSAL CONSIDERATIONS

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. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Not Currently Regulated

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ICAO Hazard Class: NA

ICAO Subsidiary Risk: NA

ICAO UN/ID Number: NA

ICAO Packing Group: NA

I.M.O.:

I.M.O. Proper Shipping Name: Not Currently Regulated

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I.M.O. Hazard Class: NA

I.M.O. Subsidiary Risk: NA

I.M.O. UN Number: NA

I.M.O. Packing Group: NA

A.D.R.:

A.D.R. Proper Shipping Name: Not Currently Regulated

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A.D.R. Hazard Class: NA

A.D.R. Subsidiary Risk: NA

A.D.R. UN -Number:: NA

A.D.R. Packing Group: NA

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit Hazard Class: 9 UN Number 3316

15. REGULATORY INFORMATION

National Inventories:

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.

EEC Number: Not applicable

EEC LABEL COPY:

EU Symbols: Xi - IRRITATING

R PHRASES: R 36/38: Irritating to eyes and skin. R 52/53: Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment.

S PHRASES: S 25: Avoid contact with eyes. S 37/39: Wear suitable gloves and eye / face protection. S 35: This material and its container must be disposed of in a safe way.

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 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.

R PHRASES: R 36/38: Irritating to eyes and skin. R 52/53: Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Use of the substance/preparation: Hardness determination

Revision Summary: Updates in Section(s) 14,

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.

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