

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product name: Potassium Hydroxide 25%
Synonyms; trade names: Caustic potash

Relevant identified uses of the substance or mixture and uses advised against:

Identified uses: Industry
Professional
Consumer

Company name: Nexchem Ltd
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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification (SI 2019 No. 720):

Physical hazards: Met. Corr. 1 - H290
Health hazards: Acute Tox. 4 – H302. Skin Corr. 1A - H314. Eye Dam. 1 - H318.
Environmental hazards: Not Classified

Label elements:

Hazard pictograms:



Signal word: Danger

Hazard statements: H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

SAFETY DATA SHEET

Potassium Hydroxide 25%

Precautionary statements:	<p>P260 Do not breathe vapour/ spray.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER/ doctor.</p>
Contains:	Potassium hydroxide.

Supplementary precautionary statements:	<p>P234 Keep only in original packaging.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P301+P312 IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.</p> <p>P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P390 Absorb spillage to prevent material damage.</p> <p>P405 Store locked up.</p> <p>P406 Store in a corrosion-resistant container with a resistant inner liner.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
Other hazards:	This substance is not classified as PBT or vPvB according to current UK criteria.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures:	Potassium Hydroxide 20-30%
CAS number:	1310-58-3
EC number:	215-181-3
Classification:	<p>Acute Tox. 4 - H302</p> <p>Skin Corr. 1A - H314</p> <p>Eye Dam. 1 - H318</p>

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

4. FIRST AID MEASURES

Description of first aid measures:

General information: Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

Inhalation: Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention if symptoms are severe or persist.

Ingestion:	Rinse mouth thoroughly with water. Give plenty of water to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. Get medical attention immediately.
Skin contact:	It is important to remove the substance from the skin immediately. Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.
Eye contact:	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.
Protection of first aiders:	First aid personnel should wear appropriate protective equipment during any rescue. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.
Most important symptoms and effects, both acute and delayed:	
Inhalation:	Severe irritation of nose and throat. Corrosive to the respiratory tract. Inhalation of vapour or mist may cause lung oedema.
Ingestion:	May cause chemical burns in mouth, oesophagus and stomach. Severe stomach pain. Nausea, vomiting.
Skin contact:	Causes severe burns. Pain or irritation. Redness. Blistering may occur.
Eye contact:	Causes serious eye damage. Pain. Profuse watering of the eyes. Redness. Prolonged contact may cause burns. Chemical burns.
Indication of any immediate medical attention and special treatment needed:	
Notes for the doctor:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture:

Specific hazards: Severe corrosive hazard. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.

Hazardous combustion products:

Thermal decomposition or combustion products may include the following substances: Corrosive gases or vapours.

Advice for firefighters:

Protective actions during firefighting: Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters:

Regular protection may not be safe. Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing will provide a basic level of protection for chemical incidents.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures:**

Personal precautions: No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

Environmental precautions:

Environmental precautions: Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Methods and material for containment and cleaning up:

Methods for cleaning up: Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Provide adequate ventilation. Approach the spillage from upwind. Contain and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Reference to other sections:

Reference to other sections: For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. HANDLING AND STORAGE**Precautions for safe handling:****Usage precautions:**

Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. This product is corrosive. Immediate first aid is imperative. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene:

Provide eyewash station and safety shower. Avoid contact with skin, eyes and clothing. Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

Conditions for safe storage, including any incompatibilities:**Storage precautions:**

Store in accordance with local regulations. Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well-ventilated place. Keep containers upright. Protect containers from damage.

Specific end use(s):

The identified uses for this product are detailed in Section 1.2.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Control parameters:**

Occupational exposure limits: Potassium hydroxide

Short-term exposure limit (15-minute): WEL 2 mg/m³

WEL = Workplace Exposure Limit.

Potassium hydroxide (CAS: 1310-58-3)

DNEL:

Workers - Inhalation; Long term local effects: 1 mg/m³

Consumer - Inhalation; Long term local effects: 1 mg/m³

Exposure controls:

Appropriate engineering controls: Provide adequate ventilation. As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapour or mist. Ensure control measures are regularly inspected and maintained. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure operatives are trained to minimise exposure.

Eye/face protection:

Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment that provides appropriate eye and face protection should be worn. If inhalation hazards exist, a full-face respirator may be required instead.

- Hand protection:** Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, wear gloves that are proven to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.
- Other skin and body protection:** Wear suitable coveralls to prevent exposure to the skin.
- Hygiene measures:** Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Warn cleaning personnel of any hazardous properties of the product.
- Respiratory protection:** Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'UKCA'-marked. Check that the respirator fits tightly and the filter is changed regularly. Particulate filters should comply with European Standard EN143. Gas filter, type B.
- Environmental exposure controls:** Keep container tightly sealed when not in use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

- Appearance:** Liquid.
- Colour:** Clear. Colourless.
- pH:** pH (diluted solution): >13 @ 1%
- Bulk density:** ~ 1235 kg/m³
- Solubility(ies):** Soluble in water.
- Other information:**

10. STABILITY AND REACTIVITY

- Reactivity:** The reactivity data for this product will be typical of those for the following class of materials: Strong alkalis. See the other subsections of this section for further details.
- Chemical stability:**
- Stability:** Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
- Possibility of hazardous reactions:** Reactions with the following materials may generate heat: Acids. Oxidising agents. Water. In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air.

[cont...]

Conditions to avoid: There are no known conditions that are likely to result in a hazardous situation.

Incompatible materials:

Materials to avoid: Acids. Oxidising agents. Water. In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air. Organic compounds.

Hazardous decomposition products: Does not decompose when used and stored as recommended.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity – oral:

ATE oral (mg/kg): 1,332.0

Toxicological information on ingredients.

potassium hydroxide

Acute toxicity – oral:

Acute toxicity oral (LD₅₀mg/kg): 333.0

Species: Rat

Notes (oral LD₅₀): Acute Tox. 4 - H302 Harmful if swallowed.

ATE oral (mg/kg): 333.0

Acute toxicity – dermal:

Notes (dermal LD₅₀): Endpoint waived according to UK REACH Annex VII, IX or XI.

Acute toxicity – inhalation:

Notes (inhalation LC₅₀): Endpoint waived according to UK REACH Annex VII, IX or XI.

Skin corrosion/irritation:

Skin corrosion/irritation: Skin Corr. 1A - H314 Causes severe burns. Corrosive to skin.

Serious eye damage/irritation:

Serious eye damage/irritation: Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation:

Respiratory sensitisation: No data available.

Skin sensitisation:

Skin sensitisation: Not sensitising.

Germ cell mutagenicity:

Genotoxicity - in vitro: This substance has no evidence of mutagenic properties.

Genotoxicity - in vivo: No data available.

Carcinogenicity:**Carcinogenicity:** No data available.**Reproductive toxicity:****Reproductive toxicity – fertility:** No data available.**Specific target organ toxicity - single exposure:****STOT - single exposure:** No data available.**Specific target organ toxicity - repeated exposure:****STOT - repeated exposure:** No data available.**Aspiration hazard:****Aspiration hazard:** Not relevant. Solid.**12. ECOLOGICAL INFORMATION****Toxicity:**

Ecological information on ingredients.

potassium hydroxide

Acute aquatic toxicity:**Acute toxicity – fish:** Scientifically unjustified.**Acute toxicity – aquatic invertebrates:** Scientifically unjustified.**Acute toxicity – aquatic plants:** Scientifically unjustified.**Acute toxicity – microorganisms:** Scientifically unjustified.**Acute toxicity – terrestrial:** Scientifically unjustified.**Persistence and degradability:**

Ecological information on ingredients.

potassium hydroxide

Persistence and degradability: Not applicable. Substance is inorganic.**Stability (hydrolysis):** Scientifically unjustified.**Biodegradation:** Scientifically unjustified.**Bioaccumulative potential:**

Ecological information on ingredients.

potassium hydroxide

Bioaccumulative potential: Scientifically unjustified.**Partition coefficient:** Not applicable. Substance is inorganic.**Mobility in soil:**

Ecological information on ingredients.

potassium hydroxide

Mobility: The product is water-soluble and may spread in water systems.

Results of PBT and vPvB assessment:

Ecological information on ingredients.

potassium hydroxide

Results of PBT and vPvB assessment: This substance is not classified as PBT or vPvB according to current UK criteria.**Other adverse effects:**

Ecological information on ingredients.

potassium hydroxide

Other adverse effects: None known.**13. DISPOSAL CONSIDERATIONS****Waste treatment methods:****General information:**

The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods:

Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Dispose of contents/container in accordance with local regulations.

14. TRANSPORT INFORMATION**UN number:****UN No. (ADR/RID):** 1814**UN No. (IMDG):** 1814**UN No. (ICAO):** 1814**UN No. (ADN):** 1814**UN proper shipping name:****Proper shipping name (ADR/RID):** POTASSIUM HYDROXIDE, SOLUTION**Proper shipping name (IMDG):** POTASSIUM HYDROXIDE, SOLUTION**Proper shipping name (ICAO):** POTASSIUM HYDROXIDE, SOLUTION**Proper shipping name (ADN):** POTASSIUM HYDROXIDE, SOLUTION**Transport hazard class(es):****ADR/RID class:** 8**ADR/RID classification code:** C5**ADR/RID label:** 8**IMDG class:** 8**ICAO class/division:** 8**ADN class:** 8

[cont...]

Transport labels:**Packing group:**

ADR/RID packing group:	II
IMDG packing group:	II
ICAO packing group:	II
ADN packing group:	II

Environmental hazards:

Environmentally hazardous substance/marine pollutant: No.

Special precautions for user:

EmS:	F-A, S-B
ADR transport category:	2
Emergency Action Code:	2R
Hazard Identification Number (ADR/RID):	80
Tunnel restriction code:	(E)

Transport in bulk according to Annex II of MARPOL and the IBC Code:

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable.

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

National regulations:	Health and Safety at Work etc. Act 1974 (as amended). The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits. Control of Substances Hazardous to Health Regulations 2002 (as amended). GB CLP Regulation. The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 (SI 2020 No. 1577) (as amended).
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Chemical safety assessment: No chemical safety assessment has been carried out.

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

[cont...]

16. OTHER INFORMATION**Abbreviations and acronyms used in the safety data sheet:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.

IATA: International Air Transport Association.

ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.

IMDG: International Maritime Dangerous Goods.

CAS: Chemical Abstracts Service.

ATE: Acute Toxicity Estimate.

LD50: Lethal Dose to 50% of a test population (Median Lethal Dose).

PBT: Persistent, Bioaccumulative and Toxic substance.

vPvB: Very Persistent and Very Bioaccumulative.

DNEL: Derived No Effect Level.

UN: United Nations.

IBC: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).

REACH: The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577.

Classification abbreviations and acronyms:

Met. Corr. = Corrosive to metals

Acute Tox. = Acute toxicity

Eye Dam. = Serious eye damage

Skin Corr. = Skin corrosion

Classification procedures according to SI 2019 No. 720:

Acute Tox. 4 – H302: Eye Dam. 1 - H318: Skin Corr. 1A - H314: Calculation method. Met. Corr. 1 - H290: Expert judgement.

Hazard statements in full:

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.