

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name : Lithium Hydroxide  
Product form : Mixture  
Means of other identification : Lithium Hydroxide contained in CO<sub>2</sub> Trapping Cartridge 1

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance/mixture : 60-70 g 99% pure technical grade lithium hydroxide are contained within the CO<sub>2</sub> trapping cartridge.  
The cartridge is made to be attached externally to the UBiT®-IR-300 and POCone Spectrophotometers. The cartridge case is manufactured from ABS plastic and is plugged at both ports with Polypropylene Cotton. The cartridge is used as an accessory to the POCone or UBiT-IR300 infrared Spectrophotometer. To be attached to the back of the instrument while seated in the cartridge adapter.

Restriction use of substance/mixture : Only to be used as an accessory to the POCone or UBiT®-IR-300

#### 1.3. Details of the supplier of the safety data sheet

Manufacturer of CO<sub>2</sub> Trapping Cartridge  
Otsuka Electronics co, Ltd.  
3-26-3, Shodai-Tajika, Hirakata-shi, Osaka, 573-1132, Japan  
Phone: +81-72-855-8550  
Japan Distributor(Exporter) of CO<sub>2</sub> Trapping Cartridge  
Otsuka Pharmaceutical co, Ltd.  
2-9 Kanda-Tsukasamachi, Chiyoda-ku, Tokyo 101-8535, Japan  
Phone: +81-3-6717-1400

U.S. Distributor of CO<sub>2</sub> Trapping Cartridge  
Otsuka America Pharmaceutical, Inc.  
2440 Research Blvd  
Rockville MD 20850  
Phone: 1-888-637-3835

#### 1.4. Emergency telephone number

Emergency number : 1-888-637-3835

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Acute Tox. 4 (Oral) H302  
Skin Corr. 1B H314

#### 2.2. Label elements

##### GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

GHS07

Signal word (GHS-US) :

**Danger**

Hazard statements (GHS-US) :

H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) :

P260 - Do not breathe dust  
P264 - Wash hands, forearms and face thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P280 - Wear eye protection, face protection, protective clothing, protective gloves  
P301+312 - IF SWALLOWED: Call a POISON CENTER, doctor if you feel unwell  
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
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 doctor, a POISON CENTER  
P321 - Specific treatment (see first aid instructions on this label)  
P330 - Rinse mouth  
P363 - Wash contaminated clothing before reuse  
P405 - Store locked up  
P501 - Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste

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### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Name	Product identifier	%
Lithium hydroxide	(CAS No) 1310-65-2	60 - 100*

\*In accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200), the specific chemical identity or exact weight % has been withheld as a trade secret

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention immediately.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Get medical attention immediately. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Get medical attention if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Harmful if swallowed. Causes severe skin burns and eye damage.
- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : Causes severe skin burns.
- Symptoms/injuries after eye contact : Causes serious eye damage.
- Symptoms/injuries after ingestion : Harmful if swallowed.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Carbon dioxide. Foam. Dry chemical.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Heating may cause a fire.
- Explosion hazard : Product is not explosive.
- Reactivity : No dangerous reactions known under normal conditions of use.

### 5.3. Advice for firefighters

- Precautionary measures fire : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : On contact with water, LiOH generates considerable heat.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

#### 6.1.1. For non-emergency personnel

- Protective equipment : Wear Protective equipment as described in Section 8.
- Emergency procedures : Evacuate unnecessary personnel.

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### 6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Avoid dust formation. Contain and collect as any solid.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Rinse residual spill area with plenty of water. This material and its container must be disposed of in a safe way, and as per local legislation.

### 6.4. Reference to other sections

See Sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Avoid breathing dust. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep the container tightly closed. Avoid contact with moisture.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Lithium hydroxide (1310-65-2)	
Remarks (ACGIH)	OELs not established
Remarks (OSHA)	OELs not established

### 8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment : Gloves. Wear chemical goggles and face shield in combination. Protective clothing.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Change contaminated gloves immediately. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection : Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles. Chemical goggles and face shield must be worn in combination.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Granular crystal.

Color : White.

Odor : Odorless.

Odor Threshold : No data available

pH : No data available

Relative evaporation rate (butylacetate=1) : No data available

Melting point : No data available

Freezing point : No data available

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Boiling point	: 470 °C
Flash point	: 924 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 14 (1.0 N Solution)
Solubility	: 10% @ 25 °C
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No dangerous reactions known under normal conditions of use.

### 10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7). Substance is hygroscopic.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

Incompatible materials. Exposure to air, moisture, or heat.

### 10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Aluminum. Tin. Zinc.

### 10.6. Hazardous decomposition products

Hydrogen.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

#### Lithium hydroxide (1310-65-2)

LD50 oral rat	210 mg/kg
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Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after inhalation	: May cause respiratory irritation.
Symptoms/injuries after skin contact	: Causes severe skin burns.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Harmful if swallowed.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Due to corrosive properties, product can be harmful/fatal to contaminated plants, animals and aquatic life.

#### Lithium hydroxide (1310-65-2)

LC50 Fish 1	62.2 mg/l Danio rerio (96h)
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#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste treatment methods : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Waste disposal recommendations : Do not allow the product to be released into the environment. Dispose in a safe manner in accordance with local/national regulations.

Waste Codes : RCRA Status: D002  
RCRA waste codes other than described here may apply depending on use of the product. Status must be determined at the point of waste generation. Refer to 40 CFR or state equivalent in the U.S.

### SECTION 14: Transport information

In accordance with DOT

Transport document description : UN2680 Lithium hydroxide, 8, II

UN-No.(DOT) : 2680

DOT NA no. : UN2680

Proper Shipping Name (DOT) : Lithium hydroxide

Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : II - Medium Danger

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 15 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 50 kg

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 52

#### Additional information

Other information : No supplementary information available.

#### Transport by sea

No additional information available

#### Air transport

No additional information available

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Lithium Hydroxide

All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt

SARA Section 311/312 Hazard Classes      Immediate (acute) health hazard

#### 15.2. International regulations

No additional information available.

#### 15.3. US State regulations

WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

##### Styrene (100-42-5)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	Not available

##### Acrylonitrile (107-13-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	0.7 µg/day

### SECTION 16: Other information

Indication of changes : Revision 1.0: New SDS Created.

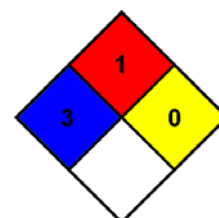
Revision date : 4/29/2016

Other information : Author: BCS.

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



#### HMIS III Rating

Health : 3

Flammability : 1

Physical : 0

Personal Protection :

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product