

POTASSIUM HYDROXIDE

Printing Date 24.04.2017

Version 1

according to 1907/2006/EC, Article 31

Revision 24.04.2017

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

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 Person	David Hubble - david@aquaflyamesystems.com

1.4 Emergency telephone number:

42 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
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 breath dust
	P280	Wear protective gloves/protective clothing/eye /face protection
	P301+330+331	If swallowed: Rinse mouth. Do not induce vomit.



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
REACH Registration Number	01-2119487136-33
CAS-No.	1310-58-3
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SECTION 4 FIRST AID MEASURES

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!

Skin Contact - Remove 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!

Eye contact - Promptly wash eyes with plenty of water while lifting the eye lids. 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. Reacts violently with water.

5.2 Special hazards arising from the substance or mixture

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

Specific Hazards - High temperatures generate: Oxides of: Potassium.

5.3 Advice for WZcVWZXYeVcd

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

Protective equipment for fire WZcVWZXYeVcd - 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.

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 in to 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 AND 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 practises.

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 foo, 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) /
 Max. Storage Temp (°C) 40

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Name	STD	TWA' 8 Hrs	STEL' 15 Min	Notes
Potassium Hydroxide	N=D		2 mg/m ³	

Wel + Workplace Exposure Limit.

DNEL

Inhalation. Long Term Local Effects + mg/m³



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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Crystalline powder. Pellets or Flakes.
Colour	NYZeV(
Odour	Odourless
Solubility	Soluble in water
Initial boiling point and boiling range	~ 1320
Melting point (°C)	360
Vapour density (air=1)	Not available
Vapour pressure	Not available
Evaporation rate	Not available
a@Value, Diluted Solution	>13.0 @ 0.5%
Viscosity	Not available
Decomposition temperature (°C)	Not available
Odour Threshold, Lower	Not available
Odour Threshold, Upper	Not available
Flash point	Not available
Auto Ignition Temperature (°C)	Not available
Flammability Limit ' Lower (%)	Not available
Flammability Limit ' Upper (%)	Not available
Partition Coefficient (N-Octanol/Water)	Not available
Explosive properties	Not available
Oxidising properties	Not available

9.2 Other information

Volatile Organic Compound (VOC)	0%
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SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity - 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.

Specific target organ toxicity ' single exposure: Not classified as a specific target organ toxicant after a single exposure

Specific target organ toxicity ' repeated exposure: Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard: 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 chemical 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 effect the acidity (PH' factor) in water with risk of harmful effects to aquatic organisms.

12.1. Toxicity - LC 50, 96 Hrs, Fish mg/l

12.2. Persistence and degradability - Biodegradation Not applicable ' Inorganic chemical.

12.3. Bioaccumulative potential - Bioaccumulative potential Will not bio' accumulate.

Partition coefficient Not available.

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 apillages. Disposal of waste and residues in accordance with local authority requirements. Do not allow runoff to sewer, waterway or ground.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

UN No. (ADR/RID/ADN)	LF+2+ -
UN No. (IMDG)	LF+2+ -
UN No. (ICAO)	LF+2+ -

14.2 UN proper shipping name

Proper shipping name POTASSIUM HYDROXIDE, SOLID

14.3 Transport hazard class(es)

ADR/RID/ADN Class	2
ADR/RID/ADN Class	Class 8: Corrossivesubstances.
IMDGClass	2
ICAO Class/Division	2

Transport labels



14.4 Packing Group

ADR/RID/ADN Packing Group	AA
IMDG Packing Group	AA
ICAO Packing Group	AA

14.5 Environmental Hazards

Environmentally Hazardous Substance/Marine Pollutant
No.

14.6 Special Precautions for user

+EJ	>'A, S':
Hazard No (ADR)	80 Corrosive or slightly corrosive substance
Tunnel Restriction Code	(E)

14.7 Transport in bulk according to Annax 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, labelling 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, labelling 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).

WGK1

15.2 Chemical Safety Assessment

A chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Revision Date	24.04.2017
Revision	1
Safety Data Sheet Status	Approved
Signature	:@
Risk Phrases in Full	
i-/	Causes severe burns
l,,	Harmful if swallowed
Hazard Statements in Full	
H290	May be corrosive to metals
H302	Harmful if swallowed
@- +	Causes severe skin burns and eye damage

Disclaimer

This information relates only to the specific material as supplied and may not be valid for such material if used in combination with any other material(s) or in any other process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. The data should not be construed as guaranteeing specific properties of the product described or its suitability for a particular application, nor does it make any warranty, either express or implied of merchantability for the product itself. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.