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

Date Printed 5/22/15
MSDS No: M00168

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: UniVer ® 3 Hardness Reagent
Catalog Number: 96299

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: M00168
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: Hardness determination Laboratory Reagent

2. HAZARDS IDENTIFICATION

GHS Classification:
Hazard categories: . Serious Eye Damage/Eye Irritation:Eye Irrit. 2 Acute Toxicity: Acute Tox. 4-Inh . .
GHS Label Elements:
WARNING

Hazard statements: . . Causes serious eye irritation. Harmful if inhaled.
Contact with acids liberates toxic gas.
Precautionary statements: Avoid breathing dust/fume/gas/mist/vapours/spray. Handle environmental release according to local, state, federal, provincial requirements. Wear eye protection. IF INHALED: Remove victim/person to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Dispose of contents/container according to state, local, federal or national regulations.
HMIS:
Health: 2
Flammability: 0
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 2
Flammability: 0
Reactivity: 0
Symbol: Not applicable
WHMIS Hazard Classification: Class D, Division 2, Subdivision B - Toxic material (other toxic effects)
WHMIS Symbols: Other Toxic Effects

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:

Sodium Carbonate

CAS Number: 497-19-8
Chemical Formula: Na_2CO_3
GHS Classification: Eye Irrit. 2, H319; Acute Tox. Inh. 4, H332; Acute Tox. Orl. 5, H303
Percent Range: 55.0 - 65.0
Percent Range Units: weight / weight
PEL: Not established
TLV: Not established

WHMIS Symbols: Other Toxic Effects

Sodium Sulfite

CAS Number: 7757-83-7
Chemical Formula: Na_2SO_3
GHS Classification: Acute Tox. 5 -Orl, H303; Acute Tox. 5 -Derm, H313; Acute Tox. 5 -Inh, H333; Aquatic Acute 3, H402;
Percent Range: 20.0 - 30.0
Percent Range Units: weight / weight
PEL: 15 mg/m^3 as inhalable dust; 5 mg/m^3 as respirable dust
TLV: 10 mg/m^3 as inhalable dust

WHMIS Symbols: Other Toxic Effects

Ammonium Chloride

CAS Number: 12125-02-9
Chemical Formula: NH_4Cl
GHS Classification: Acute Tox. 4-Orl, H302; Skin Irrit. 3, H316; Eye Irrit. 2A, H319; Aq. Acute 2, H401
Percent Range: 10.0 - 20.0
Percent Range Units: weight / weight
PEL: 15 mg/m^3 as inhalable dust; 5 mg/m^3 as respirable dust
TLV: 10 mg/m^3

WHMIS Symbols: Other Toxic Effects

Sodium Diethyldithiocarbamate

CAS Number: 148-18-5
Chemical Formula: $(C_2H_5)_2\ NCS_2Na$
GHS Classification: Acute Tox. 4-Orl, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Acute 1, H400
Percent Range: 0.5 - 1.5
Percent Range Units: weight / weight
PEL: Not established
TLV: Not established

WHMIS Symbols: Other Toxic Effects

EDTA Tetrasodium Salt

CAS Number: 64-02-8
Chemical Formula: $C_{10}H_{12}N_2Na_4O_8\ 2H_2O$
GHS Classification: Acute Tox. 4-Orl, H302; Eye Dam. 1, H318
Percent Range: < 0.5
Percent Range Units: weight / weight
PEL: 15 mg/m^3 as total dust; 5 mg/m^3 as respirable dust
TLV: 10 mg/m^3 as inhalable dust; 3 mg/m^3 as respirable dust

WHMIS Symbols: Other Toxic Effects

Calmagite

CAS Number: 3147-14-6

Chemical Formula: $C_{17}H_{14}N_2O_5S\ H_2O$
GHS Classification: Skin Irrit 2, H315; Eye Irrit 2A, H319; STOT Single 3, H335
Percent Range: 0.1
Percent Range Units: weight / weight
PEL: Not established
TLV: Not established

WHMIS Symbols: Other Toxic Effects
Hazardous Components according to GHS: No
EDTA, Magnesium Disodium Salt

CAS Number: 14402-88-1
Chemical Formula: $C_{10}H_{12}MgN_2O_8Na_2$
GHS Classification: Not hazardous per GHS classification criteria
Percent Range: 0.5 - 1.5
Percent Range Units: weight / weight
PEL: Not established
TLV: Not established

WHMIS Symbols: Other Toxic Effects
Silica, fumed

CAS Number: 7631-86-9
Chemical Formula: SiO_2
GHS Classification: Not applicable
Percent Range: < 0.5
Percent Range Units: weight / weight
PEL: 80 mg/m^3 (per %SiO_2)
TLV: 4 mg/m^3 as inhalable; 1.5 mg/m^3 as respirable

WHMIS Symbols: Not applicable

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): Wash skin with plenty of water. Remove contaminated clothing.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. If you feel unwell, contact a physician
Ingestion (First Aid): Give large quantities of water. Call physician immediately. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flammable Properties: Does not burn, but may melt in a fire, releasing toxic fumes. 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: None reported
Hazardous Combustion Products: Toxic fumes of: nitrogen oxides, sulfur oxides, carbon monoxide, carbon dioxide, sodium oxides ammonia silicon dioxide

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: Stop spilled material from being released to the environment.
Clean-up Technique: If permitted by regulation, Scoop up spilled material into a large beaker and dissolve with 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. Otherwise, Decontaminate the area of the spill with a weak acid solution. Dispose of in accordance with local, state and federal regulations or laws.
Evacuation Procedure: Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) if the article is broken and contents are spilled. a pound or more of loose powder is spilled. 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 Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Protect from: moisture Keep away from: acids oxidizers
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 skin clothing Protect from: moisture Keep away from: acids/acid fumes oxidizers
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: Light pink powder
Physical State: Solid
Molecular Weight: Not applicable
Odor: Odorless
Odor Threshold: None
pH: 1.6% solution = 10.1
Metal Corrosivity:
Corrosivity Classification: Not classified as corrosive to metals according to GHS criteria.
Steel: 0.000 in/yr
Aluminum: 0.022 in/yr
Specific Gravity/ Relative Density (water = 1; air =1): 2.25
Viscosity: Not applicable
Solubility:
Water: Soluble
Acid: Not determined
Other: Not determined
Partition Coefficient (n-octanol / water): Not determined
Coefficient of Water / Oil: Not determined
Melting Point: 95 °C (203 °F)

Decomposition Temperature: Not determined
Boiling Point: Not determined
Vapor Pressure: Not applicable
Vapor Density (air = 1): Not applicable
Evaporation Rate (water = 1): Not applicable
Volatile Organic Compounds Content: Not applicable
Flammable Properties: Does not burn, but may melt in a fire, releasing toxic fumes. 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: acids oxidizers
Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: nitrogen oxides sulfur oxides ammonia carbon monoxide carbon dioxide
Conditions to Avoid: Heat Excess moisture

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 Route Data Given Below
ATE Oral Rat LD50 = 2940 mg/kg
ATE Inhalation Rat LC50 = 2 mg/L/4 hr
Specific Target Organ Toxicity - Single Exposure (STOT-SE): Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met.
Skin Corrosion/Irritation: Mildly irritating to skin.
Eye Damage: Irritating to eyes.
Sensitization: Contains a sensitizing compound. Skin Sensitizer
Sodium Carbamate (1%)
CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Data insufficient for classification
An ingredient of this mixture is: IARC Group 3: Non-classifiable
Sulfites
An ingredient of this mixture is: NTP Listed Group 2A: Suspected Carcinogen
Symptoms/Effects:
Ingestion: May cause: gastrointestinal tract irritation nausea vomiting diarrhea allergic respiratory reaction
Inhalation: Causes: respiratory tract irritation May cause: allergic respiratory reaction Harmful
Skin Absorption: None Reported

Chronic Effects: Chronic overexposure may cause allergic respiratory reactions allergic skin reactions chronic irritation or inflammation of the lungs eye irritation

Medical Conditions Aggravated: Persons with respiratory conditions should take special care when working with products that contain sulfites. Sulfites are strong sensitizers. Inhalation and ingestion may cause allergic respiratory reactions in asthmatics. Pre-existing: Eye conditions Skin conditions Respiratory conditions

12. ECOLOGICAL INFORMATION

Product Ecological Information:

No ecological data available for this product. Mobility in soil: No data available Do not place in landfil. Recycle appropriately. Do not release into the environment.

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

Ingredient Ecological Information: Sodium Carbonate: Lepomis macrochirus 96 hr LC50 = 300 mg/L; Daphnia magna 48 hr EC50 = 265 mg/L. Sodium Carbamate: 96 hr Poecilia reticulata LC50 = 6.9 mg/L; 48 hr Daphina magna EC50 = 0.91 mg/L; 72 hr Chlorella pyrenoidosa ECr50 = 1.4 mg/L

Ammonium Chloride: Cyprinus carpio 96 hr LC50 = 209 mg/L (static); Daphnia magna 24 hr LC50 = 202 mg/L.; LC50 Oncorhynchus mykiss 96 hr = 3.98 mg/L; LC50 Daphnia magna 48 hr = 161 mg/L; EC50 Crustaceans 48 hr = 49.7 mg/L

CEPA Statement: Aluminum Chloride: Persistent, not bioaccumulative, and inherently toxic to aquatic organisms; Sodium Carbamate, Sodium Carbonate: Persistent, not bioaccumulative or inherently toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: Not applicable

Special Instructions (Disposal): Work in an approved fume hood. Dilute material with excess water making a weaker than 5% solution. 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. Collect rinsate and dispose of according to local, state or federal regulations. Dispose of empty container as normal trash. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste.

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

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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

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.
Ammonia

302 (EHS) TPQ (40 CFR 355): Not applicable
304 CERCLA RQ (40 CFR 302.4): Ammonium chloride: 5000 lbs.
304 EHS RQ (40 CFR 355): Not applicable
Clean Water Act (40 CFR 116.4): Ammonium chloride - RQ 5000 lbs.
RCRA: Contains no RCRA regulated substances.

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.
Identification of Prop. 65 Ingredient(s): None
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 or are placed on the market in quantities less than 10 kg per year.
Australian Inventory (AICS) Status: All ingredients are listed.
New Zealand Inventory (NZIoC) Status: All components either listed or exempt.
Korean Inventory (KECI) Status: Not listed - exempt. Quantity < 100 kg per annum.
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). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Cassaret and Doull's Toxicology, 3rd Ed. New York: Macmillan Publishing Co., Inc., 1986. In-house information. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987. Technical Judgment.

Complete Text of H phrases referred to in Section 3: H302 Harmful if swallowed. Not applicable H315 Causes skin irritation. H318 Causes serious eye damage. H332 Harmful if inhaled. . H335 May cause respiratory irritation. H400 Very toxic to aquatic life. H401 Toxic to aquatic life.

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: 04
Month: June
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.