Lithium hydroxide monohydrate

13020-500G

SECTION 1. IDENTIFICATION

Product name	:	Lithium hydroxide monohydrate
Number	:	000000020886
Product Use Description	:	Laboratory chemicals
Manufacturer or supplier's details	:	Honeywell International Inc. 1953 South Harvey Street Muskegon, MI 49442
For more information call	:	1-800-368-0050 +1-231-726-3171(Monday-Friday, 9:00am-5:00pm)
In case of emergency call	:	**Medical: 1-800-498-5701 or +1-303-389-1414**
	:	**Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**
	:	
	:	(24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form	:	solid
Color	:	colourless
Odor	:	weak

Classification of the substance or mixture

Classification of the substance or mixture	:	Acute toxicity, Category 4, Oral Skin corrosion, Category 1B Serious eye damage, Category 1

GHS Label elements, including precautionary statements

Symbol(s) :

Signal word : Danger

Hazard statements : Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
Do not breathe dust or mist.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim 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.
Immediately call a POISON CENTER/ doctor.
Wash contaminated clothing before reuse.

Storage:
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $LiOH \cdot H_2O$

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
Lithium hydroxide monohydrate	1310-66-3	100.00 %

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself. Immediately take off contaminated clothing and rinse body with plenty of water.

Inhalation : Move to fresh air. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician immediately.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician immediately.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Protect unharmed eye. Call a physician immediately.

Ingestion : Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Foam
Carbon dioxide (CO_2)
Dry powder

Specific hazards during firefighting	:	The product is not flammable. Fire may cause evolution of: Lithium oxide
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus and protective suit.
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In wet solutions watch out for etching influence.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Wear personal protective equipment. Unprotected persons must be kept away. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Should not be released into the environment. Do not allow run-off from fire fighting to enter drains or water courses.
Methods and materials for containment and cleaning up	:	Use mechanical handling equipment. Avoid dust formation. Sweep up and shovel into suitable containers for disposal. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Wear personal protective equipment. Use only in well-ventilated areas. Do not breathe dust. Do not get in eyes, on skin, or on clothing.

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

Storage

Conditions for safe storage, including any incompatibilities	:	Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures	:	Ensure that eyewash stations and safety showers are close to the workstation location. Legal requirements are to be considered in regard of the selection, use and care of personal protective equipment. Do not breathe dust. Do not get in eyes, on skin, or on clothing.
Engineering measures	:	Use with local exhaust ventilation.
Eye protection	:	Safety goggles Wear as appropriate: Face-shield
Hand protection	:	Latex gloves Gloves must be inspected prior to use. Replace when worn.
Skin and body protection	:	Wear suitable protective equipment. Wear as appropriate: Complete suit protecting against chemicals
Respiratory protection	:	In case of insufficient ventilation, wear suitable respiratory equipment.
Hygiene measures	:	Take off all contaminated clothing immediately. Remove and wash contaminated clothing before re-use. Keep working clothes separately. Wash hands before breaks and at the end of workday. When using do not eat or drink.

Exposure Guidelines

Components	CAS-No.	Value	Control	Upda	Basis

			parameters	te	
Lithium hydroxide monohydrate	1310-66-3	Ceiling : Ceiling Limit Value:	1 mg/m3	2014	WEEL:US. OARS. WEELs Workplace Environmental Exposure Level Guide, as amended

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	solid
Color	:	colourless
Odor	:	weak
Odor threshold	:	Note: No data available
pH	:	Note: alkaline
Melting point/range	:	423 °C Method: OECD Test Guideline 102
Boiling point/boiling range	:	Note: No data available
Flash point	:	Note: Not applicable
Evaporation rate	:	Note: No data available
Flammability	:	The product is not flammable.

Lower explosion limit	:	Note: Not applicable
Upper explosion limit	:	Note: Not applicable
Vapor pressure	:	Note: negligible
Vapor density	:	Note: No data available
Density	:	ca. 1.830 g/cm3 at 20 °C
Water solubility	:	190 - 220 g/l at 20 °C
Partition coefficient: n-octanol/water	:	Note: No data available
Auto-ignition temperature	:	Note: not auto-flammable
Decomposition temperature	:	Note: Loss of water of crystallization on heating.
Viscosity, dynamic	:	Note: No data available
Viscosity, kinematic	:	Note: No data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	41.96 g/mol
Bulk density	:	ca. 1,000 kg/m3

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.

Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Hazardous polymerisation does not occur.
Conditions to avoid	:	Protect from moisture.
Incompatible materials	:	Strong oxidizing agents Strong acids Zinc Tin Aluminium
Hazardous decomposition products	:	Lithium oxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)
Acute inhalation toxicity	:	Note: Not classified due to data which are conclusive although insufficient for classification.
Acute dermal toxicity	:	LD50: > 2,000 mg/kg Species: Rat Test substance: REACH dossier “read-across”
Skin irritation	:	Note: Conclusive and supporting classification (Ref: REACH Dossier - ECHA disseminated data)
Eye irritation	:	Note: No data available
Sensitisation	:	Buehler Test Species: Guinea pig

Result: non-sensitizing
Test substance: REACH dossier “read-across”

Repeated dose toxicity : Note: Not classified due to data which are conclusive although insufficient for classification.

Genotoxicity in vitro : Test Method: Ames test
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 471

: Test Method: Chromosome aberration test in vitro
Cell type: Human lymphocytes
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 473

: Test Method: In vitro gene mutation study in mammalian cells
Cell type: Mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 476

Genotoxicity in vivo : Note: In vivo tests did not show mutagenic effects

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish : static test
LC50: 62.2 mg/l
Exposure time: 96 h
Species: Danio rerio (zebra fish)
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : static test
EC50: 19.1 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Method: OECD Test Guideline 202

Toxicity to algae : Biomass
EC50: 23.75 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Method: OECD Test Guideline 201

: Growth rate
EC50: 87.57 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)
Method: OECD Test Guideline 201

Elimination information (persistence and degradability)

Biodegradability : Note: The methods for determining biodegradability are not applicable to inorganic substances.

Further information on ecology

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT

UN/ID No.	:	UN 2680
Proper shipping name	:	LITHIUM HYDROXIDE
Class		8
Packing group		II
Hazard Labels		8

IATA

UN/ID No.	:	UN 2680
Description of the goods	:	LITHIUM HYDROXIDE
Class	:	8
Packaging group	:	II

	Hazard Labels	:	8
	Packing instruction (cargo aircraft)	:	863
	Packing instruction (passenger aircraft)	:	859
	Packing instruction (passenger aircraft)	:	Y844
IMDG	UN/ID No.	:	UN 2680
	Description of the goods	:	LITHIUM HYDROXIDE
	Class	:	8
	Packaging group	:	II
	Hazard Labels	:	8
	EmS Number	:	F-A, S-B
	Marine pollutant	:	no

IMDG Code segregation group (SGG18) – ALKALIS,

SECTION 15. REGULATORY INFORMATION

Inventories

US. Toxic Substances Control Act	:	On TSCA Inventory
Australia. Industrial Chemicals Act (AIIC), as amended	:	On the inventory, or in compliance with the inventory
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	:	All components of this product are on the Canadian DSL
Japan. Kashin-Hou Law List	:	On the inventory, or in compliance with the inventory
Korea. Existing Chemicals Inventory (KECI)	:	On the inventory, or in compliance with the inventory
Philippines. Inventory of Chemicals and Chemical Substances (PICCS)	:	On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances	:	On the inventory, or in compliance with the inventory

(IECSC)

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	:	On the inventory, or in compliance with the inventory

National regulatory information

SARA 302 Components	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	:	Acute Health Hazard
California Prop. 65	:	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

New Jersey RTK	:	Lithium hydroxide monohydrate	1310-66-3

SECTION 16. OTHER INFORMATION

		HMIS III	NFPA
Health hazard	:	3	3
Flammability	:	0	0
Physical Hazard	:	0	
Instability	:		0

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
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