

Safety Data Sheet acc. to OSHA HCS (HazCom 2024)

Date of issue: 01/16/2025

Reviewed on 01/16/2025

1 Identification

- **Product identifier**
- **Trade name: Cal-Test**
- **Other means of identification**
- **Catalogue number:** 00515581, 515580BT, 515581BT, 00515589BT
- **Application of the substance / the mixture:** Reagent for water analysis
- **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany
- **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Specific target organ toxicity (repeated exposure) 2 H373 May cause damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.



GHS05 Corrosion

Skin corrosion 1A
Eye damage 1

H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
- **Hazard pictograms**



GHS05



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
lithium hydroxide
Ethylenediaminetetraacetic acid disodium salt, dihydrate
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
H373 May cause damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Precautionary statements**
P260 Do not breathe dust.
P280 Wear protective gloves/protective clothing/eye protection.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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 doctor.

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· **Classification according to (d)(1)(ii) of § 1910.12000**

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

· **Hazards not otherwise classified** Acid burns have to treated immediately, as it may otherwise cause badly curing wounds.

* 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of organic and inorganic compounds

· **Composition and Information on Ingredients:**

Percent ranges are used due to the confidential product information.

CAS: 9004-34-6 EINECS: 232-674-9 RTECS: FJ5691460	cellulose	60–80% *
CAS: 1310-65-2 EINECS: 215-183-4	lithium hydroxide ⚠ Skin corrosion 1A, H314; Eye damage 1, H318; ⚠ Acute toxicity - oral 4, H302	7–13% *
CAS: 6381-92-6 EINECS: 205-358-3	Ethylenediaminetetraacetic acid disodium salt, dihydrate ⚠ Specific target organ toxicity (repeated exposure) 2, H373; ⚠ Acute toxicity - inhalation 4, H332	10–13% *

* Actual concentration ranges are withheld as a trade secret.

· **Additional information:**

For the wording of the listed hazard phrases refer to section 16.

Component(s) with workplace-related limit value, see section 8.

4 First-aid measures

· **Description of first aid measures**

· **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:** Supply fresh air or oxygen; call for doctor.

· **After skin contact:**

Immediately rinse with plenty of water.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

· **After eye contact:**

Rinse opened eye for several minutes (at least 15 min) under running water.

Call a doctor immediately.

· **After swallowing:**

Rinse out mouth and then drink 1-2 glasses of water.

Do not induce vomiting; immediately call for medical help.

· **Most important symptoms and effects, both acute and delayed**

burns

after inhalation:

coughing

breathing difficulty

damage to the affected mucous membranes possible

after swallowing:

strong caustic effect

resorption

after absorption of large amounts:

CNS disorders

ataxia (impaired locomotor coordination)

cramps

disorder of electrolyte balance

· **Danger:**

Danger of circulatory collapse.

Danger of gastric perforation.

· **Indication of any immediate medical attention and special treatment needed:**

If swallowed or in case of vomiting, danger of entering the lungs.

Later observation for pneumonia and pulmonary edema.

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:**
Water
--> Aqueous solution reacts strongly alkaline.
If possible use dry extinguishing agents.
- **Special hazards arising from the substance or mixture**
mixture with combustible ingredients
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
LiOx
Nitrogen oxides (NOx)
Carbon monoxide (CO) and carbon dioxide (CO₂)
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Avoid substance contact.
Ensure adequate ventilation
Use respiratory protective device against the effects of fume/dust/aerosol.
Keep away from ignition sources
- **Advice for emergency responders:** Protective equipment: see section 8
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Pick up mechanically.
Dispose contaminated material as waste according to section 13.
- **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Precautions for safe handling**
- **Advice on safe handling:** Provide suction extractors if dust is formed.
- **Hygiene measures:**
Do not inhale dust / smoke / mist.
Do not get in eyes, on skin, or on clothing.
Take off immediately all contaminated clothing.
Wash hands before breaks and at the end of work.
Do not eat, drink or smoke when using this product.
- **Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:**
Store away from oxidizing agents.
Do not store together with acids.
- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
Protect from exposure to the light.

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Protect from humidity and water.

This product is hygroscopic.

· **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)· **Specific end use(s)** No further relevant information available.

* 8 Exposure controls/personal protection

· **Control parameters**· **Components with limit values that require monitoring at the workplace:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

CAS: 9004-34-6 cellulose

PEL (USA)	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m ³ *total dust **respirable fraction
TLV (USA)	Long-term value: 10 mg/m ³
EL (Canada)	Long-term value: 10* 3** mg/m ³ *total dust, **respirable fraction
EV (Canada)	Long-term value: 10 mg/m ³ paper fibre, total dust

CAS: 1310-65-2 lithium hydroxide

WEEL (USA)	Ceiling limit value: 1 mg/m ³
EL (Canada)	Ceiling limit value: 1 mg/m ³
EV (Canada)	Short-term value: 1 mg/m ³ anhydrous

· **Additional information:** The lists that were valid during the creation were used as basis.· **Engineering measures:**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

· **Personal protective equipment:**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

· **Breathing equipment:**

Under normal use conditions according to the instruction manual no personal protective equipment is needed.

If exposure limits are exceeded or health impacts are experienced use respiratory protective device against the effects of fume/dust/aerosol.

· **Recommended filter device for short term use:** Filter P2· **Protection of hands:**

Protective gloves

After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm· **Penetration time of glove material**Value for the permeation: Level ≤ 1 (10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).

· **Body protection:** Protective work clothing· **Limitation and supervision of exposure into the environment:**

Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **Physical state** Solid

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· Form:	Tablets
· Color:	Grey
· Odor:	Odorless
· Odor threshold:	Not applicable.
· Melting point/freezing point:	Not determined.
· Initial boiling point and boiling range:	Not determined.
· Flammability:	mixture with combustible ingredients
· Danger of explosion:	As the product is supplied it is not capable of dust explosion; however enrichment with fine dust causes risk of dust explosion.
· Flammability or explosive limits:	
Lower:	Not determined.
Upper:	Not applicable (solid).
· Flash point:	Not applicable.
· Auto-ignition temperature:	Product is not self-igniting.
· Decomposition temperature:	Not determined.
· pH-value (1.7 g/l) at 20°C (68°F):	11.9
· Kinematic viscosity:	Not applicable (solid).
· Solubility(ies)	
· Water:	Partly soluble.
· Partition coefficient (n-octanol/water):	Not applicable.
· Vapor Pressure:	Not applicable.
· Density:	Not determined.
· Relative density:	Not determined.
· Relative vapor density:	Not applicable.
· Particle characteristics	Not determined.
· Information with regard to physical hazard classes	
· Oxidizing properties:	none
· Other information	
· Solids content:	100 %

10 Stability and reactivity

- **Reactivity** Dust can combine with air to form an explosive mixture.
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
 - Aqueous solution reacts alkaline.
 - Aqueous solution reacts with metals.
 - Reacts with light alloys in the presence of moisture to form hydrogen.
 - Corrodes aluminium.
 - Reacts with acids.
 - Reacts with strong oxidizing agents.
 - > Forms heat.
- **Conditions to avoid**
 - Exposure to moisture.
 - Strong heating (decomposition)
- **Incompatible materials:**
 - aluminum, copper, zinc, metal ions
 - organic substances
- **Hazardous decomposition products:** see section 5

*11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:		
CAS: 9004-34-6 cellulose		
Oral	LD50.	>5000 mg/kg (rat)
Dermal	LD50.	>2000 mg/kg (rabbit) (RTECS, limit test)

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Inhalative	LC50.	>5.8 mg/l4h /Dust (rat)
CAS: 1310-65-2 lithium hydroxide		
Oral	LD50	330 mg/kg (ATE) (Registrant, ECHA) Acute toxicity data are available for oral route of exposure: LD50 (rat, oral): female: 210 mg/kg bw; male: 280 mg/kg bw , both for lithium hydroxide anhydrous. As these values are most likely linked to local tissue damage due to the corrosiveness of the substance and are not only a result of "primary" systemic toxicity the LD50 oral of lithium chloride and lithium carbonate were taken into account after conversion. A LD50 value of 330 mg/kg bw were found to reflect properly the systemic toxicity of the corrosive substance lithium hydroxide anhydrous.
Dermal	LD50.	>2000 mg/kg /bw (rat) (Registrant, ECHA)
Inhalative	LC50	>3.4 mg/l /4h (rat) (Registrant, ECHA)
	NOAEL	13.9–84.8 mg/kg /bw/d (rat) (Registrant, ECHA: oral)
CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt, dihydrate		
Oral	LD50	2800 mg/kg (rat) (OECD 401) (ECHA: anhydrous substance)
Inhalative	LC50/4h	1.5 mg/l (ATE)

· **Primary irritant effect:**

- **on the skin:** Causes severe skin burns.
- **on the eye:**
Causes serious eye damage.
Risk of blindness!

· **Information on components:**

CAS: 9004-34-6 cellulose		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 492	(rabbit: no irritation)
CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt, dihydrate		
Irritation of skin	OECD 404	(rabbit: no irritation) (ECHA read across: anhydrous substance)
Irritation of eyes	OECD 405	(rabbit: no irritation) (ECHA read across: anhydrous substance)

- **Sensitization:** Based on available data, the classification criteria are not met.

· **Information on components:**

CAS: 9004-34-6 cellulose		
Sensitization	OECD 406	(guinea pig: negative)
CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt, dihydrate		
Sensitization	OECD 406	(guinea pig: negative) (ECHA read across: anhydrous substance)

- **Interactive effects** No interactive effects between components are known.

- **Other information:** see section 8 / 15

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)	
None of the ingredients is listed.	
· NTP (National Toxicology Program)	
None of the ingredients is listed.	
· OSHA-Ca (Occupational Safety & Health Administration)	
None of the ingredients is listed.	

- **Alternative sources for toxicological information** No non-standard sources for toxicological information where used.

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.

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- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure**
May cause damage to the respiratory tract through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**
The following applies to lithium compounds in general:
after absorption: CNS disorders, ataxia (impaired locomotor coordination) due to disturbed electrolyte balance
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Other information** No further relevant information available.

12 Ecological information

· Toxicity

· Aquatic toxicity:

CAS: 1310-65-2 lithium hydroxide

EC50	19.1 mg/l/48h (Daphnia magna) without pH-adjustment
NOEC	5.71 mg/l/72h (Pseudokirchneriella subcapitata)
NOEC	9.9 mg/l /34d (zebrafish)
	2.3 mg/l /21d (Daphnia magna)
EC50	87.57 mg/l/72h (Pseudokirchneriella subcapitata)
LC50	62.2 mg/l/96h (zebrafish)

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt, dihydrate

EC50	140 mg/l/48h (Daphnia magna) (DIN 38412) (ECHA read across: anhydrous substance)
NOEC	25 mg/l /21 d (Daphnia magna) (ECHA read across: anhydrous substance)
LC50	159 mg/l/96h (bluegill)

· Other information:

The following applies for lithium compounds in general:
fish toxic from 100 mg/l, Daphnia toxic from 16 mg/l, plants toxic from 0,2 mg/l

· Persistence and degradability

CAS: 6381-92-6 Ethylenediaminetetraacetic acid disodium salt, dihydrate

OECD 301 D	2 /% (not readily biodegradable) (read across: anhydrous substance)
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- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Other adverse effects**
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Avoid transfer into the environment.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport information

· UN-Number	
· DOT, IMDG, IATA	UN2680
· UN proper shipping name	
· DOT	Lithium hydroxide mixture
· IMDG, IATA	LITHIUM HYDROXIDE mixture
· Transport hazard class(es)	
· DOT	
	
· Class	8 Corrosive substances
· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 15 kg On cargo aircraft only: 50 kg
· IMDG	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· Special precautions for user	Warning: Corrosive substances
· Hazard identification number (Kemler code):	80
· EMS Number:	F-A,S-B
· Segregation groups	(SGG18) Alkalis
· Stowage Category	A
· Segregation Code	SG35 Stow "separated from" SGG1-acids

*15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· Sara
· Section 355 (Extremely hazardous substances):
None of the ingredients is listed.
· Section 313 (Specific toxic chemical listings):
None of the ingredients is listed.
· TSCA (Toxic Substances Control Act):
CAS 6381-92-6 is not on the TSCA Inventory listed, because it is a hydrate.
It is listed on the CAS 139-33-3 number for the anhydrous form.

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All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65**· Chemicals known to cause cancer:**

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

CAS 3051-09-0: c < 1%

CAS: 3051-09-0 | Murexide

· New Jersey Right-to-Know List:

CAS: 9004-34-6 | cellulose

· New Jersey Special Hazardous Substance List:

None of the ingredients is listed.

· Pennsylvania Right-to-Know List:

CAS: 9004-34-6 | cellulose

· Pennsylvania Special Hazardous Substance List:

None of the ingredients is listed.

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· Information about limitation of use:

Observe national regulations where applicable:

Employment restrictions concerning young persons must be observed.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H332 Harmful if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

· Version number / date of revision: 42 / 01/16/2025**· Abbreviations and acronyms:**

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ACGIH® - American Conference of Governmental Industrial Hygienists

•A1 - Confirmed human carcinogen

•A2 - Suspected human carcinogen

•A3 - Confirmed animal carcinogen with unknown relevance to humans

•A4 - Not classifiable as a human carcinogen

•A5 - Not suspected as a human carcinogen

IARC - International Agency for Research on Cancer

•Group 1 - Carcinogenic to humans

•Group 2A - Probably carcinogenic to humans

•Group 2B - Possibly carcinogenic to humans

•Group 3 - Not classifiable as to carcinogenicity to humans

•Group 4 - Probably not carcinogenic to humans

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NTP - National Toxicology Program, U.S. Department of Health and Human Services

•Group K - Known to be Human Carcinogens

•Group R - Reasonably Anticipated to be Human Carcinogens

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute toxicity - oral 4: Acute toxicity – Category 4

Skin corrosion 1A: Skin corrosion/irritation – Category 1A

Eye damage 1: Serious eye damage/eye irritation – Category 1

Specific target organ toxicity (repeated exposure) 2: Specific target organ toxicity (repeated exposure) – Category 2

• Sources

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency <http://echa.europa.eu>**• * Data compared to the previous version altered.**

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