

SAFETY DATA SHEET

Issue Date 16-05-2018	Revision Date 25-May-2022	Version 3.2	Page 1 / 13
	1. IDENTIFICATIO	N	
Obsolete Item Statement	This product is Obsolete and is no lor	nger manufactured	
<u>Product identifier</u> Product Name	Neutralizing Reagent		
Other means of identification Product Code(s)	212799		
Safety data sheet number	M00037		
UN/ID no	UN2680		
Recommended use of the chemical Recommended Use Uses advised against Restrictions on use	and restrictions on use Laboratory Use. None. None.		
Details of the supplier of the safety data sheet			

Manufacturer Address Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to metals	Category 1
Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word Danger

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Hazard statements

- H290 May be corrosive to metals
- H301 Toxic if swallowed
- H314 Causes severe skin burns and eye damage
- H331 Toxic if inhaled

Precautionary statements

- P270 Do not eat, drink or smoke when using this product
- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
- P405 Store locked up
- P501 Dispose of contents/ container to an approved waste disposal plant
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray
- P271 Use only outdoors or in a well-ventilated area
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed
- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P280 Wear protective gloves, protective clothing, eye protection, and face protection
- P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

- P310 Immediately call a POISON CENTER or doctor/physician
- P363 Wash contaminated clothing before reuse
- P234 Keep only in original container
- P390 Absorb spillage to prevent material damage

Other Hazards Known

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance Chemical Name Chemical Family Formula CAS No Alternate CAS Number

Lithium hydroxide monohydrate Inorganic Base. LiOH • H₂O 1310-66-3 1310-66-3 - Monohydrate

Percent ranges are used where confidential product information is applicable.

4. FIRST AID MEASURES

Description of first aid measures

General advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is

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	required.		
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Do not breathe dust.		
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.		
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.		
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.		
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.		
Most important symptoms and effects, both acute and delayed			
Symptoms	Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.		
Indication of any immediate medical attention and special treatment needed			
Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.		
5. FIRE-FIGHTING MEASURES			
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.		
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.		
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.		
Hazardous combustion products	This material will not burn.		
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.		

6. ACCIDENTAL RELEASE MEASURES

U.S. 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.

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Attention! Corrosive material. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.	
Other Information	Refer to protective measures listed in Sections 7 and 8.	
Environmental precautions		
Environmental precautions	Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.	
Methods and material for containment and cleaning up		
Methods for containment	Prevent further leakage or spillage if safe to do so.	
Methods for cleaning up	Pick up and transfer to properly labeled containers.	
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.	
Reference to other sections	See section 8 for more information. See section 13 for more information.	

7. HANDLING AND STORAGE

Precautions for safe handlingAdvice on safe handlingHandle in accordance with good industrial hygiene and safety practice. Avoid contact with
skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment.
Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat,
drink or smoke when using this product. Take off contaminated clothing and wash before
reuse. Do not breathe dust. Avoid generation of dust.Conditions for safe storage, including any incompatibilitiesStorage ConditionsKeep containers tightly closed in a dry, cool and well-ventilated place. Protect from
moisture. Store locked up. Keep out of the reach of children. Store away from other
materials.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters	
Exposure Guidelines	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies
Appropriate engineering controls Engineering Controls	Showers Eyewash stations Ventilation systems.

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Individual protection measures, su Respiratory protection	<u>ch as personal protective equipment</u> No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
Hand Protection	Wear suitable gloves. Impervious gloves.
Eye/face protection	Face protection shield.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
General Hygiene Considerations	Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Wash hands before breaks and immediately after handling the product. Do not breathe dust. Take off contaminated clothing and wash before reuse.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Appearance Odor	powder Suffocating	Solid		Color Odor threshold	white No data avail	able
Property			Values		<u> </u>	Remarks • Method
Molecular weight	t		41.96 g/mole			
рН			13.4			1% Solution
Melting point/free	ezing point		471 °C / 88	0 °F		
Boiling point / bo	oiling range		No data availal	ble		
Evaporation rate			Not applicable			
Vapor pressure			Not applicable			
Relative vapor de	ensity		No data availa	ble		
Specific gravity (water = 1 / air = 1)		1.51			
Partition Coeffici	ent (n-octanol/wate	er)	log K _{ow} ~ 0			
Soil Organic Carl	bon-Water Partition	ı	log K _{oc} ~ 0			
Autoignition tem	perature		No data availal	ble		
Decomposition to	emperature		924 °C / 169	5 °F		
Dynamic viscosi	ty		Not applicable			
Kinematic viscos	sity		Not applicable			
Solubility(ies)						

101367 mm/yr / 3990.83 in/yr

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Completely soluble	128000 mg/L	20 °C / 68 °F

Solubility in other solvents

Chemical Name	Solubility classification	<u>Solubility</u>	Solubility Temperature
Ethyl alcohol	Soluble	> 1000 mg/L	25 °C / 77 °F
Acids	Soluble	> 1000 mg/L	25 °C / 77 °F

Other information

Metal Corrosivity

Classified as corrosive to metal according to GHS criteria Steel Corrosion Rate Aluminum Corrosion Rate

Volatile Organic Compounds (VOC) Content This Product is by Weight 100% an Individual Pure Chemical Substance

Explosive properties

Upper explosion limit Lower explosion limit	No data available No data available
Flammable properties	
Flash point	Not applicable
Flammability Limit in Air Upper flammability limit: Lower flammability limit:	No data available No data available
Oxidizing properties	No data available.
Bulk density	No data available

10. STABILITY AND REACTIVITY

Reactivity Not applicable.

<u>Chemical stability</u> Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

None under normal processing.

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Conditions to avoid

Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials

Oxidizing agent. Acids. Bases.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Toxic by inhalation.
Eye contact	Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
Skin contact	May cause irritation.
Ingestion	Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.
Symptoms	Redness. Burning. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.

Acute toxicity Based on available data, the classification criteria are not met

Product Acute Toxicity Data

If available, see ingredient data below.

Ingredient Acute Toxicity Data

No data available.

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

Not applicable The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	No information available	
ATEmix (dermal)	No information available	
ATEmix (inhalation-dust/mist)	No information available	
ATEmix (inhalation-vapor)	No information available	
ATEmix (inhalation-gas)	No information available	

Skin corrosion/irritation

May cause skin irritation.

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Product Skin Corrosion/Irritation Data

If available, see ingredient data below.

Ingredient Skin Corrosion/Irritation Data

No data available.

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Product Serious Eye Damage/Eye Irritation Data

If available, see ingredient data below.

Ingredient Eye Damage/Eye Irritation Data No data available.

<u>Respiratory or skin sensitization</u> Based on available data, the classification criteria are not met.

Product Sensitization Data

If available, see ingredient data below.

Ingredient Sensitization Data No data available.

STOT - single exposure

Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Single Exposure Data If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Single Exposure Data No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Product Specific Target Organ Toxicity Repeat Dose Data

If available, see ingredient data below.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data No data available.

Carcinogenicity

Based on available data, the classification criteria are not met.

Product Carcinogenicity Data

If available, see ingredient data below.

Ingredient Carcinogenicity Data

No data available.

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of	Does not apply
Labor)	

Germ cell mutagenicity

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Based on available data, the classification criteria are not met.

Product Germ Cell Mutagenicity invitro Data

If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Product Germ Cell Mutagenicity invivo Data

If available, see ingredient data below.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Aspiration hazard

Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Based on available data, the classification criteria are not met.
Unknown aquatic toxicity	0% of the mixture consists of components(s) of unknown hazards to the aquatic environment.
Product Ecological Data	
Aquatic Acute Toxicity If available, see ingredient data below	и.
Aquatic Chronic Toxicity If available, see ingredient data below	<i>ı.</i>
Ingredient Ecological Data	
Aquatic Acute Toxicity No data available.	
Aquatic Chronic Toxicity No data available.	
Persistence and degradability	
Product Biodegradability Data No data available.	
Product Bioaccumulation Data No data available.	
Partition Coefficient (n-octanol/wat	er) log K _{ow} ~ 0
<u>Mobility</u>	

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Soil Organic Carbon-Water Partition Coefficient

 $\log\,K_{\rm oc}\sim 0$

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods			
Waste from residues/unused products	Dispose of waste in accordance with environmental legislation. Dispose of in accordance with local regulations.		
Contaminated packaging	Do not reuse empty containers.		
US EPA Waste Number	D002		
Special instructions for disposal	If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Dilute to 3 to 5 times the volume with cold water. Flush system with plenty of water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Check with national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this article. Filter to remove solids.		

14. TRANSPORT INFORMATION

DOT UN/ID no Proper shipping name Transport hazard class(es) Packing Group Description Emergency Response Guide Number	UN2680 Lithium Hydroxide 8 II UN2680, Lithium hydroxide, 8, II 154
<u>TDG</u> UN/ID no Proper shipping name Transport hazard class(es) Packing Group Description	UN2680 Lithium hydroxide 8 II UN2680, Lithium hydroxide, 8, II
IATA_ UN number or ID number Proper shipping name Transport hazard class(es) Packing group ERG Code	UN2680 Lithium hydroxide 8 II 8L
IMDG UN number or ID number Proper shipping name Transport hazard class(es) Packing Group EmS-No	UN2680 Lithium hydroxide 8 II F-A, S-B
Note:	No special precautions necessary.
Additional information	

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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 reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories TSCA DSL/NDSL

Does not comply Does not comply

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories	
EINECS/ELINCS	Does not comply
ENCS	Complies
IECSC	Complies
KECL - Existing substances	Does not comply
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TCSI - Taiwan Chemical Substances Inventory

AICS - Australian Inventory of Chemical Substances

NZIOC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

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This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

Additional information

Global Automotive Declarable Substance List (GADSL) Not applicable NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 0	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 3	Flammability - 0	Physical hazards - 0	Personal protection - I - X

Key or legend to abbreviations and acronyms used in the safety data sheet

Immediately Dangerous to Life or Health ACGIH (American Conference of Governmental Industrial Hygienists) no data			
Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION			
ighted average)	STEL	STEL (Short Term Exposure Limit)	
wable Concentration	Ceiling	Ceiling Limit Value	
	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.	
	SKN+ ** R	Skin sensitization Hazard Designation Reproductive toxicant	
Hach Product Compliar	Hach Product Compliance Department		
16-05-2018			
25-May-2022			
None			
e D	ACGIH (American Conf no data E CONTROLS/PERSONAL F eighted average) owable Concentration tion ensitization Hach Product Complian 16-05-2018 25-May-2022	ACGIH (American Conference of Governme no data E CONTROLS/PERSONAL PROTECTION eighted average) STEL owable Concentration Ceiling Vacated tion SKN+ ** R Hach Product Compliance Department 16-05-2018 25-May-2022	

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site

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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. HACH COMPANY©2022

End of Safety Data Sheet