

POTASSIUM HYDROXIDE

Safety data sheet

Printing date 01/06/23

Version number 32

according to 1907/2006/EC, Article 31
Revision: 01/0623

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

1.1 Product identifier

Product Name:	Potassium Hydroxide
Product Number:	41585, 366030, 41570, 428099, 445210, 3xp, EDE
Synonyms, Trade Names	Caustic Potash
Reach Registration Number	01-2119487136-33
CAS-No.	1310-58-3
EU Index No.	019-002-00-8
EC No.	215-181-3

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

Identified uses	A material for use in the surface finishing and printed circuit board industries
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1.3 Details of the supplier of the safety data sheet

Supplier:	Aquaflame Systems Unit 5, Boulton Industrial Estate, Birmingham B18 5AU Tel: +44(0) 121-233-1088
Contact Email:	Admin@aquafldamesystems.com

1.4 Emergency telephone number:

24-Hour Emergency Incident Number +44(0)1235 239 670 - NCEC (National Chemical Emergency Centre)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (EC 1272/2008)	Met. Corr. 1 - H290
Physical and Chemical Hazards	Acute Tox. 4 - H302, Skin corr. 1A - H314 - Not Classified
Human Health	
Classification (EC 67/548/EEC)	
Environment	C;R35 Xn;R22

The full text for all R-Phrases and Hazard Statements are Displayed in Section 16.

2.2 Label Elements

EC No.	215-181-3 Label in accordance with (EC) No. 1272/2008
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Signal word	Danger
Hazard Statement	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 / face protection P301+330+331 If swallowed: Rinse mouth. Do not induce vomit.



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P303+361+353	If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water / shower.
P304+340	If Inhaled: Remove victim to fresh air and keep in a position comfortable for breathing.
P305+351+338	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 CENTRE or doctor/physician.
Supplementary Precautionary Statements	
P501a	Dispose of contents in accordance with local, regional, national and/or international regulations.

2.3 Other Hazards
Not classified as PBT/vPvB by current EU criteria.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances	
Product name	Potassium Hydroxide
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- 4.1 Description of first aid measures
- General Information** - Remove affected person from source of contamination. Chemical burns must be treated by a physician.
- Inhalation** - Move the exposed person to fresh air at once. Rinse nose and mouth with water. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration. Get medical attention immediately!
- Ingestion** - Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Rinse nose, mouth and throat with water. Do not induce vomiting. If vomiting occurs the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention immediately.
- Skin Contact** - Removed the affected person from source of contamination. Remove contaminated clothes and rinse skin thoroughly with water. Continue to rinse for at least 15 minutes. Get medical attention immediately!

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Eye contact - Promptly wash eyes with plenty of water while lifting the eyelids. Make sure to remove any contact lenses from the eye before rinsing. Continue to rinse for at least 15 minutes and get medical attention. Go to hospital or eye specialist.

4.2 General important symptoms and effects, both acute and delayed

General information

See section 11 for additional information on health hazards.

Inhalation - Irritation of nose, throat and airway. May cause damage to mucous membranes in nose, throat, lungs and bronchial system.

Ingestion - May cause chemical burns in mouth and throat. May cause severe internal injury.

Skin Contact - Burning pain and severe corrosive skin damage. Blistering may occur.

Eye Contact - Extreme irritation of eyes and mucous membranes, including burning and tearing.

Causes severe burns.

4.3 Indication of any immediate medical attention and special treatment needed

No Specific first-aid measures noted.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media - The product is not combustible. Use fire-extinguishing media appropriate for surrounding materials.

Protective equipment for firefighters – Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Specific Hazards - High temperatures generate: Oxides of Potassium.

Unusual Fire & Explosion Hazards - The product reacts with a number of metals forming hydrogen gas, which may explosive vapour/air mixtures.

5.2 Special hazards arising from the substance or mixture Unsuitable Extinguishing Media - DO NOT use water if avoidable. Reacts violently with water.

5.3 Advice for Fire Fighters

Special fire Fighting Procedures - Avoid breathing in vapours. Keep run of water out of sewers and water courses. Dike for water control. If risk of water pollution occurs, notify appropriate authorities.

Protective equipment for firefighters – Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures - Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of dust and contact with skin and eyes.

In case of inadequate ventilation, use respiratory protection. Eye contact MUST be prevented by means of suitable personal protection equipment.

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6.2 Environment precautions - Do not allow to enter drains, sewers or watercourses. Avoid release to the environment.

6.3 Methods and material for containment and cleaning up - Wear necessary protective equipment. Avoid generation and spreading of dust. Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. Collect spillage in containers, seal securely and deliver for disposal according to local regulations. Do not contaminate water sources or sewer. Inform Authorities if large amounts are involved.

6.4 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 & STORAGE MEASURES

7.1 Precautions for safe handling - Do not handle broken packages without protective equipment. Avoid inhalation of dust. Do not add water directly to the product. It may cause a violent reaction. Avoid eating, drinking and smoking when using the product. Observe good chemical practices.

7.2 Conditions for safe storage, including any incompatibilities - Store in tightly closed original container in a dry, cool and well-ventilated place. Keep separate from food, feedstuffs, fertilisers and other sensitive material. Avoid Moisture. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Storage class - Corrosive storage.

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

Min. Storage Temp (°C)5

Max. Storage Temp (°C)40

SECTION 8 : EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

NAME	STD	TWA'8HRS	STEL'15MINS	NOTES
POTASSIUM HYDROXIDE	WEL		2 mg/m3	

Wel = Workplace Exposure Limit
DNEL
Industry Inhalation. Long-Term Local Effects 1 mg/m3 REACH dossier information

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8.2 Exposure controls - protective equipment



Engineering measures - Provide Adequate ventilation. Observe occupational exposure limits and minimise the risk of inhalation of dust. All handling to take place in well-ventilated area.

Respiratory equipment - Respiratory protection must be used if air contamination exceeds acceptable level. Seek advice from supervisor on the companies' respiratory protection standards.

Hand protection - Protective gloves must be used if there is a risk of direct contact or splash. Use protective gloves made of: Butyl rubber or Polyvinyl chloride (PVC). Seek advice from local supervisor.

Eye protection - Wear full-face visor or shield.

Other protection - Provide eyewash station and safety shower. Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures - Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove non-impervious clothing that becomes contaminated. Contaminated clothing to be placed in closed container until disposal or decontamination. Warn cleaning personnel of chemical's hazardous properties. Eating, smoking and water fountains prohibited in immediate work area.

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SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Appearance	Crystalline powder. Pellets or Flakes.
Colour	White
Odour	Odourless
Solubility	Soluble in water
Melting point (0 C)	~ 1320
Initial boiling point and boiling range	360
Vapour density (air=1)	Not available
Vapour pressure	Not available
Evaporation rate	Not available
pH-Value, Diluted Solution	>13.0 @ 0.5%
Viscosity	Not available
Decomposition temperature (0C)	Not available
Odour Threshold, Lower	Not available
Odour Threshold, Upper	Not available
Flash point	Not available
Auto Ignition Temperature (0C)	Not available
Flammability Limit ‘ Lower (%)	Not available
Flammability Limit’ Upper (%)	Not available
Partition Coefcient (N'Octanol/Water)	Not available
Explosive properties	Not available
Oxidising properties	Not available
9.2 Other information	
Volatile Organic Compound (VOC)	0%

Information declared as "Not available" or "Not applicable" is not considered to be justified for enabling proper control measures to be taken.

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SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity - Stable under recommended operating conditions. Exothermic reaction with: Strong Acids. Water
- 10.2. Chemical stability - Stable under normal temperature conditions and recommended use.
- 10.3 Possibility of hazardous reactions - The product reacts with a number of metals forming hydrogen gas, which may form explosive vapour/air mixtures. Reacts violently with strong acids. Do not add water to the product. It may cause a violent reaction.
- 10.4 Conditions to avoid - There are no known conditions that are likely to result in a hazardous situation.
- 10.5 Incompatible materials - Materials to avoid: Strong acids. Aluminium. Copper. Zinc. Lead. Tin.
Chlorinated hydrocarbons
- 10.6 Hazardous decomposition products - None under normal conditions.

SECTION 11 TOXICOLOGICAL INFORMATION.

- 11.1. Information on toxicological effects
- Toxic dose 1 - LD 50
330 - 388 mg/kg (oral rat)
- Toxic dose 2 - LD 50
365 mg/kg (oral rat)
- Acute toxicity: REACH dossier information Harmful if swallowed.
- Skin Corrosion/irritation: Causes severe skin burns and eye damage.
- Serious eye damage/irritation: Skin corrosive; corrosivity to eyes is assumed. No testing is needed.
- Respiratory or skin sensitisation: Based on available data the classification criteria are not met.
- Germ cell mutagenicity: Based on available data the classification criteria are not met.
- Carcinogenicity: Based on available data the classification criteria are not met.
- Inhalation: Dust is severely irritating to the upper respiratory system. May cause damage to the mucous membranes in nose, throat, lungs and bronchial system. Pneumonitis (inflammation of the lung tissue).
- Ingestion: Causes severe burns. Harmful if swallowed. May cause chemical burns in mouth, oesophagus and stomach. May cause severe internal injury. Nausea, vomiting. Diarrhoea.
- Hypotension (low blood pressure). Vomiting of blood.
- Skin contact: Causes severe burns. May cause serious chemical burns to the skin.
- Eye contact: Causes severe burns. Contact with concentrated chemicals may very rapidly cause severe eye damage, possibly loss of sight.
- Target Organs: Eyes, Skin, Muscous membranes
- Specific effects: Frequent inhalation of dust over long a long period of time increases the risk of developing lung diseases.

SECTION 12: ECOLOGICAL INFORMATION

- Ecotoxicity
- The product components 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

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- 12.1. Toxicity - LC 50, 96 Hrs, Fish mg/l 80
- 12.2. Persistence and degradability - Biodegradation Not applicable - Inorganic chemical.
- 12.3. Bioaccumulative potential - Bioaccumulative potential. Will not bio-accumulate. Partition coefficient Not avialable.
- 12.4. Mobility in soil - Mobility: Not available.
- 12.5. Results of PBT and vPvB assessment - not classified as PBT/vPvB by current EU criteria.
- 12.6 Other adverse effects - Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

General Information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. When handling waste, consideration should be made to the safety precautions applying to handling of hazardous waste.

- 13.1 Waste Treatment Methods
- Environmental manager must be informed of all major spillages. Disposal of waste and residues in accordance with local authority requirements. Do not allow runoff to sewer, waterways or ground.

SECTION 14: TRANSPORT INFORMATION

- 14.1 UN number
- | | |
|----------------------|--------|
| UN No. (ADR/RID/ADN) | UN1813 |
| UN No. (IMDG) | UN1813 |
| UN No. (ICAO) | UN1813 |
- 14.2 UN proper shipping name
- Proper shipping name POTASSIUM HYDROXIDE, SOLID

- 14.3 Transport hazard class(es)
- | | |
|---------------------|--------------------------------|
| ADR/RID/ADN Class | 8 |
| ADR/RID/ADN Class | Class 8: Corrosive substances. |
| IMDGClass | 8 |
| ICAO Class/Division | 8 |

Transport labels



- 14.4 Packing Group
- | | |
|---------------------------|----|
| ADR/RID/ADN Packing Group | II |
| IMDG Packing Group | II |
| ICAO Packing Group | II |

- 14.5 Environmental Hazards
- Environmentally Hazardous Substance/Marine Pollutant No.

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14.6 Special Precautions for user
EMS F-A, S-B
Hazard No (ADR) 80 Corrosive or slightly corrosive substance
Tunnel Restriction Code (E)

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

SECTION 15: REGULATORY INFORMATION

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

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I. 2009 No. 716). The Control of Substances Hazardous to Health Regulations 2002 (S.I. 2002 No. 2677) with amendments.
Guidance notes
Workplace exposure limits EH40.

EU Legislation
Dangerous Substance Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC. Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No. 1272/2008 on classification, labeling and packaging of substances and mixtures (CLP), amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending regulation (EC) No. 1907/2006. Regulation (EC) No. 790/2009 amending, for the purpose of its adaption to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and the Council on Classification, labeling and packaging of substances and mixtures (CLP). Commission Regulation (EU) No 453/2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Water Hazard Classification - WGK1

15.2 Chemical Safety Assessment
A chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Revision Date	01/06/23
Revision	1
Safety Data Sheet Status	Approved
Signature	AQF
Risk Phrases in Full	
R35	Causes severe burns
R22	Harmful if swallowed
Hazard Statements in Full	
H290	Maybe corrosive to metals
H302	Harmful if swallowed
H314	Causes sever skin burns and eye damage

Disclaimer
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