Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 13.11.2023 Version number 33 (replaces version 32) Revision: 13.11.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

· **Product name: Ammonia Conditioning Powder**

· **Catalog number:** 460170, 56P0644

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

· **Application of the substance / the preparation:** Reagent for water analysis

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**
Tintometer GmbH
Schleefstraße 8-12
44287 Dortmund
Made in Germany
www.lovibond.com
phone: +49 (0)231 94510-0
e-mail: sales@lovibond.com

The Tintometer Limited
Lovibond® House
Sun Rise Way
Amesbury
Wiltshire SP4 7GR
United Kingdom
phone : +44 1980 664800
e-mail: SDS@lovibond.uk

· **Informing department:**
e-mail: sds@lovibond.com
Product Safety Department

· **1.4 Emergency telephone number:**
+44 1235 239670
Languages: English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**


GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.


GHS07

Skin Irrit. 2 H315 Causes skin irritation.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
· **Hazard pictograms**


GHS05

· **Signal word** Danger

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· **Hazard-determining components of labelling:**
Potassium tartrate dibasic hemihydrate
lithium hydroxide monohydrate
· **Hazard statements**
H315 Causes skin irritation.
H318 Causes serious eye damage.
· **Precautionary statements**

P261	Avoid breathing dust.
P280	Wear protective gloves/protective clothing/eye protection.
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.
P302+P352	IF ON SKIN: Wash with plenty of water.
P332+P313	If skin irritation occurs: Get medical advice/attention.

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

· **Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
· **Determination of endocrine-disrupting properties**
The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

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

· **Dangerous components:**

CAS: 6100-19-2 EINECS: 205-697-7	Potassium tartrate dibasic hemihydrate Eye Dam. 1, H318	70–80%
CAS: 1310-66-3 EINECS: 215-183-4 Reg.nr.: 01-2119560576-31-XXXX	lithium hydroxide monohydrate Skin Corr. 1A, H314; Eye Dam. 1, H318; Acute Tox. 4, H302	3–<5%

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

SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** Instantly remove any clothing soiled by the product.
· **After inhalation** Supply fresh air; consult doctor in case of symptoms.
· **After skin contact**
Instantly rinse with water.
If skin irritation or rash occurs: Get medical advice/attention.
· **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.
Seek medical treatment.
· **4.2 Most important symptoms and effects, both acute and delayed:**
Irritation and corrosion
after inhalation:
mucosal irritations, cough, shortness of breath
after swallowing:
sickness
vomiting
absorption
after absorption of large amounts:
CNS disorders
ataxia (impaired locomotor coordination)
disorder of electrolyte balance
· **Danger**
Risk of serious damage to eyes.

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Risk of blindness!

· **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents**
CO_2, extinguishing powder or water spay jet. Fight larger fires with water spray jet or alcohol-resistant foam.
· **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
· **5.2 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.
Can be released in case of fire:
LiOx
Carbon monoxide (CO) and carbon dioxide (CO_2)
· **5.3 Advice for firefighters**
· **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
· **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
· **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
· **Advice for emergency responders:** Protective equipment: see section 8

· **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
· **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Collect mechanically.
Dispose of contaminated material as waste according to item 13.
· **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
· **Advice on safe handling:**
Prevent formation of dust.
Provide suction extractors if dust is formed.
· **Hygiene measures:**
Avoid contact with the skin.
Avoid contact with the eyes.
Take off immediately all contaminated clothing.
Wash hands during breaks and at the end of the work.
Do not eat, drink or smoke when using this product.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and containers:** Store in cool location.
· **Information about storage in one common storage facility:**
Do not store together with acids.
Store away from oxidising agents.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed containers.
Protect from heat and direct sunlight.
Protect from the effects of light.

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Protect from humidity and keep away from water.
This product is hygroscopic.

· **Recommended storage temperature:** 20°C +/- 5°C

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 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.

· **DNELs**		
CAS: 1310-66-3 lithium hydroxide monohydrate		
Oral	DNEL	12.4 mg/kg (Consumer / acute / systemic effects)
		4.13 mg/kg /bw/d (Consumer / long-term / systemic effects)
Dermal	DNEL	100 mg/kg /bw/d (Worker / acute / systemic effects)
		41.35 mg/kg /bw/d (Worker / long-term /systemic effects)
		50 mg/kg /bw/d (Consumer / acute / systemic effects)
		41.35 mg/kg /bw/d (Consumer / long-term / systemic effects)
Inhalative	DNEL	30 mg/m³ (Worker / acute / systemic effects)
		10 mg/m³ (Worker / long-term /systemic effects)
		18.63 mg/m³ (Consumer / acute / systemic effects)
		6.21 mg/m³ (Consumer / long-term / systemic effects)

· **Recommended monitoring procedures:**
Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

· **PNECs**	
CAS: 1310-66-3 lithium hydroxide monohydrate	
PNEC	79.2 mg/l (Sewage treatment plant)
	0.23 mg/l (Marine water)
	2.3 mg/l (Fresh water)
PNEC	28.22 mg/kg (Soil)
	15.3 mg/kg (Marine sediment)
	153 mg/kg (Fresh water sediment)

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

· **8.2 Exposure controls**

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

· **Individual protection measures, such as personal protective equipment**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
· **Eye/face protection**
Tightly sealed safety glasses.
Use safety glasses that have been tested and approved in accordance with government standards such as EN 166.
· **Hand protection**
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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Other skin protection (body protection):** Protective work clothing.
· **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

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

· **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **Physical state**	Solid.
· **Form:**	Powder
· **Colour:**	White
· **Odour:**	Pungent
· **Odour threshold:**	Not determined.
· **Melting point/Freezing point:**	Not determined.
· **Boiling point or initial boiling point and boiling range**	Not determined.
· **Flammability**	The product is not combustible.
· **Explosive properties:**	Product is not explosive.
· **Lower and upper explosion limit**	
Lower:	Not applicable.
Upper:	Not applicable.
· **Flash point:**	Not applicable.
· **Auto-ignition temperature:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **pH (50 g/l) at 20°C**	12.5 Strongly alkaline
· **Kinematic viscosity**	Not applicable (solid).
· **Solubility**	
· **Water:**	Soluble
· **Partition coefficient n-octanol/water (log value)**	Not applicable (mixture).
· **Vapour pressure:**	Not applicable (solid).
· **Density and/or relative density**	
· **Density:**	Not determined.
· **Relative density:**	Not determined.
· **Relative gas density**	Not applicable (solid).
· **Particle characteristics**	Not determined.
· **9.2 Other information**	
· **Information with regard to physical hazard classes**	
· **Corrosive to metals**	Void
· **Other safety characteristics**	
· **Oxidising properties:**	none
· **Additional information**	
· **Solids content:**	100.0 %

SECTION 10: Stability and reactivity

· **10.1 Reactivity** see section 10.3
· **10.2 Chemical stability** Stable at ambient temperature (room temperature).
· **10.3 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 and oxidising agents.
· **10.4 Conditions to avoid**
Exposure to moisture.
Strong heating (decomposition)
· **10.5 Incompatible materials:**
organic substances
aluminium
zinc

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· **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

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

· **LD/LC50 values that are relevant for classification:**		
CAS: 1310-66-3 lithium hydroxide monohydrate		
Oral	LD50	578 mg/kg (rat) (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(anhydrous) resp. 578 mg/kg bw (monohydrate) were found to reflect properly the systemic toxicity of the corrosive substance lithium hydroxide.
Dermal	LD50.	>2000 mg/kg (rat) (Registrant, ECHA)
Inhalative	LC50	>6.15 mg/l /4h (rat) (Registrant, ECHA)

· **Skin corrosion/irritation** Causes skin irritation.
· **Serious eye damage/irritation**
Causes serious eye damage.
Risk of corneal clouding.
· **Information on components:** CAS 6100-19-2: OECD 437 in vitro test: Risk of serious damage to eyes.

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· **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.

· **Additional toxicological information:**
The following applies to lithium compounds in general:
after absorption: CNS disorders, ataxia (impaired locomotor coordination) due to disturbed electrolyte balance

· **11.2 Information on other hazards**
· **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**	
CAS: 1310-66-3 lithium hydroxide monohydrate	
EC50	33.5 mg/l/48h (Daphnia magna) without pH-adjustment
NOEC	17.35 mg/l /34d (zebrafish)
	4 mg/l /21d (Daphnia magna)
	10 mg/l /72h (Pseudokirchneriella subcapitata)
EC50	153.44 mg/l/72h (Pseudokirchneriella subcapitata)
LC50	109 mg/l/96h (zebrafish)

· **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
· **12.2 Persistence and degradability** .
· **12.3 Bioaccumulative potential** No further relevant information available.

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· **12.4 Mobility in soil** No further relevant information available.
· **12.5 Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
· **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
· **12.7 Other adverse effects**
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Avoid transfer into the environment.
· **Water hazard:**
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into soil.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

· **European waste catalogue**	
16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· **14.1 UN number or ID number**	
· **ADR, IMDG, IATA**	Void
· **14.2 UN proper shipping name**	
· **ADR, IMDG, IATA**	Void
· **14.3 Transport hazard class(es)**	
· **ADR, IMDG, IATA**	
· **Class**	Void
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Not applicable.
· **14.7 Maritime transport in bulk according to IMO instruments**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.

*
SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Poisons Act UK**

· **Regulated explosives precursors**
None of the ingredients is listed.

· **Regulated poisons**
None of the ingredients is listed.

· **Reportable explosives precursors**
None of the ingredients is listed.

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· **Reportable poisons**
None of the ingredients is listed.

· **Regulation (EU) 2019/1148 on the marketing and use of explosives precursors** not regulated

· **Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)**
None of the ingredients is listed.

· **Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:**
None of the ingredients is listed.

· **Regulation (EC) No 273/2004 on drug precursors**
None of the ingredients is listed.

· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
None of the ingredients is listed.

· **Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:**
None of the ingredients is listed.

· **REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)**
None of the ingredients is listed.

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**
None of the ingredients is listed.

· **Substances of very high concern (SVHC) according to REACH, Article 57**
This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).
· **Substances of very high concern (SVHC) according to UK REACH**
This product does not contain any substances of very high concern above the legal concentration limit of ≥ 0.1% (w / w).

· **Directive 2012/18/EU (SEVESO III):**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Information about limitation of use:** Not required.

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

*
SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
This Safety Data Sheets is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **Relevant phrases**
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

· **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
ADR: Accord relatif au transport international 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
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

· **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.**