

Issuing Date 16-Mar-2022

Revision Date 16-Mar-2022

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product identifier****Product name** BreathTek™ CO₂ Trapping Cartridge**Other means of identification****Product code** 002213**UN/ID No** 2680**Recommended use of the chemical and restrictions on use****Recommended Use** 60-70 g 99% pure technical grade lithium hydroxide are contained within the CO₂ trapping cartridge. The cartridge is made to be attached externally to the POCone Spectrophotometer. 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 infrared Spectrophotometer. To be attached to the back of the instrument while seated in the cartridge adapter.**Uses advised against** No information available**Details of the supplier of the safety data sheet****Manufacturer Address**
Otsuka Electronics co, LTD.
3-26-3, Shodai-Tajika, Hirakata-shi,
Osaka, 573-1132, Japan
Phone: +81-72-855-8550**Distributor**
Meridian Bioscience, Inc.
3471 River Hills Drive
Cincinnati, Ohio 45244
(800) 343-3858**E-mail Address** www.meridianbioscience.com**Emergency telephone number****Emergency telephone** Emergency telephone CHEMTREC For US 1-800-424-9300 / (International) 1-703-527-3887**2. HAZARDS IDENTIFICATION****Classification**

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

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category B

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word**Danger****Hazard statements**

Harmful if swallowed

Causes severe skin burns and eye damage

**Appearance** granular crystal**Physical state** Solid**Odor** Odorless**Precautionary Statements - Prevention**

Do not breathe dust

Wash hands, forearms, and face thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

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

IF ON SKIN: Wash with plenty of soap and water

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

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

Other Information

No additional information available

Unknown acute toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No.	Weight-%	Trade secret
Lithium Hydroxide	1310-65-2	60 - 100	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures for different exposure routes**General advice**

If exposed or concerned, get medical attention/advice. Show the safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an

unconscious person.

Inhalation	IF INHALED: Remove to fresh air and keep at a rest position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.
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.
Skin contact	IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation persists, get medical attention.
Ingestion	IF SWALLOWED: Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. Get medical attention if you feel unwell.

Most important symptoms/effects, acute and delayed

Symptoms	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.
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Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians

No additional information available.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Unsuitable extinguishing media	CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Reactivity: No dangerous reactions known under normal conditions of use. Explosion Hazard: Product is not an explosive. Fire Hazard: Heating may cause a fire.
Explosion data	
Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.
Special protective equipment for fire-fighters	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 area without proper protective equipment, including respiratory protection. Other information: On contact with water, LiOH generates considerable heat.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	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).
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Environmental precautions

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

Methods and materials for containment and cleaning up

Methods 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.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on 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.

Conditions for safe storage, including any incompatibilities

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Lithium Hydroxide 1310-65-2	OELs not established	OELs not established	-

Appropriate engineering controls

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.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear eye protection, including chemical splash shield 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.

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.

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.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Solid
Appearance	granular crystal
Color	white
Odor	Odorless
Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	No data available
Melting point / freezing point	No data available	No data available
Boiling point/boiling range	470 °C	None known
Flash Point	924 °C	Open cup
Evaporation rate	No data available	No data available
Flammability (solid, gas)	No data available	No data available
Flammability Limit in Air		No data available
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	No data available
Vapor density	No data available	No data available
Relative density	No data available	No data available
Water solubility	10% @ 25°C	
Solubility in other solvents	No data available	No data available
Partition coefficient	No data available	No data available
Autoignition temperature	No data available	No data available
Decomposition temperature	No data available	No data available
Kinematic viscosity	No data available	No data available
Dynamic viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content(%)	No data available
Liquid Density	14 (1.0 N Solution)
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No dangerous reaction known under conditions of normal use.
Chemical stability	Stable under recommended handling and storage conditions (see section 7). Substance is hygroscopic.
Possibility of hazardous reactions	None known.

Conditions to avoid	Incompatible materials. Exposure to air, moisture, or heat.
Incompatible materials	Strong oxidizing agents. Strong acids. Aluminum. Tin. Zinc.
Hazardous decomposition products	Hydrogen.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Acute Toxicity: Oral: Harmful if swallowed.
Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye damage.
Skin contact	Causes severe skin burns.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	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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Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Unknown acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Lithium Hydroxide 1310-65-2	210 mg/kg (Rat)	-	960 mg/m ³ (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes severe burns.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Aspiration hazard	Not classified.

12. ECOLOGICAL INFORMATION

Ecotoxicity Due to corrosive properties, product can be harmful/fatal to contaminated plants, animals, and aquatic life.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Lithium Hydroxide 1310-65-2	-	62.2 mg/l Danio rerio (96h)	-	-

Persistence and degradability No additional information available.

Bioaccumulation No additional information available.

Mobility No additional information available.

Other adverse effects No additional information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products 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 treatment methods: Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number 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.

14. TRANSPORT INFORMATION

DOT

UN/ID No 2680
Technical Name Lithium hydroxide
Transport hazard class(es) 8
Packing Group II
Emergency Response Guide Number 154

IATA

UN/ID No UN2860
Technical Name Lithium hydroxide
Transport hazard class(es) 8
Packing Group II

15. REGULATORY INFORMATION

International Inventories

TSCA	TSCA
DSL/NDSL	DSL/NDSL
EINECS/ELINCS	EINECS/ELINCS
ENCS	ENCS
IECSC	IECSC
KECL	KECL
PICCS	PICCS
AICS	AICS

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU 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

AICS - Australian Inventory of Chemical Substances

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	No
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.

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

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

<u>NFPA</u>	Health hazards 3	Flammability 1	Instability 0	Physical and chemical properties -
<u>HMIS</u>	Health hazards 3	Flammability 1	Physical hazards 0	Personal protection -

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Revision Note No information available.

Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Meridian Bioscience, Inc. shall not be held liable for any damages resulting from handling or from contact with the above product.

End of Safety Data Sheet