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## SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

Version 8.1 Revision Date 18.12.2024 Print Date 23.04.2025 GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

1.1	Product identifiers Product name	:	Potassium hydroxide
	Product Number Brand Index-No. REACH No. CAS-No.	:	221473 SIGALD 019-002-00-8 01-2119487136-33-XXXX 1310-58-3
1.2	2 Relevant identified uses of the substance or mixture and uses advised agains		
	Identified uses	:	Laboratory chemicals, Manufacture of substances

- **1.3 Details of the supplier of the safety data sheet**Company :
- **1.4 Emergency telephone**

Emergency Phone #	: +(44)-870-8200418 (CHEMTREC (GB))
	+(353)-19014670 (CHEMTREC Ireland)
	001-803-017-9114 (CHEMTREC India)

## **SECTION 2: Hazards identification**

2.1	<b>Classification of the substance or</b> Corrosive to Metals, (Category 1)	<b>mixture</b> H290: May be corrosive to metals.
	Acute toxicity, (Category 4)	H302: Harmful if swallowed.
	Skin corrosion, (Sub-category 1A)	H314: Causes severe skin burns and eye damage.
	Serious eye damage, (Category 1)	H318: Causes serious eye damage.

## 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

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Signal Word	Danger	
Hazard Statements H290 H302 H314	May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage.	
Precautionary Statements P234 P260 P280	Keep only in original packaging. Do not breathe dust. Wear protective gloves/ protective clothing/ eye protection/ face protection.	
P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.	
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.	
Supplemental Hazard Statements	none	
Reduced Labeling ( $\leq = 125$ ml)		

#### Reduced Labeling (<= 125 ml)

Pictogram	
Signal Word	Danger
Hazard Statements H314	Causes severe skin burns and eye damage.
Precautionary Statements P260 P280	Do not breathe dust. 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.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

## 2.3 Other hazards

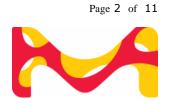
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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## SECTION 3: Composition/information on ingredients

3.1	Synonyms : Caustic potash			
	Formula Molecular weight CAS-No. EC-No. Index-No.	: HKO : 56.11 g/mol : 1310-58-3 : 215-181-3 : 019-002-00-8		
	Component		Classification	Concentration
	caustic potash		-	
	CAS-No. EC-No. Index-No.	1310-58-3 215-181-3 019-002-00-8	Met. Corr. 1; Acute Tox. 4; Skin Corr. 1A; Eye Dam. 1; H290, H302, H314, H318 Concentration limits: >= 5 %: Skin Corr. 1A, H314; 2 - < 5 %: Skin Corr. 1B, H314; 0.5 - < 2 %: Skin Irrit. 2, H315; 0.5 - < 2 %: Eye Irrit. 2, H319; >= 0.5 %: Met. Corr. 1, H290;	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

#### 4.1 Description of first-aid measures

#### **General advice**

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

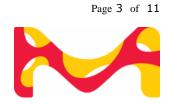
#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### **4.3 Indication of any immediate medical attention and special treatment needed** No data available

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## **SECTION 5: Firefighting measures**

## 5.1 Extinguishing media

#### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Potassium oxides Not combustible.

Ambient fire may liberate hazardous vapours.

#### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Gives off hydrogen by reaction with metals.Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **SECTION 6: Accidental release measures**

## 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

#### **6.2 Environmental precautions** Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up** Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

## 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

**7.1 Precautions for safe handling** For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

No metal containers. Tightly closed. Dry. Absorbs carbon dioxide (CO2) from air.

Air sensitive. strongly hygroscopic

#### Storage class

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Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

#### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

#### Ingredients with workplace control parameters

#### **Derived No Effect Level (DNEL)**

Application Area	Routes of exposure	Health effect	Value
Workers	Inhalation	Long-term local effects	1 mg/m3
Consumers	Inhalation	Long-term local effects	1 mg/m3

#### 8.2 Exposure controls

#### **Personal protective equipment**

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

#### **Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact

Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L

#### **Body Protection**

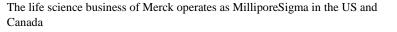
protective clothing

#### **Respiratory protection**

required when dusts are generated.

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Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### **Control of environmental exposure**

Do not let product enter drains.

#### SECTION 9: Physical and chemical properties 9.1 Information on basic physical and chemical properties

	pellets
Color	colorless
Odor	odorless
Melting point/freezing point	Melting point/ range: 361 °C - lit.
Initial boiling point and boiling range	1,327 °C at 1,013 hPa
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Flash point	Not applicable
Autoignition temperature	No data available
Decomposition temperature	No data available
рН	ca.13.5 at 5.6 g/l at 25 °C
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Water solubility	1,130 g/l at 20 °C - completely soluble
Partition coefficient: n-octanol/water	Not applicable for inorganic substances
Vapor pressure	1 hPa at 719 °C
Density	2.04 g/cm3 at 20 °C
Relative density	No data available
Relative vapor density	No data available
Particle characteristics	No data available
	Melting point/freezing point Initial boiling point and boiling range Flammability (solid, gas) Upper/lower flammability or explosive limits Flash point Autoignition temperature Decomposition temperature pH Viscosity Water solubility Partition coefficient: n-octanol/water Vapor pressure Density Relative density Relative vapor density Particle

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- s) Explosive properties Not classified as explosive.
- t) Oxidizing properties none
- 9.2 Other safety information No data available

#### **SECTION 10: Stability and reactivity**

#### **10.1 Reactivity**

No data available

#### **10.2** Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) . Heat of solution is very high, and with limited amounts of water, violent boiling may occur

**10.3 Possibility of hazardous reactions** No data available

#### **10.4** Conditions to avoid

Do not heat above melting point. no information available

- **10.5 Incompatible materials** No data available
- **10.6 Hazardous decomposition products** In the event of fire: see section 5

#### **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male - 333 mg/kg (OECD Test Guideline 425) Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Acute toxicity estimate Oral - 333 mg/kg (Calculation method) Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract Dermal: No data available

#### Skin corrosion/irritation

Skin - Rabbit Result: Causes burns. Remarks: (IUCLID)

## Serious eye damage/eye irritation

Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405) Remarks: Causes serious eye damage.

## Respiratory or skin sensitization

Sensitisation test: - Guinea pig

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Result: negative Remarks: (IUCLID)

#### Germ cell mutagenicity

Test Type: Ames test Test system: S. typhimurium Metabolic activation: with and without metabolic activation Result: negative Remarks: (ECHA) Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476 Result: negative

#### Carcinogenicity

No data available

#### **Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure** No data available

**Specific target organ toxicity - repeated exposure** No data available

**Aspiration hazard** No data available

#### **11.2 Additional Information**

#### **Endocrine disrupting properties**

#### Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### RTECS: TT2100000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After uptake:

Vomiting shock

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

#### **SECTION 12: Ecological information**

#### **12.1 Toxicity**

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Toxicity to fish

## 12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

## 12.3 Bioaccumulative potential

No data available

# 12.4 Mobility in soil

No data available

## 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## **12.6 Endocrine disrupting properties**

# Product:

Assessment

: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 Other adverse effects

No data available

## SECTION 13: Disposal considerations

13.1 Waste treatment methods

No data available

SECTION 14: Transport information			
<b>14.1 UN number</b> ADR/RID: 1813	IMDG: 1813	IATA: 1813	
<b>14.2UN proper shipping name</b> ADR/RID:POTASSIUM HYDROXIDE, SOLIDIMDG:POTASSIUM HYDROXIDE, SOLIDIATA:Potassium hydroxide, solid			
14.3 Transport hazard class(es ADR/RID: 8	5) IMDG: 8	IATA: 8	
14.4 Packaging group ADR/RID: II	IMDG: II	IATA: II	
14.5 Environmental hazards ADR/RID: no	IMDG Marine pollutant: no	IATA: no	

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#### 14.6 Special precautions for user

Further information : No data available

### **SECTION 15: Regulatory information**

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### **Other regulations**

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

#### **15.2 Chemical Safety Assessment**

A Chemical Safety Assessment has been carried out for this substance.

#### **SECTION 16: Other information**

## Full text of H-Statements

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.



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#### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM -American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS -Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIOC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

## **Further information**

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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