



SAFETY DATA SHEET POTASSIUM HYDROXIDE

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

1.1. Product identifier

Product name	POTASSIUM HYDROXIDE
Synonyms; trade names	CAUSTIC POTASH SOLID, POTASSIUM HYDROXIDE SOLID, POTASSIUM HYDROXIDE 90% FLK, POTASSIUM HYDROXIDE FLAKES, POTASSIUM HYDROXIDE 85%, CAUSTIC POTASH FLAKES, HYDROXIDE POT PEL PH/FG, POTASSIUM HYDROXIDE PELLETS, POT HYDROXIDE EP PLT, POT HYDROXIDE 90% FLK PPC

REACH registration number 01-2119487136-33-XXXX

CAS number 1310-58-3

EU index number 019-002-00-8

EC number 215-181-3

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

Identified uses Industrial Pharmaceuticals Colourant Chemical Intermediate Process Additive Lab Reagent Cleaning agent. Water Treatment Food industry Cosmetics Metallurgical Industry Industrial application For further information, see attached Exposure Scenario.

1.3. Details of the supplier of the safety data sheet

Supplier Woburn Chemicals Ltd
Chesney Wold
Bleak Hall
Milton Keynes
MK6 1LQ
Tel: 01908 670081
enquiries@woburnchemicals.co.uk

1.4. Emergency telephone number

Emergency telephone 01908 670081 (office hours only) Monday 0 Friday 09.00 16.00

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

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

2.2. Label elements

EC number 215-181-3

POTASSIUM HYDROXIDE

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.

Precautionary statements

P260 Do not breathe dust.
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 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.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	POTASSIUM HYDROXIDE
REACH registration number	01-2119487136-33-XXXX
EU index number	019-002-00-8
CAS number	1310-58-3
EC number	215-181-3
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	First aid personnel should wear appropriate protective equipment during any rescue. Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk.
Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Get medical attention immediately.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. May cause chemical burns in mouth and throat. Get medical attention immediately.
Skin contact	Immediately remove contaminated clothing. Rinse immediately with plenty of water. Get medical attention immediately.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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

POTASSIUM HYDROXIDE

Inhalation	Dust in high concentrations may irritate the respiratory system.
Ingestion	Causes severe burns. May cause burns in mucous membranes, throat, oesophagus and stomach. Harmful if swallowed.
Skin contact	Causes severe burns. May cause serious chemical burns to the skin.
Eye contact	Causes serious eye damage. May cause chemical eye burns. May cause permanent damage if eye is not immediately irrigated. Symptoms following overexposure may include the following: Corneal damage. Blindness.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Reacts violently with water. May form toxic or explosive vapours in presence of certain metals. Water used for fire extinguishing, which has been in contact with the product, may be corrosive.
Hazardous combustion products	No known hazardous decomposition products.

5.3. Advice for firefighters

Protective actions during firefighting	No action shall be taken without appropriate training or involving any personal risk. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Control run-off water by containing and keeping it out of sewers and watercourses. Contain and collect extinguishing water.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Follow precautions for safe handling described in this safety data sheet. Provide adequate ventilation. Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Take care as floors and other surfaces may become slippery. Keep unnecessary and unprotected personnel away from the spillage.
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6.2. Environmental precautions

Environmental precautions	Avoid the spillage or runoff entering drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Collect and place in suitable waste disposal containers and seal securely. Clean contaminated objects and areas thoroughly, observing environmental regulations.
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6.4. Reference to other sections

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Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Handle all packages and containers carefully to minimise spills. Wear protective clothing as described in Section 8 of this safety data sheet. Avoid handling which leads to dust formation. Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid inhalation of dust and contact with skin and eyes. Use only non-sparking tools. Never add water directly to this product as it may cause a vigorous reaction or boiling. Always dilute by carefully pouring the product into water.

Advice on general occupational hygiene 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. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Eye wash facilities and emergency shower must be available when handling this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame.
Unsuitable container materials: Aluminium. Lead. Copper. Zinc. Tin.
Suitable container materials: Stainless steel. Polyethylene. Glass.

Storage class Corrosive storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

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

WEL = Workplace Exposure Limit.

Ingredient comments WEL = Workplace Exposure Limits

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

8.2. Exposure controls

Protective equipment



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. Avoid inhalation of dust and contact with skin and eyes. Eye wash facilities and emergency shower must be available when handling this product.

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Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Wear tight-fitting, chemical splash goggles or face shield.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. 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. The selected gloves should have a breakthrough time of at least 8 hours. Frequent changes are recommended. It is recommended that gloves are made of the following material: Nitrile rubber. Protective gloves should have a minimum thickness of 0.4 mm. Butyl rubber. Protective gloves should have a minimum thickness of 0.5 mm. Chloroprene rubber. Protective gloves should have a minimum thickness of 0.7 mm.
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Care should be taken to avoid contact with contaminants when removing contaminated clothing. Wash contaminated clothing before reuse.
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 'CE'-marked. If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Particulate filter, type P2. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Dusty powder. Pellets. Flakes.
Colour	White.
Odour	Odourless.
Odour threshold	No information available.
pH	pH (diluted solution): >11.5 @ 1% solution
Melting point	>120°C
Initial boiling point and range	1327°C @ 760 mm Hg
Flash point	Not applicable.
Evaporation rate	Not applicable.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	10 hPa @ 20°C

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Vapour density	Not applicable.
Relative density	1.100-2.1
Bulk density	1100 - 1300 kg/m ³
Solubility(ies)	Soluble in water.
Partition coefficient	Not available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	Not applicable.
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not determined.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	May be corrosive to metals. In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Reactions with the following materials may generate heat: Strong acids.
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10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time. Protect from moisture.
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10.5. Incompatible materials

Materials to avoid	Avoid contact with the following materials: Strong acids. Strong oxidising agents. Organic compounds. Flammable/combustible materials. Metals Lead. Aluminium. Copper. Tin. Zinc.
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10.6. Hazardous decomposition products

Hazardous decomposition products	No known hazardous decomposition products.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD ₅₀ mg/kg)	333.0
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Species	Rat
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Notes (oral LD ₅₀)	Harmful if swallowed.
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POTASSIUM HYDROXIDE

ATE oral (mg/kg)	333.0
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	No specific test data are available.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	No specific test data are available.
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Causes severe burns.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes serious eye damage.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Based on available data the classification criteria are not met.
<u>Skin sensitisation</u>	
Skin sensitisation	- Guinea pig: Not sensitising. (0.1% KOH)
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Ames test: Negative. This substance has no evidence of mutagenic properties.
Genotoxicity - in vivo	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	Based on available data the classification criteria are not met.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Based on available data the classification criteria are not met.
Reproductive toxicity - development	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Based on available data the classification criteria are not met.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Based on available data the classification criteria are not met.
<u>Aspiration hazard</u>	
Aspiration hazard	No information available.
<u>Inhalation</u>	
Inhalation	Dust in high concentrations may irritate the respiratory system.
<u>Ingestion</u>	
Ingestion	Causes severe burns. May cause burns in mucous membranes, throat, oesophagus and stomach. Harmful if swallowed.
<u>Skin contact</u>	
Skin contact	Causes severe burns. May cause serious chemical burns to the skin.
<u>Eye contact</u>	
Eye contact	May cause serious eye damage. May cause chemical eye burns. May cause permanent damage if eye is not immediately irrigated. Symptoms following overexposure may include the following: Corneal damage. Blindness.

SECTION 12: Ecological information

Ecotoxicity	The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.
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12.1. Toxicity

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Acute aquatic toxicity

Acute toxicity - fish	LC50, 96 hours: 80 mg/l, Gambusia affinis
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 40 - 240 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability	The product is not biodegradable. Substance is inorganic.
Biodegradation	Scientifically unjustified.

12.3. Bioaccumulative potential

Bioaccumulative potential	Substance is inorganic. Bioaccumulation is unlikely.
Partition coefficient	Not available.

12.4. Mobility in soil

Mobility	The product is soluble in water.
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12.5. Results of PBT and vPvB assessment

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

Other adverse effects	Not determined.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty. Do not discharge into drains or watercourses or onto the ground. The packaging must be empty (drop-free when inverted). Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1813
UN No. (IMDG)	1813
UN No. (ICAO)	1813
UN No. (ADN)	1813

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	POTASSIUM HYDROXIDE SOLID
Proper shipping name (IMDG)	POTASSIUM HYDROXIDE SOLID
Proper shipping name (ICAO)	POTASSIUM HYDROXIDE SOLID
Proper shipping name (ADN)	POTASSIUM HYDROXIDE SOLID

14.3. Transport hazard class(es)

POTASSIUM HYDROXIDE

ADR/RID class	8
ADR/RID classification code	C5
ADR/RID label	8
IMDG class	8
ICAO class/division	8
ADN class	8

Transport labels



14.4. Packing group

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

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

IMDG Code segregation group	18. Alkalies
EmS	F-A, S-B
ADR transport category	2
Emergency Action Code	2W
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

14.7. 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.

SECTION 15: Regulatory information

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

EU legislation	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) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015.
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POTASSIUM HYDROXIDE

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.
DSL

US - TSCA

All the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Japan - ENCS

All the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines – PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

All the ingredients are listed or exempt.

SECTION 16: Other information

POTASSIUM HYDROXIDE

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 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.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

18/07/2021

Version number

4.001

Supersedes date

03/12/2019

POTASSIUM HYDROXIDE

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.

This information is based on our present knowledge and is intended to describe our products from point of view of the safety requirements. It should not be construed as guaranteeing specific properties.
The user must satisfy himself that the product is entirely suitable for his purpose.



Exposure scenario
ES 1 Industrial and Professional Use of Potassium Hydroxide

Identification

Product name	Potassium Hydroxide
CAS number	1310-58-3
EC number	215-181-3
EU index number	019-002-00-8
Supplier	Woburn Chemicals Ltd Chesney Wold Bleak Hall Milton Keynes MK6 1LQ Tel: 01908 670081 enquiries@woburnchemicals.co.uk

1. Title of exposure scenario

Main title	ES 1 Industrial and Professional Use of Potassium Hydroxide
Main sector	SU3 Industrial uses SU22 Professional uses

Environment

Environmental release category	ERC2 Formulation into mixture ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC5 Use at industrial site leading to inclusion into/onto article ERC6a Use of intermediate ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article) ERC7 Use of functional fluid at industrial site ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
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Worker

ES 1 Industrial and Professional Use of Potassium Hydroxide

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC13 Treatment of articles by dipping and pouring. PROC14 Tableting, compression, extrusion, pelletisation, granulation PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Industrial - Environment 1)

Control of environmental exposure

Environmental release category	ERC2 Formulation into mixture ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article) ERC6a Use of intermediate ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article) ERC7 Use of functional fluid at industrial site
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Product characteristics

Physical state	Solid, low dustiness , or: Solid in solution
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

Continuous.

Risk management measures

Good practice	Carefully handle the substance to minimise releases. Maximise waste water reuse.
Technical measures	Prevent environmental discharge consistent with regulatory requirements.

Conditions and measures related to external treatment of waste for disposal

Waste treatment	External treatment and disposal of waste should comply with applicable local and/or national regulations. pH adjustment Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.
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2. Conditions of use affecting exposure (Workers - Health 1)

Control of workers exposure

ES 1 Industrial and Professional Use of Potassium Hydroxide

Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions
	PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
	PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
	PROC4 Chemical production where opportunity for exposure arises
	PROC5 Mixing or blending in batch processes
	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
	PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
	PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
	PROC13 Treatment of articles by dipping and pouring.
	PROC14 Tableting, compression, extrusion, pelletisation, granulation
	PROC15 Use as laboratory reagent.

Product characteristics

Physical state Solid, low dustiness , or: Solid in solution

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor/outdoor use.

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Ensure operatives are trained to minimise exposures. Ensure control measures are regularly inspected and maintained.

Risk management measures

Use suitable eye protection and gloves.

Gloves should have a breakthrough time of 480 minutes.

Additional advice Other protection measures such as segregation of activity, minimisation of personnel, respiratory protection, impervious suits and face shields should also be considered for high dispersion activities which are likely to lead to substantial aerosol or vapour release, e.g. spraying.

ES 1 Industrial and Professional Use of Potassium Hydroxide

3. Exposure estimation (Environment 1)

Environmental exposure Substance will dissociate upon contact with water, the only effect is the pH effect, therefore, after passing through the STP, exposure is considered negligible and with no risk.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Exposure Worker - inhalation, long-term - local: Exposure 0.5 mg/m³, DNEL 1 mg/m³, RCR 0.5
Worst case assumption Dermal exposure is considered to be not relevant.

4. Guidance to check compliance with the exposure scenario (Health 1)

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.



Exposure scenario

ES 2 Consumer Use of Solid and Liquid Potassium Hydroxide (excluding batteries)

Identification

Product name	Potassium Hydroxide
CAS number	1310-58-3
EC number	215-181-3
EU index number	019-002-00-8
Supplier	Woburn Chemicals Ltd Chesney Wold Bleak Hall Milton Keynes MK6 1LQ Tel: 01908 670081 enquiries@woburnchemicals.co.uk

1. Title of exposure scenario

Main title	ES 2 Consumer Use of Solid and Liquid Potassium Hydroxide (excluding batteries)
Product category	PC9a Coatings and paints, thinners, paint removers. PC9b Fillers, putties, plasters, modelling clay. PC12 Lawn and garden preparations (- fertilizers). PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC28 Perfumes, fragrances. PC35 Washing and cleaning products PC39 Cosmetics, personal care.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC9a Widespread use of functional fluid (indoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Control of environmental exposure (Non-industrial)

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC8b Widespread use of reactive processing aid (no inclusion into or onto article, indoor) ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) ERC9a Widespread use of functional fluid (indoor)
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ES 2 Consumer Use of Solid and Liquid Potassium Hydroxide (excluding batteries)

Product characteristics

Physical state Solid, low dustiness , or: Solid in solution

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Continuous.

Risk management measures

Good practice Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state Solid, low dustiness , or: Solid in solution

Concentration details Covers concentrations up to 100 %.

Other given operational conditions affecting Non-industrial exposure

Setting Indoor/outdoor use.

Other given operational conditions affecting Non-industrial exposure

Consumer information Concentration of substance in product: >2% Wear suitable respiratory protection (conforming to EN140 with type A filter or better) and gloves (type EN374) if regular skin contact likely.
Use suitable eye protection.

3. Exposure estimation (Environment 1)

The use is assessed to be safe.

4. Guidance to check compliance with the exposure scenario (Environment 1)

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

3. Exposure estimation (Health 1)

The use is assessed to be safe.

4. Guidance to check compliance with the exposure scenario (Health 1)

If scaling reveals a condition of unsafe use (i.e. RCRs > 1), additional RMM or a site-specific chemical safety assessment is required.



Exposure scenario
ES 3 Consumer use, Service Life and Waste Stage of Potassium Hydroxide in batteries

Identification

Product name	Potassium Hydroxide
CAS number	1310-58-3
EC number	215-181-3
EU index number	019-002-00-8
Supplier	Woburn Chemicals Ltd Chesney Wold Bleak Hall Milton Keynes MK6 1LQ Tel: 01908 670081 enquiries@woburnchemicals.co.uk

1. Title of exposure scenario

Main title	ES 3 Consumer use, Service Life and Waste Stage of Potassium Hydroxide in batteries
Article category	AC3 Electrical batteries and accumulators
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
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2. Conditions of use affecting exposure (Industrial - Environment 1)**Product characteristics**

Physical state	Liquid
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3. Exposure estimation (Environment 1)

The use is assessed to be safe.

3. Exposure estimation (Health 1)

The use is assessed to be safe.