# *1. Identification*

**Production Name**: Potassium Hydroxide

**Catalog Number**: P010

**Company**: Caisson Laboratories

**Address**: 836 South 100 East, Smithfield UT 84335

**Telephone**: 435.755.7615

**Fax**: 435.755.7617

**Emergency Contact**: CHEMTREC 800.424.9300 (703.527.3887)

**Recommended Use**: For research and laboratory use only.

**Restrictions on Use**: This product is intended for research and laboratory use only. This product is not to be used as human or animal therapeutics, cosmetics, pesticidal products, food additives, or as household chemicals.

# *2. Hazard(s) Identification*

**Classification of the Substance or Mixture**

**GHS Classification**:

H290 - Substances corrosive to metal (Category 1)

H302 - Acute toxicity, Oral (Category 4)

H314 - Skin corrosion (Category 1B)

H318 - Serious eye damage (Category 1)

H402 - Acute aquatic toxicity (Category 3)

**GHS Label Elements, Including Precautionary Statements**

**Signal Word**: Danger

**Hazard Statements**:

H290 - May be corrosive to metals.

H302 - Harmful if swallowed.

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage.

H402 - Harmful to aquatic life.

**Precautionary Statements**:

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P270 - Do not eat, drink or smoke when using this product.

P273 - Avoid release to the environment.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P312 + P330 + P331 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P307 + P311 - IF exposed: Call a POISON CENTER or doctor/physician.

P363 - Wash contaminated clothing before reuse.

P390 - Absorb spillage to prevent material damage.

P405 - Store locked up.

P406 - Store in corrosive resistant/… container with a resistant inner liner.

P501 - Dispose of contents/container to an approved waste disposal plant

**Pictograms**:



## 3. Composition/Information on Ingredients

**Synonyms**: N/A

**Formula**: KOH

**Molecular Weight**: 56.11 g/mol

**CAS-No**: 1310-58-3

**EC-No**: 215-181-3

## 4. First-Aid Measures

**General Advice**: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**Route of Exposure**

**If Swallowed**: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**In Case of Skin Contact**: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**In Case of Eye Contact**: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If Inhaled**: Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.

**Most Important Symptoms and Effects, Both Acute and Delayed**: The most important known symptoms and effects are described in the labelling (see section 2 – Hazards Identification) and/or in section 11 – Toxicological Information.

**Recommendation for Immediate Medical Care and Special Treatment Needed**: No Data Available

## *5. Fire-Fighting Measures*

**Suitable Extinguishing Media**: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special Protective Equipment and Precautions for Fire-Fighters**: Wear self-contained breathing apparatus for firefighting if necessary.

**Special Hazards Arising from the Substance or Mixture**: No Data Available

**Additional Information**: Gives off hydrogen by reaction with metals.

## *6. Accidental Release Measures*

**Personal Precautions, Protective Equipment and Emergency Procedures**: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

**Environmental Precautions**: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and Material for Containment and Cleanup**: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## *7. Handling and Storage*

**Precautions for Safe Handling**: Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.

**Conditions for Safe Storage**: Keep container tightly closed in a dry and well-ventilated place. Absorbs carbon dioxide ($CO_2$) from air. Air sensitive. Strongly hygroscopic.

**Recommended Storage Temperature**: 15 to 30 °C

**Incompatibilities**: Absorbs carbon dioxide ($CO_2$) from air. Air sensitive. Strongly hygroscopic Keep in a dry place. Nitro compounds, Organic materials, Magnesium, Copper, Water, reacts violently with: Metals, Light metals, Contact with aluminum, tin and zinc liberates hydrogen gas. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts. Vigorous reaction with: Alkali metals, Halogens, Azides, Anhydrides.

## *8. Exposure controls / Personal Protection*

**OSHA Permissible Exposure Limits (PELs)**: No Data Available

**ACGIH Threshold Limit Values (TLVs)**: 2.000000 mg/m³

**Engineering controls**: Practice general industrial hygiene practice. Ensure adequate ventilation, especially in confined areas.

**Personal Protective Equipment (PPE)**:

**Eye/face protection**: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards.

**Skin Protection**: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Respiratory protection**: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Body protection**: Wear lab coat, gown, or coveralls to protect from exposure.

## *9. Physical and Chemical Properties*

**Appearance**: White, deliquescent solid

**pH**: 13.5 (0.5%, $H_2O$)

**Solubility**: Soluble in Water

**Specific Gravity**: No Data Available

**Melting Range**: 361 °C (682 °F)

**Odor**: No Data Available

**Odor Threshold**: No Data Available

**Viscosity**: No Data Available

**Relative Density**: 2.044 g/cm³

**Evaporation Rate**: No Data Available

**Initial Boiling Point and Boiling Range**: 1,320 °C (2,408 °F)

**Flash Point**: No Data Available

**Flammability (Solid, gas)**: No Data Available

**Flammability Upper/Lower Limits**: No Data Available

**Partition Coefficient**: No Data Available

**Vapor Density**: No Data Available

**Vapor Pressure**: 1 hPa (1 mmHg) at 719 °C (1,326 °F)

**Auto-ignition Temperature**: No Data Available

**Decomposition Temperature**: No Data Available

## *10. Stability and Reactivity*

**Reactivity**: No Data Available

**Chemical Stability**: Heat of solution is very high, and with limited amounts of water, violent boiling may occur.

Stable under recommended storage conditions.

**Possibilities of Hazardous Reactions**: No Data Available

**Conditions to Avoid**: Do not heat above melting point.

**Incompatible Materials**: Nitro compounds, Organic materials, Magnesium, Copper, Water, reacts violently with: Metals, Light metals, Contact with aluminum, tin and zinc. Liberates hydrogen gas. Contact with n formation of shock-sensitive salts. Vigorous reaction with:, Alkali metals, Halogens, Azides, Anhydrides, Strong oxidizing agents.

**Hazardous Decomposition Productions**: Hazardous decomposition products formed under fire conditions. - Potassium oxides

In the event of fire: see section 5

## *11. Toxicological Information:*

**Toxicity**: $LD_{50}$ Oral - Rat - 333 mg/kg (OECD Test Guideline 425)

**Carcinogenicity**:

**NTP**: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**IARC**: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA**: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive Toxicity**: No Data Available

**Symptoms Associated with Overexposure**: No Data Available

**Specific Target Organ Toxicity – Single Exposure**: Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Acute inhalation toxicity - burns of mucous membranes, Cough, Shortness of breath, possible damages: damage of respiratory tract

**Specific Target Organ Toxicity – Repeated Exposure**: No Data Available

**Target Organs**: None Identified

**Medical Conditions Aggravated by Exposure**: None Identified

**Routes of Entry**: No Data Available

**NIOSH/RTECS**: TT2100000

## *12. Ecological Information*

**Toxicity**: Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 80 mg/l - 96 h

**Persistence and Degradability**: The methods for determining the biological degradability are not applicable to inorganic substances.

**Bioaccumulative Potential**: No Data Available

**Mobility in Soil**: No Data Available

**Results of PBT and vPvB**: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**Other Adverse Effects**: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

## *13. Disposal Considerations*

**Disposal of Product**: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Disposal of Packaging**: Dispose of as unused product.

## *14. Transport Information*

**DOT (US)**:

Proper Shipping Name: Potassium hydroxide, solid

UN/NA number: 1813 Class: 8 Packaging group: II Hazard Label: Danger

Reportable Quantity (RQ): N/A

Poison Inhalation Hazard: N/A

**IMDG**:

Proper Shipping Name: POTASSIUM HYDROXIDE, SOLID

UN/NA number: 1813 Class: 8 Packaging group: II Hazard Label: Danger

**IATA**:

Proper Shipping Name: Potassium hydroxide, solid

UN/NA number: 1813 Class: 8 Packaging group: II Hazard Label: Danger

## *15. Regulatory Information*

**TSCA**: Listed

**SARA Title lll**:

**Section 302 (EHS) Ingredients**: No

**Section 313 Ingredients**: No

**Section 304 (EHS/CERCLA) Ingredients**: No

**Section 311/312 Hazard**: Acute Health Hazard

## *16. Other Information*

**HMIS Rating**

**Health Hazard**: 3

**Chronic Health Hazard**: -

**Flammability**: 0

**Physical Hazard**: 0

**NFPA Rating**

**Health Hazard**: 3

**Fire Hazard**: 0

**Reactivity**: 0

**Special Hazard**: -

**Further Information**: All chemicals may pose unknown hazards and should be used with caution. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Caisson Laboratories, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

***SP-CN-P010*** Revision Change Summary:

| Rev. | Date | CR# | Approved | Change description |
|---|---|---|---|---|
| **00** | **29-May-20** | 3365 | E. Welker | New Document |