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according to 1907/2006/EC, Article 31

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

· **Version number** 1.1
· **1.1 Product identifier**

· **Trade name Kalilauge 20% LiOH 13,2 LT: M technisch**

· **Article number:** 200503
· **1.2 Relevant determined uses of the substance or mixture; and uses advised against:**
No further relevant information available.

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Chemische Fabrik Wocklum Gebr. Hertin GmbH & Co. KG
D-58802 Balve, Glärbach 2, Germany
Phone: +49 (0)2375 / 925-0
Telefax: +49 (0)2375 / 925-100
E-Mail: sdb@wocklum.de

· **Informing department:**
Product Safety Department
Phone: +49 (0) 2375 / 925 – 126
· **1.4 Emergency telephone number:**
Emergency Call:
Poison Control Center Mainz - 24 hour emergency service - Tel: +49 (0) 6131/19240

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**

Met. Corr.1	H290	May be corrosive to metals.
Acute Tox. 4	H302	Harmful if swallowed.
Skin Corr. 1A	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.

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

GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labelling:**
potassium hydroxide
Lithiumhydroxidmonohydrat
· **Hazard statements**
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
· **Precautionary statements**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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 POISON CENTER/doctor.*
P301+P312 *IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*
P304+P340 *IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
P301+P330+P331 *IF SWALLOWED: rinse mouth. Do NOT induce vomiting.*

· ***2.3 Other hazards***
· ***Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*

SECTION 3: Composition/information on ingredients

· ***3.2 Chemical characterisation: Mixtures***

· ***Dangerous components:***

CAS: 1310-58-3 *EINECS: 215-181-3* *Index number: 019-002-00-8* *Reg.nr.: 01-2119487136-33*	*potassium hydroxide* *Met. Corr.1, H290; Skin Corr. 1A, H314; Acute Tox. 4, H302*	*20.0%*
CAS: 1310-66-3 *EINECS: 215-183-4* *Reg.nr.: 01-2119560576-31*	*Lithiumhydroxidmonohydrat* *Skin Corr. 1B, H314; Acute Tox. 4, H302*	*0.55-3.3%*

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 or oxygen; call for doctor.*
· ***After skin contact*** *Wash immediately with plenty of water*
· ***After eye contact*** *Rinse opened eye for several minutes under running water.*
· ***After swallowing***
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; instantly call for medical help.
· ***4.2 Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***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***
Product / material does not burn. Ffire extinguishing measures according to environmental conditions.
· ***5.2 Special hazards arising from the substance or mixture*** *No further relevant information available.*
· ***5.3 Advice for firefighters***
· ***Protective equipment:*** *Wear self contained breathing apparatus.*

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SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
None, except protective equipment.
· **6.2 Environmental precautions:** Do not allow to enter into drains/waters or in the soil.
· **6.3 Methods and material for containment and cleaning up:**
Prevent spread over a wide area (e.g. by containment or oil barriers) and pump into receiver. Wipe up rest liquid material residues with absorbent material (eg. cloth, fleece) and dispose it according to legislation.
Rinse small quantities with water. Dispose waste water according to legislation.
· **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Open and handle container with care.
· **Information about protection against explosions and fires:**
Contact with aluminium, magnesium, tin and zinc may cause formation on hydrogen.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and containers:** Keep container tightly closed.
· **Information about storage in one common storage facility:**
Keep away from acids and chlorinated hydrocarbons.
· **Further information about storage conditions:** Protect from humidity and keep away from water.
· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **8.1 Control parameters**

· **Components with critical values that require monitoring at the workplace:**	
1310-58-3 potassium hydroxide	
WEL	Short-term value: 2 mg/m³

· **DNELs**		
1310-58-3 potassium hydroxide		
Inhalative	DNEL Arbeitnehmer (lokal, Langzeit)	1 mg/m³ (human)
	DNEL Verbraucher (lokal, Langzeit)	1 mg/m³ (human)

· **8.2 Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
Instantly remove any soiled and impregnated garments.
Avoid contact with the eyes and skin.
· **Breathing equipment:** Use breathing protection in case of insufficient ventilation.
· **Recommended filter device for short term use:** Particulate filter unit type P according to DIN EN 143
· **Protection of hands:**
Use protective gloves. The glove material has to be sufficiently impermeable and resistant to the substance.
Check for leaks before use. Gloves in use have to be pre-cleaned before taking them off, then stored well ventilated. Note skin protection.

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· **Material of gloves**
Suitable glove materials as follow (Breakthrough time ≥ 8 hs):
Polychloropren - CR (0,5 mm)
Nitrilkautschuk/nitrillatex - NBR (0,35 mm)
Butylkautschuk - Butyl (0,5 mm)
Fluorkautschuk - FKM (0,4 mm)
Polyvinylchlorid - PVC (0,5 mm)
· **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Body protection:** Alkaline resistant protective clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Colourless
· **Smell:**	Odourless
· **Odour threshold:**	Not applicable.
· **pH-value at 20 °C:**	>14
· **Change in condition**	
Melting point/Melting range:	ca. -20 °C
Boiling point/Boiling range:	ca. 110 °C
· **Flash point:**	Not applicable.
· **Inflammability (solid, gaseous)**	Product is not inflammable.
· **Ignition temperature:**	not applicable.
· **Decomposition temperature:**	Not determined.
· **Self-inflammability:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive.
· **Critical values for explosion:**	
Lower:	Not determined.
Upper:	Not determined.
· **Oxidising properties**	not classified as oxidising
· **Steam pressure:**	Not determined.
· **Density at 20 °C**	1.19 - 1.20 g/cm3
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Fully miscible
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
dynamic:	Not determined.

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

SECTION 10: Stability and reactivity

· ***10.1 Reactivity*** *There are no data available.*
· ***10.2 Chemical stability***
· ***Conditions to be avoided:*** *No decomposition if intended stored and handled.*
· ***10.3 Possibility of hazardous reactions*** *No dangerous reactions known*
· ***10.4 Conditions to avoid*** *No further information, sh. Item 7.*
· ***10.5 Incompatible materials:***
Can react violently if in contact with water and acids.
Highy reactive with aluminium, tin, zinc and lead producing fammable hydrogen gas.
· ***10.6 Hazardous decomposition products:*** *None known.*

SECTION 11: Toxicological information

· ***11.1 Information on toxicological effects***
· ***Acute toxicity***
Harmful if swallowed.

· ***LD/LC50 values that are relevant for classification:***		
1310-58-3 potassium hydroxide		
Oral	*LD50.*	*365 mg/kg (rat)*
Dermal	*LD50*	*n.a. da H314 mg/kg (human) (H314=ätzend)*
Inhalative	*LD50*	*n.a. da H314 mg/l (human) (H314=ätzend)*
1310-66-3 Lithiumhydroxidmonohydrat		
Oral	*LD50.*	*210 mg/kg (rat)*
Inhalative	*LC50/4h.*	*> 6.15 mg/l (rat)*

· ***Primary irritant effect:***
· ***Skin corrosion/irritation***
Causes severe skin burns and eye damage.
· ***Serious eye damage/irritation***
Causes serious eye damage.
· ***Sensitisation:*** *Based on available data, the classification criteria are not met.*
· ***CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)***
· ***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-single exposure*** *Based on available data, the classification criteria are not met.*
· ***STOT-repeated exposure*** *Based on available data, the classification criteria are not met.*
· ***Aspiration hazard*** *Based on available data, the classification criteria are not met.*

SECTION 12: Ecological information

· ***12.1 Toxicity***

· ***Aquatic toxicity:***	
1310-66-3 Lithiumhydroxidmonohydrat	
EC50 (48h)	*60 mg/l (Daphnia magna (großer Wasserfloh))*

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EC50 (72h)	153.44 mg/l (Pseudokirchneriella subcapitata)
LC50 (96h)	109 mg/l (Oncorhynchus mykiss (Regenbogenforelle))

· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow to enter into surface water, drains or soils.
Water hazard class 1 (Self-assessment): slightly hazardous for water.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation** Must be specially treated under adherence to official regulations.
· **Waste disposal key number:**
The waste code according to the Waste Catalogue Ordinance (AVV) must be determined by the waste producer, it depends on the type of use/ type of waste generation and may be different for a particular product.
· **European waste catalogue**
The appropriate code according to the European Wast Catalogue (EWC) shoud be used.

· **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**
· **ADR, IMDG, IATA** 1814

· **14.2 UN proper shipping name**
· **ADR** 1814 KALIUMHYDROXIDLÖSUNG
· **IMDG, IATA** POTASSIUM HYDROXIDE SOLUTION

· **14.3 Transport hazard class(es)**

· **ADR**

· **Class** 8 (C5) Corrosive substances.

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· **Label**	8
· **IMDG, IATA**	
	
· **Class**	8 Corrosive substances.
· **Label**	8
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	II
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Not applicable.
· **Kemler Number:**	80
· **EMS Number:**	F-A,S-B
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, (E)

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

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.

· **Relevant phrases**
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

· **Department issuing data specification sheet:** Environment protection department.
· **Abbreviations and acronyms:**
RTECS - Registry of Toxic Effects of Chemical Substances
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
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 (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Met. Corr.1: Corrosive to metals, Hazard Category 1

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Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

· ***Sources*** *This information is based on information from suppliers.*
· **** Data compared to the previous version altered.*** *Changes Due to recent findings.*