The following list contains the Material Safety Data Sheets you requested. Please scoll down to view the requested MSDS(s).

Product	MSDS	Distributor	Format	Language	Quantity
245053	N/A	Hach Company	ROWGHS	English	1

Total Enclosures: 1

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

MSDS No: M00438

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium Hydroxide Solution 5.0 N
Catalog Number: 245053

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: M00438
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 Use Standard solution

2. HAZARDS IDENTIFICATION

GHS Classification:
Hazard categories: Corrosive to Metals: Met. Corr. 1 Skin Corrosion/Irritation: Skin Corr. 1A
GHS Label Elements:
DANGER

Hazard statements: May be corrosive to metals. Causes severe skin burns and eye damage.
Precautionary statements: Wear protective gloves / protective clothing / eye protection / face protection. 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. IF INHALED: Remove victim/person to fresh air and keep at rest in a position comfortable for breathing. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. 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:

Sodium Hydroxide

CAS Number: 1310-73-2
Chemical Formula: NaOH
GHS Classification: Met. Corr.1, H290; Skin Corr. 1A, H314; Aquatic Acute 3, H402
Percent Range (Trade Secret): 15.0 - 25.0
Percent Range Units: weight / weight
PEL: 2 mg/m^3
TLV: Not established

WHMIS Symbols: Acute PoisonCorrosive
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): 75.0 - 85.0
Percent Range Units: weight / weight
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. Check for and remove any contact lenses. Call physician.
Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.
Inhalation: Remove to fresh air. Call physician.
Ingestion (First Aid): Do not induce vomiting. Rinse mouth with plenty of water. Give 1-2 glasses of water. If vomiting occurs, avoid aspiration by keeping head below hips. Never give anything by mouth to an unconscious person. Call physician immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties: Material is not classified as flammable according to GHS criteria. Material will not burn.
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Evacuate area and fight fire from a safe distance.
Extinguishing Media: Use media appropriate to surrounding fire conditions
Extinguishing Media NOT To Be Used: Not applicable
Fire / Explosion Hazards: May react violently with: strong acids
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: Releases of this material may contaminate the environment. Stop spilled material from being released to the environment. Absorb spilled liquid with non-reactive sorbent material. Dike the spill to contain material for later disposal.
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. Decontaminate the area of the spill with a weak acid solution. If permitted by regulation, Flush reacted material to the drain with a large

excess of water. 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 local area (15 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.
DOT Emergency Response Guide Number: 154

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: Keep container tightly closed when not in use. Keep this product in its original container when not in use. Store in a cool, dry place. Store locked up. Keep away from: acids / acid fumes. Protect from: heat freezing
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Have an eyewash station nearby. Have a safety shower nearby. Use general ventilation to minimize exposure to mist, vapor or dust.
Personal Protective Equipment:
Eye Protection: chemical splash goggles Suitable facilities (eyewash station or bottle) for flushing of the eyes
Skin Protection: lab coat neoprene latex gloves Suitable facilities for quickly drenching or flushing skin after chemical exposure should be available.
Inhalation Protection: adequate ventilation and / or laboratory fume hood
Precautionary Measures: Avoid contact with: eyes skin clothing Wash thoroughly after handling. Use with adequate ventilation. Do not breathe: mist/vapor Keep away from: acids/acid fumes Protect from: heat freezing
TLV: 2 mg/m³
PEL: 2 mg/m³
For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless
Physical State: Liquid
Molecular Weight: Not applicable
Odor: Odorless
Odor Threshold: Not applicable
pH: 14
Metal Corrosivity:
Corrosivity Classification: Classified as corrosive to metals.
Steel: 0.00 in/yr (0.00 mm/yr)
Aluminum: > 20 in/yr (> 508 mm/yr)
Specific Gravity/ Relative Density (water = 1; air =1): 1.181
Viscosity: 4 - 5 mPa*s
Solubility:
Water: misicible
Acid: misicible
Other: Soluble in methanol, ethanol, and glycerol.
Partition Coefficient (n-octanol / water): na
Coefficient of Water / Oil: Not applicable
Melting Point: -24 °C (-12 °F)
Decomposition Temperature: Not applicable
Boiling Point: 107 °C (224 °F)
Vapor Pressure: Estimation: 15.73 mm Hg (2.04 kPa) at 20 °C (68 °F)
Vapor Density (air = 1): 0.62
Evaporation Rate (water = 1): na
Volatile Organic Compounds Content: None.
Flammable Properties: Material is not classified as flammable according to GHS criteria. Material will not burn.
Flash Point: na
Method: Not applicable
Flammability Limits:
Lower Explosion Limits: na

Upper Explosion Limits: na
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: acids
Hazardous Decomposition: Not determined
Conditions to Avoid: Excessive heat Freezing conditions Contact with acid or acid fumes

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.
Toxicologically Synergistic Products: Not determined
Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data Based on classification principles, the classification criteria are not met. Route Data Given Below
ATE Dermal Rabbit LD50 = 6750 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 OSHA listed carcinogens.
Symptoms/Effects:
Ingestion: Causes: severe burns
Inhalation: Causes: severe burns
Skin Absorption: None Reported
Chronic Effects: Chronic overexposure may cause destruction of any tissue contacted
Medical Conditions Aggravated: Pre-existing: Eye conditions Respiratory conditions Skin conditions

12. ECOLOGICAL INFORMATION

Product Ecological Information: Aquatic Toxicity Estimation: 96 hr Oncorhynchus mykiss LC50 = 227 mg/L; 48 hr Crustaceans EC50 = 202 mg/L
No ecological data available for this product. Based on classification principles, not classified as hazardous to the environment. No bioaccumulation potential Mobility in soil: Highly mobile
Method Used for Estimation of Aquatic Toxicity of Mixture Additivity Method (Acute Toxicity) and Summation Method M-factor (Multiplier) for highly toxic ingredients: 1
Ingredient Ecological Information: 96 hr Oncorhynchus mykiss LC50 = 45.4 mg/L; 48 hr Daphnia sp. EC50 = 100 mg/L; 48 hr Crustaceans EC50 = 40.4 mg/L
CEPA categorization for ingredients are as follows:
Sodium Hydroxide: Not persistent, bioaccumulative or inherently toxic to aquatic organisms
Water: Persistent, not bioaccumulative or inherently toxic to aquatic organisms

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: D002
Special Instructions (Disposal): Work in an approved fume hood. 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. If permitted by regulation, 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. 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. 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. Dispose of empty container as normal trash.
NOTICE (Disposal): 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: Sodium Hydroxide Solution
--
Hazard Class: 8
Subsidiary Risk: NA
ID Number: UN1824
Packing Group: II
T.D.G.:
Proper Shipping Name: Sodium Hydroxide Solution
--
Hazard Class: 8
Subsidiary Risk: NA
UN Number/PIN: 1824
Packing Group: II
I.C.A.O.:
I.C.A.O. Proper Shipping Name: Sodium Hydroxide Solution
--
Hazard Class: 8
Subsidiary Risk: NA
ID Number: UN1824
Packing Group: II
I.M.O.:
Proper Shipping Name: Sodium Hydroxide Solution
--
Hazard Class: 8
Subsidiary Risk: NA
ID Number: UN1824
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): Sodium Hydroxide 1000 lbs.
304 EHS RQ (40 CFR 355): Not applicable
Clean Water Act (40 CFR 116.4): Sodium Hydroxide - RQ = 1000 lbs. (454 kgs.)
RCRA: Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

State Regulations:
California Prop. 65: No Prop. 65 listed chemicals are present in this product.
Identification of Prop. 65 Ingredient(s): --
California Perchlorate Rule CCR Title 22 Chap 33: Not applicable
Trade Secret Registry: Not determined

National Inventories:
U.S. Inventory Status: Not determined
CAS Number: Not applicable
Canadian Inventory Status: Not applicable
EEC Inventory Status: Not determined
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: Not determined
Complete Text of H phrases referred to in Section 3: H290 May be corrosive to metals. 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/SG/AC.10/36/Add.3).
Date of MSDS Preparation:
Day: 18
Month: February
Year: 2014
MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350
CCOHS Evaluation Note: This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). 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.

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.