

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.07.2023

Version number 1

Revision: 11.07.2023

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

- **1.1 Product identifier**
- **Trade name:** *Caustic potash in flakes*
- **Chemical Identification:** *Potassium hydroxide*
- **Article number:** *4*
- **CAS Number:**
1310-58-3
- **EC number:**
215-181-3
- **Index number:**
019-002-00-8
- **Registration number** *01-2119487136-33*
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** *Basic material with not specifically defined use.*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Möller Chemie GmbH & Co. KG
Bürgerkamp 1
D-48565 Steinfurt
Tel.: 02551/9340-0
Fax: 02551/9340-60
- **Further information obtainable from:** *Product safety department*
- **1.4 Emergency telephone number:**
Poison Control Center Mainz - 24 hour emergency service - Tel.: +49 (0) 6131/19240

SECTION 2: Hazards identification

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



GHS05 corrosion

*Met. Corr.1 H290 May be corrosive to metals.**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.

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



GHS05 GHS07

- **Signal word** *Danger*
- **Hazard statements**
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

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Precautionary statements

- 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 POISON CENTER/doctor.*
- P321 *Specific treatment (see on this label).*
- P405 *Store locked up.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

2.3 Other hazards

The product does not contain any substance above the legal limits included on the list for endocrine disrupting properties established under Article 59(1) of Regulation (EC) No 1907/2006 or under Commission Delegated Regulation (EU) 2017/2100 or of Commission Regulation (EU) 2018/605 has endocrine disrupting properties.

Results of PBT and vPvB assessment
PBT:

The product does not contain any substances above legal limits that meet the criteria for PBT (persistent, bioaccumulative and toxic).

vPvB:

The product does not contain any substances above legal limits that meet the criteria for vPvB (very persistent and very bioaccumulative).

SECTION 3: Composition/information on ingredients

3.1 Substances
CAS No. Description

1310-58-3 Potassium hydroxide

Identification number(s)

EC number: 215-181-3

Index number: 019-002-00-8

Specific concentration limits

Skin Corr. 1A; H314: $C \geq 5 \%$

Skin Corr. 1B; H314: $2 \% \leq C < 5 \%$

Skin Irrit. 2; H315: $0.5 \% \leq C < 2 \%$

Eye Irrit. 2; H319: $0.5 \% \leq C < 2 \%$

Nanoform

Particle Properties:

Particle size: 0.3 - 1.0 cm³ (volume) (diameter calculation method: volume based)

SECTION 4: First aid measures

4.1 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 wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

Rinse out mouth and then drink plenty of water.

Do not induce vomiting.

Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Breathing difficulty

Dizziness

Coughing

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Nausea

Gastric or intestinal disorders

Headache

· Hazards

· Danger of pulmonary oedema.

· Danger of pneumonia.

· Danger of convulsion.

· 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:** CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.· **For safety reasons unsuitable extinguishing agents:** Water with full jet**· 5.2 Special hazards arising from the substance or mixture**

Reacts in solution with aluminium, zinc, tin and alloys of these metals liberating hydrogen gas which forms an explosive mixture with air.

· 5.3 Advice for firefighters

Collect contaminated fire fighting water separately.

Do not let fire-fighting water get into the canals and bodies of water.

· **Protective equipment:** Wear full protective suit with self-contained breathing apparatus.**SECTION 6: Accidental release measures****· 6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid formation of dust.

Do not breathe dust.

Avoid contact with eyes and skin

Product forms slippery surface when combined with water.

· 6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

Damp down dust with water spray.

Inform the responsible authorities if larger quantities are released.

· 6.3 Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Pick up mechanically.

Avoid dust formation.

Send for recovery or disposal in suitable receptacles.

Dispose contaminated material as waste according to item 13.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage**· 7.1 Precautions for safe handling**

Avoid contact with eyes and skin.

Avoid dust formation.

Ensure good ventilation / exhaustion at the workplace.

When dissolving, always put water in front and stir in the product.

Never add acids

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- **Information about fire - and explosion protection:** The product is non-flammable.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Keep container tightly closed and store in a cool, well-ventilated place.
Store only in the original receptacle.
- **Information about storage in one common storage facility:**
Do not store together with acids.
Store away from foodstuffs.
- **Further information about storage conditions:**
Keep container tightly sealed.
Protect from humidity and water.
- **Storage class:** 8B
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **DNELs**
Inhalation (workers) 1 mg/m³ (long-term, local effects)
Inhalative (population) 1 mg/m³ (long-term, local effects)
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see item 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
Immediately remove all soiled and contaminated clothing
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not breathe dust. Avoid dust formation.
- **Respiratory protection:** In case of dust formation, use respiratory protection with respiratory filter P2.
- **Hand protection**



Protective gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
Butyl rubber, BR
Natural rubber, NR
Nitrile rubber, NBR
Fluorocarbon rubber (Viton)
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye/face protection**



Tightly sealed goggles

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SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state	Solid
· Colour:	White
· Odour:	Odourless
· Melting point/freezing point:	360 °C
· Boiling point or initial boiling point and boiling range	1327 °C
· Flammability	Product is not flammable.
· Flash point:	not applicable
· pH (100 g/l) at 20 °C	> 14
· Solubility	
· water at 20 °C:	1120 g/l
· Vapour pressure at 20 °C:	0 hPa
· Density and/or relative density	
· Density at 20 °C:	2.04 g/cm ³
· Relative density at 20 °C	2.04 g/cm ³
· Particle characteristics	See item 3.

· 9.2 Other information

· Appearance:	hygroscopic
· Form:	Solid
· Important information on protection of health and environment, and on safety.	
· Explosive properties:	Product does not present an explosion hazard.
· Molecular weight	56.1 g/mol

· Information with regard to physical hazard classes

· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	
May be corrosive to metals.	
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

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- **10.3 Possibility of hazardous reactions**
Strong exothermic reaction with acids.
Reactions with light metals in the presence of moisture with formation of hydrogen.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Acids.
Ammonium salts
Light metals
- **10.6 Hazardous decomposition products:**
Hydrogen is produced during the reaction with base metals.
The reaction with ammonium salts produces ammonia gas.
- **Additional information:**
Product reacts with carbon dioxide from the air to form potassium carbonate or hydrogen carbonate.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**
Harmful if swallowed.
- **LD/LC50 values relevant for classification:** Oral LD50 >300 mg/kg (rat)
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **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-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.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** LC50 (96 h): 10-100 mg/l (aquatic organisms)
- **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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** The product is not considered to be persistent, bioaccumulating nor toxic (PBT).
- **vPvB:** The product is not considered to be persistent or very bioaccumulative (vPvB).
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Other information:** The product does not cause biological oxygen depletion.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

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SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Disposal according to local regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|---|
| · 14.1 UN number or ID number
· ADR, IMDG, IATA | UN1813 |
| · 14.2 UN proper shipping name
· ADR
· IMDG, IATA | 1813 POTASSIUM HYDROXIDE, SOLID
POTASSIUM HYDROXIDE, SOLID |
| · 14.3 Transport hazard class(es)
· ADR | |
|  | |
| · Class
· Label | 8 (C6) Corrosive substances.
8 |
| · IMDG, IATA | |
|  | |
| · Class
· Label | 8 Corrosive substances.
8 |
| · 14.4 Packing group
· ADR, IMDG, IATA | II |
| · 14.5 Environmental hazards:
· Marine pollutant: | No |
| · 14.6 Special precautions for user
· Hazard identification number (Kemler code):
· EMS Number:
· Segregation groups
· Stowage Category
· Segregation Code | Warning: Corrosive substances.
80
F-A,S-B
(SGG18) Alkalis
A
SG35 Stow "separated from" SGG1-acids |
| · 14.7 Maritime transport in bulk according to IMO instruments | Not applicable. |
| · Transport/Additional information: | |
| · ADR
· 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 |

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· Transport category	2
· Tunnel restriction code	E
· 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
· UN "Model Regulation":	UN 1813 POTASSIUM HYDROXIDE, SOLID, 8, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.

SECTION 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.

- **Department issuing SDS:** Product safety department
- **Contact:** Mrs. Steyer
- **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international 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
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 – Category 1
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