



## Safety Data Sheet POTASSIUM HYDROXIDE

### 1. Identification of the Substance/Preparation and of the Company/Undertaking

#### 1.1 Product identifier

**Product name** POTASSIUM HYDROXIDE  
**Product code** PID1308  
**Country Limitations** For use only in North Sea countries (NSG)  
**Molecular weight** 56.11

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

**Recommended Use** pH modifier

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

M-I Drilling Fluids UK Limited  
Westhill Business Park  
Westhill AB32 6JL Aberdeenshire  
Scotland United Kingdom

+47 51577424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 561 1600

<b>Netherlands</b>	National Poisons Information Centre (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
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### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Commission Regulation (EU) No 2015/830 of 28 May 2015

##### Health hazards

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Subcategory 1A
Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified

**Physical Hazards**

Substances/mixtures corrosive to metal	Category 1
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**2.2 Label elements**



**Signal word**

DANGER

**Hazard Statements**

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

**Precautionary Statements**

P260 - Do not breathe dust/fume/gas/mist/vapours/spray  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/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 or doctor/physician

**Supplementary precautionary statements**

P234 - Keep only in original container  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P330 - Rinse mouth  
P363 - Wash contaminated clothing before reuse  
P390 - Absorb spillage to prevent material damage  
P406 - Store in corrosion resistant container with a resistant inner liner  
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Contains**

Potassium hydroxide

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria  
Suspended dust may present a dust explosion hazard  
Contact with metals may evolve flammable hydrogen gas

### 3. Composition/information on Ingredients

#### 3.1 Substances

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
Potassium hydroxide	215-181-3	1310-58-3	60-100	Met. Corr. 1 (H290) Acute Tox. 4 (H302) Skin Corr. 1A (H314)	01-2119487136-3 3-xxxx

#### 3.2 Mixtures

Not applicable

### 4. First Aid Measures

#### 4.1 First aid measures

<b>Inhalation</b>	Move the exposed person to fresh air at once. If breathing is difficult, (trained personnel should) give oxygen. If not breathing, give artificial respiration. Seek medical attention at once.
<b>Ingestion</b>	Do NOT induce vomiting. Get immediate medical attention. Rinse mouth. Risk of product entering the lungs on vomiting after ingestion. Never give anything by mouth to an unconscious person.
<b>Skin contact</b>	Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns must be treated by a physician.
<b>Eye Contact</b>	Remove contact lenses, if worn. Immediately flush eyes with water for 15 minutes while holding eyelids open. Immediate medical attention is required.

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

<b>General advice</b>	Seek medical attention for all burns, regardless how minor they may seem. The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
<b>Symptoms</b>	
<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.

**Eye contact** Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

## 5. Firefighting Measures

**5.1 Extinguishing media**

**Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

None known.

**5.2. Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

Dust may form explosive mixture in air. Contact with metals may evolve flammable hydrogen gas.

**Hazardous combustion products**

Fire or high temperatures create: Harmful organic chemical fumes, Potassium oxide.

**5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Do not get on skin or clothing. Wash thoroughly after handling. Avoid dust formation. Do not breathe dust. Use personal protective equipment. See also section 8.

**6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and material for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimise spreading and keep powder dry.

**Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. Take precautionary measures against static discharges. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13).

**6.4 Reference to other sections**

See section 13 for more information.

**7. Handling and Storage**

**7.1 Precautions for safe handling**

**Handling**

Handle in accordance with good industrial hygiene and safety practice. Do not get in eyes, on skin or on clothing. Avoid dust formation. Do not breathe dust. Never add water directly to this product - may cause vigorous reaction/boiling. Always dilute by carefully pouring the product into the water.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures/precautions** Ensure adequate ventilation. Take precautionary measures against static discharges. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Suspended dust may present a dust explosion hazard. Avoid heat, flames and other sources of ignition. Protect from moisture. Hydrogen gas may be generated if in prolonged contact with metals such as tin, zinc, lead, aluminum. Avoid contact with: Strong oxidising agents. Acids. Combustible materials. Water. Metals. Keep at a temperature not exceeding 25 °C.

**Storage class** Corrosive storage.

**Packaging materials** Use specially constructed containers only.

**7.3 Specific end uses**

See Section 1.2.

**8. Exposure Controls/Personal Protection**

**8.1 Control parameters**

**Component Information**

Chemical Name	EU OEL - Third List	Austria	Denmark
Potassium hydroxide	Not determined	2 mg/m <sup>3</sup> TWA inhalable fraction	2 mg/m <sup>3</sup> Ceiling
Chemical Name	France	Germany	Hungary
Potassium hydroxide	2mg/m <sup>3</sup> STEL	Not determined	2mg/m <sup>3</sup> TWA 2mg/m <sup>3</sup> STEL
Chemical Name	Italy	Netherlands	Norway

Potassium hydroxide	Not determined	Not determined	2 mg/m <sup>3</sup> Ceiling
<b>Chemical Name</b>	<b>Poland</b>	<b>Portugal</b>	<b>Romania</b>
Potassium hydroxide	1 mg/m <sup>3</sup> STEL NDSC 0.5 mg/m <sup>3</sup> TWA NDS	Not determined	Not determined
<b>Chemical Name</b>	<b>Spain</b>	<b>Switzerland</b>	<b>UK</b>
Potassium hydroxide	2 mg/m <sup>3</sup> STEL	2 mg/m <sup>3</sup> TWA MAK	2 mg/m <sup>3</sup> STEL

**Derived No Effect Level (DNEL)**

**Long term exposure local effects**

**Potassium hydroxide**

Inhalation 1 mg/m<sup>3</sup>

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required. Provide appropriate exhaust ventilation at places where dust is formed.

**Personal protective equipment**

**Eye protection**

Use eye protection according to EN 166, designed to protect against dusts. Chemical splash goggles and face shield.

**Hand protection**

Wear gloves according to EN 374 to protect against skin effects from powders  
 Impervious gloves made of: Butyl rubber Neoprene PVC  
 Break through time >240 minutes  
 Frequent change is advisable

**Respiratory protection**

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust), Respirator with combination filter for vapour/particulate (EN 141), Suitable mask with particle filter P3 (European Norm 143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

**Skin and body protection**

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



**8.2.3 Environmental exposure controls**

**Environmental exposure**

Use appropriate containment to avoid environmental contamination See section 6 for more information

**9. Physical and Chemical Properties**

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Pellets
<b>Odour</b>	Odourless
<b>Colour</b>	White
<b>Odour threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>pH</b>	No information available	
<b>pH @ dilution</b>	13	@1%
<b>Melting / freezing point</b>	406 °C / 763 °F	
<b>Boiling point/range</b>	1327 °C / 2420 °F	
<b>Flash point</b>	No information available	
<b>Evaporation rate</b>	No information available	
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	Not applicable	
<b>Lower flammability limit</b>	Not applicable	
<b>Vapour pressure</b>	No information available	
<b>Vapour density</b>	No information available	
<b>Specific gravity</b>	No information available	
<b>Bulk density</b>	0.9 kg/m <sup>3</sup>	
<b>Relative density</b>	2.044 g/cm <sup>3</sup>	@ 20 °C.
<b>Water solubility</b>	Soluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	
<b>log Pow</b>	No information available	

<b>Explosive properties</b>	Suspended dust may present a dust explosion hazard
<b>Oxidising properties</b>	None known

**9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	56.11
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

**10. Stability and Reactivity**

**10.1 Reactivity**

Corrosive. Corrosive to Metals. Contact with metals may evolve flammable hydrogen gas.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions**

**Hazardous polymerisation**

Hazardous polymerisation does not occur.

**10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition. Protect from moisture. Avoid dust formation. Keep at a temperature not exceeding 25 °C.

**10.5 Incompatible materials**

Contact with metals (aluminium, zinc, tin) may release hydrogen gas. Strong oxidising agents. Acids. Combustible materials. Water. Metals.

**10.6 Hazardous decomposition products**

See Section 5.2.

**11. Toxicological Information**

**11.1 Information on toxicological effects**

**Acute toxicity**

**Inhalation**

May cause irritation of respiratory tract. May cause additional affects as listed under "Ingestion". Vapours are corrosive. After 24-36 hours, injured persons may develop serious shortness of breath and lung oedema. Vapours irritate the respiratory system, and may cause coughing and difficulties in breathing.

**Eye contact**

Causes burns. Causes serious eye damage.

**Skin contact**

Causes severe skin burns.

**Ingestion**

Harmful if swallowed. Ingestion may cause stomach discomfort. Can burn mouth, throat, and stomach. May cause additional affects as listed under "Inhalation".

**Unknown acute toxicity**

Not applicable.

**Toxicology data for the components**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium hydroxide	= 284 mg/kg ( Rat )	No data available	No data available

**Sensitisation**

This product does not contain any components suspected to be sensitizing.

**Mutagenic effects**

This product does not contain any known or suspected mutagens.

**Carcinogenicity**

This product does not contain any known or suspected carcinogens.



<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	Skin contact. Eye contact. Inhalation. Ingestion.
<b>Routes of entry</b>	Skin contact. Eye contact. Ingestion. Inhalation.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

#### Toxicity to algae

See component information below.

#### Toxicity to fish

See component information below.

#### Toxicity to daphnia and other aquatic invertebrates

See component information below.

#### Toxicology data for the components

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Potassium hydroxide	= 80 mg/L LC50 Gambusia affinis 96 h	No information available	No information available

### 12.2 Persistence and degradability

See component information below.

Chemical Name	Persistence and degradability
Potassium hydroxide	Inorganic compound

### 12.3 Bioaccumulative potential

See component information below.

Chemical Name	Bioaccumulation

Potassium hydroxide	Product/Substance is inorganic
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#### **12.4 Mobility**

##### **Mobility**

See component information below.

Chemical Name	Mobility
Potassium hydroxide	Easily soluble

##### **Mobility in soil**

See component information below.

Chemical Name	Mobility in soil
Potassium hydroxide	Not expected to adsorb on soil

#### **12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

#### **12.6 Other adverse effects.**

None known.

#### **12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

### **13. Disposal Considerations**

#### **13.1 Waste treatment methods**

##### **Waste from residues/unused products**

Dispose of in accordance with local regulations.

##### **Contaminated packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal.

##### **EWC Waste Disposal No**

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used The following Waste Codes are only suggestions: EWC waste disposal No: 06 02 04

### **14. Transport information**

#### **14.1. UN number**

UN/ID No. (ADR/RID/ADN/ADG) UN1813  
UN No. (IMDG) UN1813  
UN No. (ICAO/ANAC) UN1813

**14.2. UN proper shipping name**  
POTASSIUM HYDROXIDE, SOLID,

**14.3. Hazard class(es)**  
ADR/RID/ADN/ADG Hazard class 8  
IMDG Hazard class 8  
ICAO Hazard class/division 8

**14.4 Packing group**  
ADR/RID/ADN/ADG Packing Group II  
IMDG Packing group II  
ICAO Packing group II



**14.5 Environmental hazard**  
No

**14.6 Special precautions**  
Hazard ID 80  
EmS (IMDG) F-A, S-B  
Emergency Action Code (EAC) 2W  
Tunnel restriction code (E)

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**  
Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

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

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC, 2000/21/EC and 453/2010 including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

#### International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

#### Europe - REACH

All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006. For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

For use only in North Sea countries (NSG)

### 15.2 Chemical Safety Report

No information available

## 16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes Date:	20/Jun/2018
Revision date	10/Oct/2018
Version	3

**This SDS has been revised in the following section(s)** 1, 2, 6, 7, 15, 16 For use only in North Sea countries (NSG)  
No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**Training Advice**

Do not handle until all safety precautions have been read and understood

Follow general hygiene considerations recognised as common good workplace practices

**Full text of H-Statements referred to under sections 2 and 3**

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H290 - May be corrosive to metals

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

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