



SAFETY DATA SHEET

Potassium hydroxide (Flakes or Pellets)

Preparation Date : 11-Oct-2012

Revision Date: 06-Jan-2015

Revision Number: 1

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

Product Identifier

Product Name Potassium hydroxide (Flakes or Pellets)

Other means of identification

CAS-No 1310-58-3
Formula KOH

Recommended use of the chemical and restrictions on use

General function Chemical intermediate.
Uses advised against No information available

Details of the supplier of the safety data sheet

Company Albemarle Corporation
451 Florida Street
Baton Rouge, LA 70801

For Non-Emergency 800-535-3030

'Competent Body for SDS' HSE@Albemarle.com

Emergency telephone number

Emergency Telephone Numbers +1-225-344-7147

2. HAZARDS IDENTIFICATION

Classification

Acute Toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Corrosive to Metals	Category 1

Label elements

Emergency Overview

Danger

Hazard Statements

Harmful if swallowed
Causes severe skin burns and eye damage
May be corrosive to metals

**Appearance** Solid**Color** White.**Odor** Odourless.**Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wear protective gloves/protective clothing/eye protection/face protection
 Keep only in original container

Response

Immediately call a POISON CENTER or doctor/physician
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell Rinse mouth Do not induce vomiting
 Absorb spillage to prevent material damage

Storage

Store locked up
 Store in corrosive resistant stainless steel container with a resistant inliner

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

15% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture Substance

Component	CAS-No	Weight %
Potassium Hydroxide	1310-58-3	>= 85

Note: The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. FIRST AID MEASURES**First aid measures****Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical advice.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice.

Ingestion Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical advice.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Not combustible. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray or fog to cool exposed equipment and containers.

Unsuitable Extinguishing Media Water may be ineffective.

Specific Hazards Arising from the Chemical

Combustion/explosion hazards Attacks many metals in the presence of water or humidity, releasing highly flammable gas (hydrogen) which generates fire or explosion hazards.

Hazardous Combustion Products Emits toxic fumes under fire conditions.

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Protective Equipment and Precautions for Firefighters

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Isolate the sources of the spill(s) leak(s) and evacuate all personnel from danger area. Ventilate the area. Wear suitable protective equipment.

Environmental Precautions

Environmental precautions Contain any spill with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Small spills may be neutralized with limewater slurry or soda ash and flushed with large amounts of cold water. Shovel up residues and place in a labelled sealable container for subsequent safe disposal. Put leaking container into a labelled drum or overdrum.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Wear personal protective equipment.

Conditions for safe storage, including any incompatibilities

Storage Keep in a dry, cool and well-ventilated place. Keep only in original container. Local exhaust is needed at source of dust.

Incompatible Materials None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Component	ACGIH TLV (TWA)	OSHA PEL (TWA)	NIOSH IDLH
Potassium Hydroxide 1310-58-3	Ceiling: 2 mg/m ³	(vacated) Ceiling: 2 mg/m ³	Ceiling: 2 mg/m ³

Appropriate engineering controls

Engineering Controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face Protection Chemical goggles or face shield with safety glasses.

Skin Protection Wear protective gloves/clothing.

Respiratory protection Whenever workplace conditions warrant, wear properly fitted, approved respirator with high-efficiency (dust/fume/mist) filter cartridges.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid
Color	White.
Odor	Odourless.
Odor Threshold	No information available
Molecular Weight	No information available
pH	14 (10 g/100 ml H ₂ O)
Melting point/freezing point	406 °C / 763 °F
Boiling Point/Range	1327 °C / 2421 °F (1013 hPa)
Flash Point	Not applicable: inorganic
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	
Vapor Density	Not applicable. No information available
Relative density	2.044
Solubility(ies)	
Water Solubility	Soluble. 121g/100g. (25°C)
Solubility in other solvents	No information available
Partition coefficient	Not applicable: inorganic
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Dynamic viscosity	No information available
Explosive Properties	None
Oxidizing Properties	Non oxidizing.

10. STABILITY AND REACTIVITY

Reactivity Hazard	No data available
Stability	Stable under recommended storage conditions.
Hazardous Reactions	No hazardous reaction expected under normal handling.
Hazardous Polymerization	None under normal processing.
Conditions to Avoid	Keep away from humidity. Exposure to air. Freezing.
Materials to avoid	Avoid contact with acids. Avoid strong acids and oxidizers. Never add water to this product. Avoid contact with Al, Zn, Sn, Cu and Al, Zn, Sn, Cu alloys. Contact with metals causes formation of flammable hydrogen gas. Avoid ether. Avoid water solutions. Avoid organic materials.

Hazardous decomposition products None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Not irritating.
Eye contact	Causes severe burns.
Skin Contact	Causes severe burns.
Ingestion	Harmful if swallowed.

Potential Health Effects

Acute Effects

Skin corrosion/irritation	Corrosive to skin. Causes severe burns.
Serious eye damage/eye irritation	Risk of serious damage to eyes. Causes eye burns.

Respiratory irritation :	Not irritating.
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Sensitization	Not sensitizing. (guinea pig).
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Chronic Effects

Mutagenic Effects	In vitro tests did not show mutagenic effects. In vivo mutagenicity tests:.. Testing is not scientifically justified.
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Carcinogenicity	There are no known carcinogenic chemicals in this product.
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Component	CAS-No	ACGIH Carcinogens	IARC	NTP	OSHA Carcinogens
Potassium Hydroxide	1310-58-3	-	-	-	-

Reproductive Effects	None known.
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STOT - single exposure	No information available.
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STOT - repeated exposure	No information available.
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Chronic Effects	Chronic dermal exposure may cause inflammatory and ulcerative changes in the mouth and possibly bronchial and gastrointestinal disorders.
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Aspiration hazard	No information available.
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Numerical measures of toxicity	No information available
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Unknown Acute Toxicity 15% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 500 mg/kg
LD50 Oral: Rat Oral LD50: 333 mg/kg

Component Information			
Component	No information available		
Potassium Hydroxide 1310-58-3	Rat Oral LD50 : 333 mg/kg	Rabbit Dermal LD50 : -	Rat Inhalation LC50: -

12. ECOLOGICAL INFORMATION

Ecotoxicity

Acute Fish toxicity : 50-165 mg/L

Component	Freshwater Algae EC50/72h :	Freshwater Fish LC50/96h :	Water Flea EC50/48h :
Potassium Hydroxide (CAS #: 1310-58-3)	-	50-165 mg/l	-

Persistence/Degradability Inorganic substance. Does not undergo biodegradation.

Bioaccumulation/ Accumulation No information available.

Mobility in Environmental Media The substance is expected to remain in the water phase due to high water solubility.

Component	log Pow :
Potassium Hydroxide 1310-58-3	0.83

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Do not discharge into drains or the environment, dispose to an authorised waste collection point. Dispose in a safe manner in accordance with local/national regulations, after neutralization (pH between 5.5 and 8.5 inclusive).

Contaminated Packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name	POTASSIUM HYDROXIDE, SOLID
Hazard Class	8
UN No.	1813
Packing Group	II
Marine Pollutant:	N.
Description	UN 1813, Potassium Hydroxide, Solid, 8, II

IMDG/IMO

IMO Class	8
Packing Group	II
UN-No	1813
IMO Labelling and Marking	8
Proper Shipping Name	Potassium Hydroxide, Solid
EmS	F-A, S-B
Marpol - Annex II	Not applicable
Marpol - Annex III	Unregulated
Transport Description	UN 1813 Potassium Hydroxide, Solid, 8, II

IATA/ICAO

IATA/ICAO Class	8
Packing Group	II
UN-No	1813
IATA/ICAO Labelling/Marking	8
Passenger Aircraft	Maximum net quantity per package: 5 kg
Cargo aircraft only	Maximum net quantity per package: 50 kg
Proper shipping name	Potassium Hydroxide, Solid
Transport Description	UN 1813 Potassium Hydroxide, Solid, 8, II

15. REGULATORY INFORMATION

International Inventories	TSCA	DSL	NDSL	AICS	EINECS	ELINCS	ENCS	KECL	PICCS	IECSC	NZIoC
Potassium hydroxide (Flakes or Pellets)	X	X	-	X	X	-	X	X	X	X	X

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Reportable and Threshold Planning Quantities

The following components have RQs and/or TPQs under SARA and/or CERCLA

Component	CERCLA RQ, lbs	SARA 302 RQ, lbs	SARA 302 TPQ, lbs
Potassium Hydroxide (CAS #: 1310-58-3)	1000	-	-

State Right-to-Know

This product contains the following chemicals regulated in the states listed below.

Component	California Prop. 65	New Jersey	Massachusetts	Pennsylvania
Potassium Hydroxide (CAS #: 1310-58-3)	-	Listed.	Listed.	Listed.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazards

D1B Toxic materials
E Corrosive material

16. OTHER INFORMATION

NFPA	Health 3	Flammability 0	Instability 1	Physical Hazards *
HMIS	Health 3	Flammability 0		Physical Hazards 1

Prepared By

Health & Environment Department
Albemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

HEALTH AND ENVIRONMENT DEPARTMENT
ALBEMARLE CORPORATION
451 FLORIDA ST.
BATON ROUGE, LA. 70801
(800) 535-3030

Preparation Date :

11-Oct-2012

Revision Date:

06-Jan-2015

Disclaimer:

The information contained herein is accurate to the best of our knowledge. The Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.

End of Safety Data Sheet