

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

Date of issue: 02/12/2025

Reviewed on 02/12/2025

1 Identification

- **Product identifier**
- **Trade name: Ammonia No.2**
- **Other means of identification**
- **Catalogue number:**
00512591, 512590BT, 4512590BT, 512591BT, 4512591BT, 00512599BT, SDT244, 56T004650, 56U004650
- **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 corrosion 1A H314 Causes severe skin burns and eye damage.
Eye damage 1 H318 Causes serious eye damage.



GHS07

Acute toxicity - oral 4 H302 Harmful if swallowed.

- **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
lithium hypochlorite
- **Hazard statements**
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
- **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.
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 poison center/doctor.

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: Ammonia No.2

(Contd. of page 1)

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 be treated immediately, as it may otherwise cause badly curing wounds.

* 3 Composition/information on ingredients

Chemical characterization: Mixtures

Description: Mixture of inorganic compounds.

Composition and Information on Ingredients:

Percent ranges are used due to the confidential product information.

CAS: 1310-65-2 EINECS: 215-183-4	lithium hydroxide ⚠ Skin corrosion 1A, H314; Eye damage 1, H318; ⚠ Acute toxicity - oral 4, H302	10–30% *
CAS: 13840-33-0 EINECS: 237-558-1 RTECS: NH3486000	lithium hypochlorite ⚠ Oxidizing solids 2, H272; ⚠ Skin corrosion 1B, H314; Eye damage 1, H318; ⚠ Aquatic Acute 1, H400 (M=1); ⚠ Acute toxicity - oral 4, H302	1–<2.5% *
CAS: 7757-82-6 EINECS: 231-820-9	sodium sulphate	0.5–1.5% *

* Actual concentration ranges are withheld as a trade secret.

Additional information:

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

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 a doctor immediately.

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

thirst

sickness

vomiting

cramps

resorption

after absorption of large amounts:

CNS disorders

ataxia (impaired locomotor coordination)

cardiovascular disorders

disorder of electrolyte balance

Danger:

Danger of circulatory collapse.

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.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: **Ammonia No.2**

Later observation for pneumonia and pulmonary edema.

(Contd. of page 2)

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **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.
In case of fire, the following can be released:
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 fume/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.
- **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:**
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.
Protect from humidity and water.
This product is hygroscopic.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: **Ammonia No.2**

(Contd. of page 3)

- **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: 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
CAS: 7757-82-6 sodium sulphate	
TLV (USA)	Short-term value: NIC-0.2 mg/m ³ thoracic fraction of aerosol

- **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:**
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
Use protective goggles that have been tested and approved in accordance with government standards (like NIOSH).
- **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**
- **Physical state** Solid
- **Form:** Tablets
- **Color:** White
- **Odor:** Chlorine-like
- **Odor threshold:** Not determined.
- **Melting point/freezing point:** Not determined.
- **Initial boiling point and boiling range:** Not determined.
- **Flammability:** The product is not combustible.
- **Danger of explosion:** Product does not present an explosion hazard.

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: Ammonia No.2

(Contd. of page 4)

· Flammability or explosive limits:	
Lower:	Not applicable.
Upper:	Not applicable.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Product is not self-igniting.
· Decomposition temperature:	Not determined.
· pH-value (11.2 g/l) at 20°C (68°F):	12.9
· Kinematic viscosity:	Not applicable (solid).
· Solubility(ies)	
· Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not applicable (mixture).
· 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:	CAS 13840-33-0: is classified as oxidizing. Oxidizing potential
· Corrosive to metals	Based on available data, the classification criteria are not met.
· Other information	
· Solids content:	100 %

* 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.
 - Reacts with light alloys in the presence of moisture to form hydrogen.
 - Reacts with humid air.
 - Corrodes aluminium.
 - Reacts with acids.
 - Reacts with oxidizing agents.
 - > Forms heat.
- **Conditions to avoid** Exposure to moisture.
- **Incompatible materials:**
 - organic substances
 - aluminum
 - zinc
- **Hazardous decomposition products:**
 - Chlorine compounds
 - see section 5

* 11 Toxicological information

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

· Acute toxicity estimate (ATE_(MIX)) - Calculation method:		
Oral	GHS ATE _(MIX)	998 mg/kg (.)

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: **Ammonia No.2**

(Contd. of page 5)

· LD/LC50 values that are relevant for classification:		
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: 13840-33-0 lithium hypochlorite		
Oral	LD50	500 mg/kg (rat)
CAS: 7757-82-6 sodium sulphate		
Oral	LD50.	>2000 mg/kg (rat) (OECD 423) (Registrant, ECHA, limit test)
Dermal	LD50.	>2000 mg/kg (rat)
Inhalative	LC50.	>2.4 mg/l4h (rat) (OECD 436) highest concentration that can be produced

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

· Information on components:		
CAS: 7757-82-6 sodium sulphate		
Irritation of skin	OECD 404	(rabbit: no irritation)
Irritation of eyes	OECD 492	(rabbit: slight irritation)

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

· Information on components:		
CAS: 7757-82-6 sodium sulphate		
Sensitization	OECD 406	(guinea pig: negative)

- **Interactive effects** No interactive effects between components are known.
- **Other information:** see section 8 / 15
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
CAS: 13840-33-0	lithium hypochlorite	3
· 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.
- **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.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: **Ammonia No.2**

(Contd. of page 6)

· **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: 7757-82-6 sodium sulphate

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)

ECHA: Salmonella typhimurium

OECD 476 (negative) (Mammalian Chromosomal Aberration Test)

OECD 473 (negative) (Mammalian Chromosomal Aberration Test)

· **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: 7757-82-6 sodium sulphate

EC50 1766 mg/l/48h (Daphnia magna)

US-EPA

NOEC 8 mg/l /37 d (activated sludge)

ECHA

LC50 120 mg/l/96h (mosquitofish)

(IUCLID)

7960 mg/l/96h (fathhead minnow)

US-EPA

· **Bacterial toxicity:**

sulfates toxic > 2.5 g/l

CAS: 7757-82-6 sodium sulphate

EC10 >1000 mg/l (Pseudomonas putida) (16h)

(IUCLID)

· **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

Toxic for fish:

Sulfates > 7 g/l

· **Persistence and degradability .**

· **Other information:**

Mixture of inorganic compounds.

Methods for the determination of biodegradability are not applicable to inorganic substances.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Other adverse effects**

Harmful effect due to pH shift.

Reacts with water to form toxic decomposition products.

(Contd. on page 8)

— US —

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: Ammonia No.2

Avoid transfer into the environment.

(Contd. of page 7)

*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.

14 Transport information

· UN-Number · DOT, IMDG, IATA	UN2680
· UN proper shipping name · DOT · IMDG, IATA	Lithium hydroxide mixture LITHIUM HYDROXIDE mixture
· Transport hazard class(es) · DOT 	
· Class · Label	8 Corrosive substances 8
· IMDG, IATA 	
· Class · Label	8 Corrosive substances 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) · Excepted quantities (EQ)	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category	Warning: Corrosive substances 80 F-A,S-B (SGG18) Alkalis A

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: Ammonia No.2

(Contd. of page 8)

· 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 13453-71-9: Substance is not listed.

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: 554-13-2 lithium carbonate

· New Jersey Right-to-Know List:

CAS 1310-66-3: c < 0.25%

CAS: 13840-33-0 lithium hypochlorite

CAS: 1310-66-3 lithium hydroxide monohydrate

CAS: 554-13-2 lithium carbonate

· New Jersey Special Hazardous Substance List:

CAS: 13840-33-0 lithium hypochlorite

R2

CAS: 1310-66-3 lithium hydroxide monohydrate

CO, R1

CAS: 554-13-2 lithium carbonate

TE

· Pennsylvania Right-to-Know List:

CAS: 7757-82-6 sodium sulphate

· Pennsylvania Special Hazardous Substance List:

CAS: 7757-82-6 sodium sulphate

E

· 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

H272 May intensify fire; oxidizer.

(Contd. on page 10)

US

Safety Data Sheet

acc. to OSHA HCS (HazCom 2024)

Date of issue: 02/12/2025

Reviewed on 02/12/2025

Trade name: **Ammonia No.2**

(Contd. of page 9)

H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H318 Causes serious eye damage.
 H400 Very toxic to aquatic life.

· **Version number / date of revision:** 44 / 02/12/2025

· **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
 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
 Oxidizing solids 2: Oxidizing solids – Category 2
 Acute toxicity - oral 4: Acute toxicity – Category 4
 Skin corrosion 1A: Skin corrosion/irritation – Category 1A
 Skin corrosion 1B: Skin corrosion/irritation – Category 1B
 Eye damage 1: Serious eye damage/eye irritation – Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

· **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.**