SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Potassium Hydroxide Solution 8 N
Catalog Number: 28232H

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
(315) 232-2533 8am - 4pm CST

MSDS Number: M00216
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: Calcium determination Hardness determination Buffer Laboratory Reagent

2. HAZARDS IDENTIFICATION

GHS Classification:
GHS Label Elements:
DANGER

Hazard statements: May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage
Precautionary statements: Keep only in original container. Wear protective gloves / protective clothing / eye protection / face protection. Do not eat, drink or smoke when using this product. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water /shower. 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: 1
Protective Equipment: X - See protective equipment. Section 8.

NFPA:
Health: 3
Flammability: 0
Reactivity: 1
Symbol: Not applicable
WHMIS Hazard Classification: Class E - Corrosive material
WHMIS Symbols: Corrosive

3. COMPOSITION / INFORMATION ON INGREDIENTS
Hazardous Components according to GHS:

Potassium Hydroxide

- CAS Number: 1310-58-3
- Chemical Formula: KOH
- GHS Classification: Acute Tox. 4 - Orl, H302; Skin Corr. 1A, H314; Met Corr. 1, H290; Aquatic Acute 3, H402
- Percent Range (Trade Secret): 40.0 - 50.0
- Percent Range Units: weight / weight
- PEL: 15 mg/m³ as inhalable dust, 5 mg/m³ as respirable dust
- TLV: 10 mg/m³ as inhalable dust; 3 mg/m³ as respirable dust

WHMIS Symbols: CorrosiveAcute Poison

Hazardous Components according to GHS: No

Deminerlized Water

- CAS Number: 7732-18-5
- Chemical Formula: H₂O
- GHS Classification: Not a dangerous substance according to GHS.
- Percent Range (Trade Secret): 50.0 - 60.0
- Percent Range Units: volume / volume
- PEL: Not established
- TLV: Not established

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): Remove contaminated clothing. Call physician immediately. Wash skin with plenty of water for 15 minutes.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

Ingestion (First Aid): Never give anything by mouth to an unconscious person. Do not induce vomiting. Call physician immediately. Give 1-2 glasses of water.

5. FIRE FIGHTING MEASURES

Flammable Properties: Material will not burn.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

Extinguishing Media: Water.

Extinguishing Media NOT To Be Used: Not applicable

Fire / Explosion Hazards: Contact with acid or strong oxidizer may generate sufficient heat to cause ignition. Contact with metals gives off hydrogen gas which is flammable.

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 1910.120a(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. Absorb spilled liquid with non-reactive sorbent material. Releases of this material may contaminate the environment.

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
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.


Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: A system of local and/or general exhaust is recommended to keep exposures as low as possible. Have an eyewash station nearby. Have a safety shower nearby. Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:
- Eye Protection: Chemical splash goggles. Suitable facilities (eyewash station or bottle) for flushing of the eyes.
- Skin Protection: Neoprene 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. Suitable facilities for quickly drenching or flushing skin after chemical exposure should be available.
- Inhalation Protection: Adequate ventilation and/or laboratory fume hood.


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: Irritating

Odor Threshold: Not determined

pH: 14

Metal Corrosivity:
- Corrosivity Classification: Classified as corrosive to metals.
- Steel: Not determined
- Aluminum: 541 mm/yr (21.311 in/yr)

Specific Gravity/Relative Density (water = 1; air = 1): 1.3

Viscosity: 2.51 mPa s at 0 °C (32 °F)

Solubility:
- Water: Soluble
- Acid: Soluble
- Other: Not determined

Partition Coefficient (n-octanol/water): Not applicable

Coefficient of Water/Oil: Not applicable

Melting Point: -45 °C (-49 °F) - Estimated

Decomposition Temperature: Not applicable

Boiling Point: 112 °C (234 °F) - Estimated

Vapor Pressure: 450.5 mm Hg at 100 °C (212 °F)

Vapor Density (air = 1): 0.62

Evaporation Rate (water = 1): 0.18

Volatile Organic Compounds Content: Not applicable

Flammable Properties: Material will not burn.

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 classified 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: May react violently in contact with: acids, metals, organic peroxides, combustible materials, oxidizers
Hazardous Decomposition: Contact with metals may release flammable hydrogen gas. Heating to decomposition releases potassium oxide
Conditions to Avoid: Extreme temperatures Contact with acid or acid fumes Contact with oxidizers Incompatibles

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 = 673 mg/kg
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: Corrosive to skin.
Eye Damage: Corrosive to eyes.
Sensitization: Based on classification principles, the classification criteria are not met.
CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Based on classification principles, the classification criteria are not met.
  This product does NOT contain any IARC listed chemicals.
  This product does NOT contain any NTP listed chemicals.
  This product does NOT contain any OSHA listed carcinogens.
Symptoms/Effects:
  Ingestion: Harmful Causes: abdominal pain vomiting Can cause: death
  Inhalation: Harmful Causes: severe burns sneezing coughing discomfort bronchospasm Can cause: death
  Skin Absorption: None Reported
  Chronic Effects: Chronic overexposure may cause destruction of any tissue contacted
  Medical Conditions Aggravated: Pre-existing Eye conditions Skin conditions Respiratory conditions

12. ECOLOGICAL INFORMATION

Product Ecological Information: --
  No ecological data available for this product. Do not place in landfill. Recycle appropriately. Do not release into the environment. No bioaccumulation potential Mobility in soil: Highly mobile
  Method Used for Estimation of Aquatic Toxicity of Mixture Summation Method M-factor (Multiplier) for highly toxic ingredients: 1
Ingredient Ecological Information: Potassium Hydroxide: 96 hr Gambusia affinis LC50 = 80 mg/L
  CEPA categorization for each and every ingredient: Persistent Not bioaccumulative and not inherently toxic to aquatic organisms.
13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D002
Special Instructions (Disposal): 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. If permitted by regulation, open cold water tap completely, slowly pour the reacted material to the drain. Flush system with plenty of water. Otherwise, check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.
Empty Containers: Working in a well-ventilated area. 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. Rinse 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: Potassium Hydroxide, Solution  
---  
Hazard Class: 8  
Subsidiary Risk: NA  
ID Number: UN1814  
Packing Group: II

T.D.G.:  
Proper Shipping Name: Potassium Hydroxide, Solution  
---  
Hazard Class: 8  
Subsidiary Risk: NA  
UN Number/PIN: 1814  
Packing Group: II

I.C.A.O.:  
I.C.A.O. Proper Shipping Name: Potassium Hydroxide Solution  
---  
Hazard Class: 8  
Subsidiary Risk: NA  
ID Number: UN1814  
Packing Group: II

I.M.O.:  
Proper Shipping Name: Potassium Hydroxide Solution  
---  
Hazard Class: 8  
Subsidiary Risk: NA  
ID Number: UN1814  
Packing Group: II

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 does not contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.
302 (EHS) TPQ (40 CFR 355): Not applicable
304 CERCLA RQ (40 CFR 302.4): Potassium hydroxide 1000 lbs.
304 EHS RQ (40 CFR 355): Not applicable

State Regulations:
California Prop. 65: No Prop. 65 listed chemicals are present in this product.
Identification of Prop. 65 Ingredient(s): Not applicable
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


Complete Text of H phrases referred to in Section 3: H290 May be corrosive to metals. H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage.
Revision Summary: Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SIG/AC.10/36/Add.3).

Date of MSDS Preparation:
Day: 22
Month: April
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/SIG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SIG/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.

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