SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Potassium Hydroxide
CAS number	1310-58-3
Synonyms	Caustic potash; Potassium hydrate

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

Identified uses	Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Corrosive to Metals	Category 1
Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 1
Specific Target Organ Toxicity (single exposure)	Category 3
Target Organ(s) - Respiratory system	

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word: Danger

Hazard statements:
May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

Precautionary statements:

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. Use only outdoors or in a well-ventilated area. Keep only in original container.

Response: Immediately call a POISON CENTER or doctor/physician.

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Spills: Absorb spillage to prevent material damage.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant polypropylene container with a resistant inliner. Store in a dry place.

Disposal: Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Potassium hydroxide	Caustic potash; Potassium hydrate	1310-58-3	85-100%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled — If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.

In case of skin contact — Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.

In case of eye contact — Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

If swallowed — Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue, and danger of perforation.

4.3 Indication of any immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media — CO_2, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable extinguishing media — Water, Carbon dioxide (CO_2).

5.2 Specific hazards arising from the substance or mixture

Hydrogen. Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin, and mucous membranes.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

5.4 Further information

Flash Point No information available.

Autoignition Temperature No information available.

Explosion limits

Upper No data available.

Lower No data available.

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	1	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes, or clothing.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling
Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed, seek immediate medical assistance.

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

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Corrosives area. Keep containers tightly closed in a dry, cool, and well-ventilated place. Store under an inert atmosphere.

Incompatibilities
Strong oxidizing agents. Acids. Acid chlorides. Acid anhydrides. Ketones. Peroxides. Water. Metals.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Potassium hydroxide	(Vacated) Ceiling	2 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Potassium hydroxide	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Potassium hydroxide	Ceiling	2 mg/m3

Biological occupational exposure limits
No information available.

8.2 Exposure controls

Appropriate engineering controls
Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Tight sealing safety goggles. Face protection shield.

Skin protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Control of environmental exposure
No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	White
Odor	Odorless
Odor Threshold	No information available
pH	13.5 (0.1M aq.solution)
Melting Point/Range	360 °C / 680 °F
Boiling Point/Range	1320 °C / 2408 °F
Evaporation Rate	No information available
Flammability (solid)	Not applicable
Flammability or explosive limit	No data available
Upper	
Lower	
Vapor Pressure	No information available
Vapor Density	No information available
Density	No information available
Solubility	1120 g/L water (20°C)
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	No information available
Molecular Formula	KOH
Molecular Weight	56.11 g/mol

VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information
No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Reactive hazard.

10.2 Chemical stability
Hygroscopic. Air sensitive.

10.3 Possibility of hazardous reactions
None under normal processing.

10.4 Conditions to avoid
Incompatible products. Excess heat. Exposure to air. Exposure to moist air or water.

10.5 Incompatible materials
Strong oxidizing agents, Acids, Acid chlorides, Acid anhydrides, Ketones, Peroxides, Water, Metals.

10.6 Hazardous decomposition products
Hydrogen, Potassium oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium hydroxide	333-384 mg/kg (Rat)	-	-

Skin corrosion/irritation
Causes severe burns by all exposure routes.

Serious eye damage/eye irritation
Causes severe burns by all exposure routes.

Respiratory or skin sensitization
No information available.

Germ cell mutagenicity
No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Potassium hydroxide	1310-58-3	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure
Respiratory system.

Specific target organ toxicity - repeated exposure
None known.

Reproductive toxicity
No information available.

Chronic effects
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue, and danger of perforation.

11.2 Additional Information
The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity
Do not empty into drains. Harmful to aquatic organisms.

Product		Species	Test Results
Potassium hydroxide	LC50	Freshwater Fish	50-165 mg/L (96h)

12.2 Persistence and degradability
Persistence is unlikely.

12.3 Bio accumulative potential
No information available.

12.4 Mobility in soil
Will likely be mobile in the environment due to its water solubility.

12.5 Results of PBT and vPvB assessment
No information available.

12.6 Endocrine disrupting properties
No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-no	UN1813
Proper Shipping Name	POTASSIUM HYDROXIDE, SOLID
Hazard Class	8
Packing Group	II

IMDG

UN-no	UN1813
Proper Shipping Name	POTASSIUM HYDROXIDE, SOLID
Hazard Class	8
Packing Group	II

IATA

UN-no	UN1813
Proper Shipping Name	POTASSIUM HYDROXIDE, SOLID
Hazard Class	8
Packing Group	II

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, Potassium hydroxide (CAS #1310-58-3), RQ: 1000 lb.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See Section 2 for more information.

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Clean Water Act (CWA) - Hazardous Substances

Listed, Potassium hydroxide (CAS #1310-58-3), RQ: 1000 lb.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed, Potassium hydroxide (CAS #1310-58-3).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Potassium hydroxide (CAS #1310-58-3).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Potassium hydroxide (CAS #1310-58-3).

California Proposition 65

Not listed.

SECTION 16: Other information

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SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.