SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1
Prepared on : 12.08.2025
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SECTION 1: Identification of the substance/mixture and of the company/undertaking.

1.1 Product identifiers

Product name	Lithium hydroxide
Product Number	PSR42372
Brand	PureSynth research chemicals
CAS No.	1310-65-2

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

Identified uses : Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company **PureSynth Research Chemicals GmbH**

64683 Einhausen Marie-Curie-StraBe. 3, Germany

1.4 Emergency telephone number

Worldwide Helpline No.: 1800-8908-260

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3), H226
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 3), H331
Skin corrosion (Sub-category 1A), H314
Serious eye damage (Category 1), H318

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word Danger

Hazard statement(s)

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

Precautionary statement(s)

P260	Do not breathe dust.
P280	Wear protective gloves, protective clothing, face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing.

	Rinse skin with water.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

2.3 **Other hazards:**

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or Very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	**Mol. formula**	**CAS number**
lithium hydrate, caustic lithium	LiOH	1310-65-2

Component	**Classification**	**Concentration**
Lithium hydroxide	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; H302, H314, H318	<= 100 %

SECTION 4: First aid measures

Description of first aid measures

General advice	First aiders need to protect themselves. Show this safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air. Call in physician.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
In case of eye contact	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.
Most important symptoms and effects, both acute and delayed	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed	No data available

SECTION 5: Fire fighting measures

Extinguishing media **Suitable extinguishing media**	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special hazards arising from the substance or mixture	Lithium oxides Not combustible. .
Advice for fire-fighters	Ambient fire may liberate hazardous vapours. Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information	Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, and consult an expert. For personal protection see section 8.
Environmental precautions	Do not let product enter drains. Risk of explosion.
Methods and materials for containment and cleaning up	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.
Reference to other sections	For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
Conditions for safe storage, including any incompatibilities	No metal containers. May decompose forming gaseous products, especially when stored over long periods. Close containers in such a way to enable internal pressure to escape (E.g. excess pressure valve). Protected from light. Keep container tightly closed in a dry and well-ventilated place. Keep Away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.
Specific end use(s)	Recommended storage temperature see product label. Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls / Personal protection

Control parameters	Components with workplace control parameters.
Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	
Eye / face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.
Skin protection	Required
Body Protection	Flame retardant antistatic protective clothing
Respiratory protection	Required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type ABEK
Control of environmental exposure	Do not let product enter drains. Risk of explosion

SECTION 9: Physical and chemical properties

Appearance	Form: Crystalline Colour: White
Odour	Stinging
pH - Value	No data available
Density	1,5 g/cm3
Boiling Point	No data available
Melting Point	470 °C - dec.
Solubility in water	110 g/l at 20 °C - OECD Test Guideline 105)
Flash point	No data available
Vapour pressure	No data available
Auto -ignition temperature	No data available
Vapour density	No data available
Flammability (solid, gas)	No data available
Evaporation rate	No data available
Partition coefficient: n- octanol / water	Not applicable for inorganic substances
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	Not classified as explosive.
Upper / lower flammability or explosive limits	No data available
Oxidizing properties	none

Other safety information: No data available

SECTION 10: Stability and reactivity

Reactivity	No data available
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	Violent reactions possible with: acids, Aluminium, Lead, Zinc, Tin
Condition to avoid	Avoid moisture. No data available
Incompatible materials	No data available
Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Rat - 330 mg/kg Remarks: (ECHA) Acute toxicity estimate Oral - 330 mg/kg (ATE value derived from LD50/LC50 value) LC50 Inhalation - Rat - male and female - 4 h - > 3,4 mg/l - dust/mist (OECD Test Guideline 403) LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation	Skin - reconstructed human epidermis (RhE) Result: Corrosive (OECD Test Guideline 435) Remarks: The value is given in analogy to the following substances: Lithium hydroxide monohydrate
Serious eye damage/eye irritation	Remarks: Causes serious eye damage. (ECHA)
Respiratory or skin sensitization	Buehler Test - Guinea pig Result: negative (OECD Test Guideline 406) Test Type: Ames test (Formic acid) Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test (Lithium hydroxide)
Germ cell mutagenicity	Test system mouse lymphoma cells Metabolic activation: with and without metabolic activation Result: negative Test Type: Chromosome aberration test in vitro (Lithium hydroxide) Test system: Human lymphocytes Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 473 Result: negative
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure Aspiration hazard	No data available
Additional Information	Repeated dose toxicity - Rat - male and female - Oral - 52 Weeks - NOAEL (No observed adverse effect level) - 400 mg/kg - LOAEL (Lowest observed adverse effect level) - 2.000 mg/kg Remarks: (in analogy to similar products) (Formic acid) Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting (Formic acid) To the best of our knowledge, the chemical, physical, and toxicological properties have not Been thoroughly investigated. (Formic acid) Kidney - Irregularities - Based on Human Evidence (Formic acid)

SECTION 12: Ecological information

Toxicity

Toxicity to fish	static test LC50 - Danio rerio (zebra fish) - ca. 62,2 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - 19,1 mg/l - 48 h (OECD Test Guideline 202) t

Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 87,57 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	static test EC50 - activated sludge - 180,8 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to fish(Chronic toxicity)	semi-static test NOEC - Danio rerio (zebra fish) - ca. 9,90 mg/l - 34 d (OECD Test Guideline 210)
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	semi-static test NOEC - Daphnia magna (Water flea) - 2,3 mg/l - 21 d (OECD Test Guideline 211)
Persistence and degradability	The methods for determining the biological degradability are not applicable to inorganic substances.
Biodegradability	No data available
Biochemical Oxygen Demand (BOD)	86 mg/g (Formic acid) Remarks: (External MSDS)
Ratio BOD/ThBOD	8.60 % (Formic acid)
Bio accumulative potential	No data available
Mobility in soil	No data available
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Other adverse effects	No data available

SECTION 13: Disposal considerations

Waste treatment methods Products	No data available
Contaminated packaging	Dispose of as unused product.

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	2680	Lithium hydroxide	8	II	No
IMDG	2680	Lithium hydroxide	8	II	No
IATA	2680	Lithium hydroxide	8	III	No

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. .

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous Substances.	: ACUTE TOXIC : FLAMMABLE LIQUIDS

Other regulations
Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or Stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

Chemical safety assessment
For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

The information in this SDS is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The user must be determined suitability of this information for his application.