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

Date Printed 10/24/15
MSDS No: M00337

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:
Catalog Number: 1438801

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: M00337
Chemical Name: Not applicable.
CAS Number: Not applicable.
Additional CAS No. (for hydrated forms): Not applicable
Chemical Formula: Not applicable.
Chemical Family: Not applicable
Intended Use: Laboratory Reagent Alkalinity determination

2. HAZARDS IDENTIFICATION

GHS Classification:
Hazard categories: Serious Eye Damage/Eye Irritation: Eye Dam. 1
GHS Label Elements:
DANGER

Hazard statements: Causes serious eye damage.
Precautionary statements: Wear eye protection. 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.
HMIS:
Health: 3
Flammability: 0
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 3
Flammability: 0
Reactivity: 0
Symbol: Not applicable
WHMIS Hazard Classification: Class E - Corrosive material
WHMIS Symbols: Corrosive

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:
Sulfuric acid

CAS Number: 7664-93-9
Chemical Formula: H_2SO_4

GHS Classification: Met. Corr. 1 H290; Skin Corr. 1A, H314; Aquatic Acute 3, H402
Percent Range (Trade Secret): 0.1 - 1.0
Percent Range Units: weight / weight
PEL: 1 mg/m^3
TLV: 1 mg/m^3

WHMIS Symbols: Acute PoisonCorrosive

Formaldehyde

CAS Number: 50-00-0
Chemical Formula: CH_2O
GHS Classification: Flam. Liq. 4, H227; Acute Tox. 3 -Orl, H301; Acute Tox. 3 -Derm, H311; Skin Corr. 1B, H314; Skin Sens. 1, H317; Acute Tox. 3-Inh, H331; Resp. Sens. 1, H334; Muta. 2, H341; Carc. 2, H351; Repr. 2, H361; STOT Single 1, H370; Aquatic Acute 2, H401
Percent Range (Trade Secret): < 0.1
Percent Range Units: weight / weight
PEL: 0.75 ppm
TLV: 0.3 ppm

WHMIS Symbols: Acute PoisonOther Toxic Effects

Methyl Alcohol

CAS Number: 67-56-1
Chemical Formula: CH_3OH
GHS Classification: Flam. Liq 2, H225; Acute Tox 3 -Orl, H301; Acute Tox 3 -Derm, H311; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Acute Tox 3 -Inh, H331; Muta. 2, H341; Repr. 2, H361; STOT SE1, H370
Percent Range (Trade Secret): < 0.1
Percent Range Units: weight / weight
PEL: 200 ppm
TLV: 200 ppm

WHMIS Symbols: Acute PoisonFlammable / CombustibleOther Toxic Effects

Hazardous Components according to GHS: No

Demineralized Water

CAS Number: 7732-18-5
Chemical Formula: H_2O
GHS Classification: Not a dangerous substance according to GHS.
Percent Range (Trade Secret): >98
Percent Range Units: weight / volume
PEL: Not established
TLV: Not established

WHMIS Symbols: Not applicable

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4. FIRST AID MEASURES

General Information: In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.
Advice to doctor: Treat symptomatically.
Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Remove contaminated clothing. Wash skin with plenty of water. Call physician if irritation develops.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. If concerned contact a physician. If you feel unwell, contact a physician
Ingestion (First Aid): Give large quantities of water. Never give anything by mouth to an unconscious person. Call physician immediately.

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5. FIRE FIGHTING MEASURES

Flammable Properties: Material will not burn. Material is not classified as flammable according to GHS criteria.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.
Extinguishing Media: Use media appropriate to surrounding fire conditions
Extinguishing Media NOT To Be Used: Not applicable
Fire / Explosion Hazards: This product will not burn or explode. May react violently with: strong acids strong bases strong oxidizers
Hazardous Combustion Products: This material will not burn.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:
Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
Containment Technique: Absorb spilled liquid with non-reactive sorbent material. Stop spilled material from being released to the environment.
Clean-up Technique: If permitted by regulation, Cover spilled material with an alkali, such as soda ash or sodium bicarbonate. Scoop up slurry into a large beaker. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Dispose of material in government approved hazardous waste facility. Decontaminate the area of the spill with a soap 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.
DOT Emergency Response Guide Number: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin clothing Wash thoroughly after handling. Use with adequate ventilation. Do not breathe mist or vapors. Maintain general industrial hygiene practices when using this product.
Storage: Store between 10° and 25°C. Protect from: heat extreme temperatures Keep away from: oxidizers acids bases
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: safety glasses with top and side shields
Skin Protection: 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. lab coat
Inhalation Protection: adequate ventilation
Precautionary Measures: Avoid contact with: eyes Wash thoroughly after handling. Use with adequate ventilation. Protect from: heat
TLV: Not established.
PEL: Not established.
For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid
Physical State: Liquid
Molecular Weight: Not applicable.
Odor: Odorless

Odor Threshold: Not applicable.
pH: 1.1
Metal Corrosivity:
Corrosivity Classification: Not classified as corrosive to metals according to GHS criteria.
Steel: 0.027 in/yr (0.689 mm/yr)
Aluminum: 0.124 in/yr (3.150 mm/yr)
Specific Gravity/ Relative Density (water = 1; air =1): 0.990
Viscosity: ~ 1.0 mPa∗s
Solubility:
Water: Miscible.
Acid: Miscible.
Other: Miscible in ethanol.
Partition Coefficient (n-octanol / water): Not applicable.
Coefficient of Water / Oil: Not applicable
Melting Point: -1 °C (30 °F)
Decomposition Temperature: > 100 °C (> 212 °F)
Boiling Point: ~ 100 °C (~ 212 °F)
Vapor Pressure: Estimated at 17.5 mm Hg (2.3 kPa) at 20 °C (68 °F)
Vapor Density (air = 1): 0.63
Evaporation Rate (water = 1): 0.56
Volatile Organic Compounds Content: Not applicable.
Flammable Properties: Material will not burn. Material is not classified as flammable according to GHS criteria.
Flash Point: Not applicable.
Method: Not applicable
Flammability Limits:
Lower Explosion Limits: Not applicable.
Upper Explosion Limits: Not applicable.
Autoignition Temperature: Not applicable.
Explosive Properties:
Not classified according to GHS criteria.
Oxidizing Properties:
Not classified according to GHS criteria.
Reactivity Properties:
Not classifed as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.
Gas under Pressure:
Not classified according to GHS criteria.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Mechanical Impact: None reported
Static Discharge: None reported.
Reactivity / Incompatibility: Incompatible with: caustics strong acids strong oxidizers
Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: sulfur oxides formaldehyde carbon dioxide carbon monoxide
Conditions to Avoid: Extreme temperatures Evaporation

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.
Toxicologically Synergistic Products: None reported
Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data Practically Non-toxic Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Single Exposure (STOT-SE): Based on classification principles, the classification criteria are not met. Summary of findings reported in the literature follow.

Formaldehyde: Oral Human TDLo = 2.14 mL/kg/Pleural effusion, respiratory depression, ulceration; Oral Human LDLo = 1 mL/kg/Coma; Oral Human TDLo = 3.6 mL/kg/Acidosis; Methanol: Oral Human TDLo = 3.57 mL/kg/Visual field changes, dyspnea

Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met. Summary of findings reported in the literature follow.

Methanol: Oral Human (female) LDLo = 10 mL/kg/Respiratory depression, multiple enzyme effects, changes in structure or function of exocrine pancreas; Oral Human (male) TDLo = 9.45 mL/kg/Mydrasis, general anesthetic, body temperature decrease

Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met.

10% wt/wt H2SO4 skin corrosivity test results: 2 rabbits showed signs of erythema 1 hr after patch removal, cleared by 24 hours. 1 rabbit showed signs of edema 1 hr after patch removal , cleared by 24 hr.

Eye Damage: Corrosive to eyes. Assessment based on pH

Sensitization: Contains a sensitizing compound. Testing data given below. Based on classification principles, the classification criteria are not met.

Formaldehyde: Skin - Human - 1 pph/48 hr/Allergic dermatitis; In sensitized subjects specific late asthmatic reactions may be provoked by brief exposures of 3 ppm.

CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Based on classification principles, the classification criteria are not met. Contains Listed Carcinogen Contains a reproductive toxin. Summary of findings reported in the literature follow.

Formaldehyde: Inhalation Rat TCLo = 15 ppm/6 hr/78 wk/Olfaction tumors; Inhalation Human Sister Chromatid Exchange, Micronucleous Test 0.985 mg/m^3/8 hr/8.5 yr; Inhalation Human Micronucleus Test 2 ppm/15 min

Methanol: Oral Rat TDLo = 5.2 mL/kg/Fetotoxicity, Specific Developmental Abnormalitites: Eye, ear, urogenital system; Inhalation Rat TCLo = 2.6 mg/m^3/Fetotoxicity; Inhalation Mouse TCLo = 1500 ppm/6 hr/Specific Developmental Abnormalities: CNS

An ingredient of this mixture is: IARC Group 1: Recognized Carcinogen

Sulfuric Acid - The IARC evaluation was based on exposure to the mist or vapor of concentrated sulfuric acid generated during chemical processes. Formaldehyde

An ingredient of this mixture is: NTP Listed Group 1: Recognized Carcinogen

Formaldehyde Sulfuric Acid Mist or Vapor

An ingredient of this product is an OSHA listed carcinogen.

Formaldehyde

Symptoms/Effects:

Ingestion: Practically non-toxic May cause: inflammation of the mouth irritation of the mouth and esophagus gastrointestinal tract irritation nausea vomiting Large doses may cause: burns of the mouth, esophagus and stomach

Inhalation: May cause: burning sensation

Skin Absorption: May be absorbed through skin. No effects anticipated

Chronic Effects: Chronic overexposure may cause destruction of any tissue contacted Methanol is a cumulative poison. Methanol may cause visual impairment and possibly blindness by repeated or prolonged exposure.

Medical Conditions Aggravated: Allergies or sensitivity to formaldehyde. Eye conditions Skin conditions Respiratory conditions

12. ECOLOGICAL INFORMATION

Product Ecological Information: No specific ecological information available for this product.

Based on classification principles, not classified as hazardous to the environment. Mobility in soil: Highly mobile No bioaccumulation potential

Method Used for Estimation of Aquatic Toxicity of Mixture Summation Method M-factor (Multiplier) for highly toxic ingredients: 1

Ingredient Ecological Information: Sulfuric Acid: 96 hr Lepomis macrochirus LC50 = 16-28 mg/L; 24 hr LC50 = 82 mg/L; 48 hr Crangon crangon EC50 = 70-80 mg/L.

Formaldehyde: 96 hr Morone saxatilis LC50 = 6.7 mg/L; 96 hr Fish LC50 = 52.5 mg/L; 48 hr Daphnia pulex EC50 = 5.8 mg/L; 48 hr Daphnia magna EC50 = 29 mg/L; 48 hr Crustacea EC50 = 14 mg/L

Methanol: Not persistent, bioaccumulative or inherently toxic to aquatic organisms.

Sulfuric Acid, Water: CEPA Statement: Persistent, not bioaccumulative or inherently toxic to aquatic. Formaldehyde: CEPA Statement: Not persistent or bioaccumulative. Inherently toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D002 U122 U154
Special Instructions (Disposal): Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the reacted material to the drain. Flush system with plenty of water. If permitted by regulation, Otherwise, Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.
Empty Containers: Rinse three times with an appropriate solvent. Working in a well-ventilated area, Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. 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. 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

D.O.T.:
D.O.T. Proper Shipping Name: Not Currently Regulated
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Hazard Class: NA
Subsidiary Risk: NA
ID Number: NA
Packing Group: NA
T.D.G.:
Proper Shipping Name: Not Currently Regulated
--
Hazard Class: NA
Subsidiary Risk: NA
UN Number/PIN: NA
Packing Group: NA
I.C.A.O.:
I.C.A.O. Proper Shipping Name: Not Currently Regulated
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Hazard Class: NA
Subsidiary Risk: NA
ID Number: NA
Packing Group: NA
I.M.O.:
Proper Shipping Name: Not Currently Regulated
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Hazard Class: NA
Subsidiary Risk: NA
ID Number: NA
Packing Group: NA
Marine Pollutant:
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

U.S. Federal Regulations:
O.S.H.A.: This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)
E.P.A.:
S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): Immediate (Acute) Health Hazard

S.A.R.A. Title III Section 313 (40 CFR 372): This product contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.
Sulfuric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size.); Formaldehyde; Methanol
302 (EHS) TPQ (40 CFR 355): Sulfuric Acid 1000 lbs. Formaldehyde 500 lbs.
304 CERCLA RQ (40 CFR 302.4): Sulfuric Acid 1000 lbs. Formaldehyde 100 lbs. Methanol 5000 lbs.
304 EHS RQ (40 CFR 355): Sulfuric Acid - RQ 1000 lbs. Formaldehyde - RQ 100 lbs
Clean Water Act (40 CFR 116.4): Sulfuric acid - RQ 1000 lbs. Formaldehyde - RQ 100 lbs.
RCRA: Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

State Regulations:
California Prop. 65: WARNING - This product contains a chemical known to the State of California to cause cancer. WARNING - This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Identification of Prop. 65 Ingredient(s): Formaldehyde and Methanol
California Perchlorate Rule CCR Title 22 Chap 33: Not applicable
Trade Secret Registry: Not applicable

National Inventories:
U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).
CAS Number: Not applicable.
Canadian Inventory Status: All ingredients of this product are DSL Listed.
EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.
Australian Inventory (AICS) Status: All ingredients are listed.
New Zealand Inventory (NZIoC) Status: All components either listed or exempt.
Korean Inventory (KECI) Status: All components of this product are either listed, listed as the anhydrous compound or exempt.
Japan (ENCS) Inventory Status: All components either listed or exempt.
China (PRC) Inventory (MEP) Status: All components either listed or exempt.

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. 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. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Sixth Annual Report on Carcinogens, 1991. U.S. Department of Health and Human Services. Rockville, MD: Technical Resources, Inc. 1991. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Verschueren, Karel. Handbook of Environmental Data on Organic Chemicals. New York: Van Nostrand Reinhold Co., 1977.
Complete Text of H phrases referred to in Section 3: H318 Causes serious eye damage.
Revision Summary: . Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).
Date of MSDS Preparation:
Day: 01
Month: May
Year: 2014
MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350
CCOHS Evaluation Note: It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

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.