

Safety Data Sheet acc. to OSHA HCS (HazCom 2012)

Printing date 12/20/2017

Reviewed on 12/20/2017

1 Identification

- **Product identifier**
- **Trade name:** Ammonia No.2
- **Catalogue number:** 00512591, 512590BT, 4512590BT, 512591BT, 4512591BT, 00512599BT
- **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**



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

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



GHS05



GHS07

- **Signal word** Danger
- **Hazard-determining components of labeling:**
lithium hydroxide monohydrate
sodium dichloroisocyanurate, dihydrate
- **Hazard statements**
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection.
P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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.

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P310 Immediately call a poison center/doctor.

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· **Other hazards** No further relevant information available.

* 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: 1310-66-3 EINECS: 215-183-4	lithium hydroxide monohydrate ⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	30–40%
CAS: 51580-86-0 EINECS: 220-767-7 Index number: 613-030-01-7 RTECS: XZ1910000	sodium dichloroisocyanurate, dihydrate ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Eye Irrit. 2A, H319; STOT SE 3, H335	0.25–≤2.5%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

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
after swallowing:
strong caustic effect
resorption
after absorption of large amounts:
sickness
vomiting
cardiovascular disorders
CNS disorders
ataxia (impaired locomotor coordination)
cramps
- **Danger:**
Danger of circulatory collapse.
Danger of gastric perforation.
Danger of disturbed cardiac rhythm.
- **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.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

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- **Special hazards arising from the substance or mixture**

- The product is not combustible.

- Formation of toxic gases is possible during heating or in case of fire.

- Hydrogen chloride (HCl)

- Potassium oxide

- LiOx

- **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 fumes/dust/aerosol.

- **Advice for emergency responders:** Protective equipment: see section 8

- **Environmental precautions:**

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

- Inform respective authorities in case of seepage into water course or sewage system.

- **Methods and material for containment and cleaning up:**

- Ensure adequate ventilation.

- Pick up mechanically.

- Dispose contaminated material as waste according to item 13.

- **Reference to other sections**

- See Section 8 for information on personal protection equipment.

- See Section 13 for disposal information.

7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

- **Advice on safe handling:** No special precautions are necessary if used correctly.

- **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**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store in a cool location.

- **Information about storage in one common storage facility:**

- Do not store together with acids.

- Store away from oxidizing agents.

- **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.

- Store in dry conditions.

- Protect from humidity and water.

- This product is hygroscopic.

- **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

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· **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 product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **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:**

· **Breathing equipment:** Use respiratory protective device against the effects of fumes/dust/aerosol.

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

· **Protection of hands:**

Alkaline resistant 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

· **Body protection:** Alkaline resistant protective 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**

· **Appearance:**

Form / Physical state: Tablets

Color: White

· **Odor:** Chlorine-like

· **Odor threshold:** Not determined.

· **pH-value (11.2 g/l) at 20 °C (68 °F):** 12.9

· **Melting point/freezing point:** Not determined.

· **Initial boiling point and boiling range:** Not determined.

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** The product is not combustible.

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Product is not self-igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Flammability or explosive limits:**

Lower: Not applicable.

Upper: Not applicable.

· **Oxidizing properties:** none

· **Vapor Pressure:** Not applicable.

· **Density:** Not determined.

· **Relative density:** Not determined.

· **Vapor density:** Not applicable.

· **Evaporation rate:** Not applicable.

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· Solubility(ies) Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not applicable.
· Viscosity:	Not applicable.
· Solvent content: Organic solvents: Solids content:	0.0 % 100.0 %
· Other information	No further relevant information available.

*10 Stability and reactivity

- **Reactivity** see section "Possibility of hazardous reactions"
- **Chemical stability** Stable at ambient temperature (room temperature).
- **Possibility of hazardous reactions**
 - Aqueous solution reacts alkaline.
 - Aqueous solution reacts with metals.
 - Corrodes aluminium and zinc.
 - Reacts with acids.
 - Reacts with oxidizing agents.
 - > Forms heat.
 - Reacts with light alloys to form hydrogen.
- **Conditions to avoid**
 - Exposure to moisture.
 - strong heating
- **Incompatible materials:**
 - organic substances
 - aluminum
 - zinc
- **Hazardous decomposition products:**
 - Chlorine compounds
 - In case of fire: see section 5.

*11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Classification according to calculation procedure.

· **Acute toxicity estimate (ATE_(mix)) - Calculation method:**

Oral	GHS ATE _(mix)	756 mg/kg (.)
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· **LD/LC50 values that are relevant for classification:**

CAS: 1310-66-3 lithium hydroxide monohydrate

Oral	LD50	368 mg/kg (rat) (Registrant, ECHA)
Inhalative	LC50.	>6.15 mg/l/4h (rat) (Registrant, ECHA)

CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate

Oral	LD50	1671 mg/kg (rat) (EPA OPP 81-1) (Registrant, ECHA)
Dermal	LD50	>5000 mg/kg (rat) (EPA OPP 81-2) (Registrant, ECHA)

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

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· Information on components:		
CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate		
Irritation of eyes	OECD 405	(rabbit: burns)

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

· Information on components:		
CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate		
Sensitization	OECD 406	(guinea pig: negative) (Magnusson / Klingman)

· **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.		

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

· **Synergistic Products:** None

· **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.

· **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** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Information on components:**

OECD 414: Teratogenicity testing

OECD 473: Mutagenicity testing

OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)	(Escherichia coli)

· **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.

12 Ecological information

· **Toxicity**

· Aquatic toxicity:	
CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate	
EC50	0.28 mg/l/48h (Daphnia magna) (ECOTOX)
EC50	>5000 mg/l/96h (Algal toxicity) (OECD 201)
NOEC	2600 mg/l (Daphnia magna) (OECD 2011, 21d) (Registrant, ECHA)
	756 mg/l (fish) (28d) (Registrant, ECHA)
	1000 mg/l (rainbow trout) (OECD 2015, 28d) (Registrant, ECHA)
LC50	0.25 mg/l/96h (rainbow trout) (ECOTOX)

· **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

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· Persistence and degradability	
CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate	
OECD 306	4 (.) (Biodegradation Test – Seawater)
· Bioaccumulative potential No further relevant information available.	
· Mobility in soil No further relevant information available.	
· Other adverse effects Harmful effect due to pH shift. 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.	

14 Transport information

· UN-Number	UN2680
· DOT, IMDG, IATA	
· UN proper shipping name	Lithium hydroxide mixture
· DOT	LITHIUM HYDROXIDE mixture
· IMDG, IATA	
· Transport hazard class(es)	
· DOT	
	
· Class	8 Corrosive substances
· Label	8
· IMDG, IATA	
	
· Class	8 Corrosive substances
· Label	8
· Packing group	II
· DOT, IMDG, IATA	
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Stowage Category	A
· Segregation Code	SG35 Stow "separated from" acids.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

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· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 15 kg On cargo aircraft only: 50 kg
· Limited quantity (LQ):	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

· 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

*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):	
All ingredients are 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:	
None of the ingredients is listed.	
· New Jersey Right-to-Know List:	
CAS: 1310-66-3 lithium hydroxide monohydrate	
· New Jersey Special Hazardous Substance List:	
CAS: 1310-66-3 lithium hydroxide monohydrate	CO, R1
· Pennsylvania Right-to-Know List:	
CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate	
· 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: 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.

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Relevant phrases

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

Date of preparation / last revision 12/20/2017 / 39**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
- 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
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- 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 Tox. 4: Acute toxicity – Category 4
- Skin Corr. 1A: Skin corrosion/irritation – Category 1A
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
- Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Sources

- Data arise from safety data sheets, reference works and literature.
- ECHA: European Chemicals Agency <http://echa.europa.eu>
- ECOTOX Database

*** Data compared to the previous version altered.**