POTASSIUM HYDROXIDE

CAUTIONARY RESPONSE INFORMATION

Common Synonyms
- Caustic potash
- Lye
- USP pellets: 85-90%
- Technical-grade

Solid crystals, or
- USP pellets: 85-90%
- Commercial

White solid or colorless
- USP pellets: 85-90%
- Technical-grade

Odorless
- USP pellets: 85-90%
- Commercial

Solid sinks and mixes slowly with water. Liquid mixes with water. Keep people away. Avoid contact with liquid, solid, vapor, and dust. Wear rubber overclothing (including gloves). Notify local health and pollution control agencies.

Fire
- Not flammable. Flammable gas may be produced on contact with metals. May cause fire on contact with moisture and combustibles. Wear rubber overclothing (including gloves). Flood discharge area with water. Cool exposed containers with water. CALL FOR MEDICAL AID. DUST OR MIST: Irritating to eyes, nose, and throat. Harmful if inhaled. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. IF IN EYES, hold eyelids open and flush with plenty of water. IF INHALED, hold breath and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk.

Exposure
- Not listed. Not pertinent

Water
- Harmful to aquatic life in very low concentrations. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

Pollution
- Not listed. Not pertinent

1. CORRECTIVE RESPONSE ACTIONS

- Dilute and disperse
- Stop discharge
- Dilute and disperse

2. CHEMICAL DESIGNATIONS

- 2.1 CG Compatibility Group: 5; Cautics
- 2.2 Formula: KOH
- 2.3 IMDG Designation: B; ORN 1613
- 2.4 DOT II No.: 1613
- 2.5 CAS Registry No.: 1310-58-3
- 2.6 HAZMAT Guide No.: 154
- 2.7 Standard Industrial Trade Classification: 52264

3. HEALTH HAZARDS

- 3.1 Personal Protective Equipment: Wide-brimmed hat and close-fitting safety goggles with rubber side shields; respirator for dust; long-sleeved cotton shirt or jacket with buttoned collar and buttoned sleeves; rubber or rubber-coated canvas gloves (shirt sleeves should be buttoned over the gloves); rubber shoes or boots; cotton coveralls (with trouser cuffs worn over boots); rubber apron.
- 3.2 Symptoms Following Exposure: Causes severe burns of eyes, skin, and mucous membranes.
- 3.3 Treatment of Exposure: (Act quickly); Call a physician at once, when even injurious skin is to be slight. INGESTION: give water and milk; do not induce vomiting. EYES: flush with water at once for at least 15 min.
- 3.4 TLV-TWA: Not listed
- 3.5 TLV-STEL: Not listed
- 3.6 TLV-Ceiling: 2 mg/m³
- 3.7 Toxicity by Ingestion: Grade 3; oral rat LD₅₀ = 364 mg/kg
- 3.8 Toxicity by Inhalation: Currently not available
- 3.9 Chronic Toxicity: None
- 3.10 Vapor (Gas) Irritant Characteristics: None
- 3.11 Liquid or Solid Characteristics: Severe skin irritant. Causes second and third-degree burns on short contact; and is very injurious to the eyes.
- 3.12 Odor Threshold: Odorless
- 3.13 IDLH Value: Not listed
- 3.14 OSHA Pel-TWA: Not listed
- 3.15 OSHA Pel-STEL: Not listed
- 3.16 OSHA Pel-Ceiling: Not listed
- 3.17 EPA AEG: Not listed

4. FIRE HAZARDS

- 4.1 Flash Point: Not flammable
- 4.2 Flammable Limits in Air: Not flammable
- 4.3 Fire Extinguishing Agents: Not pertinent
- 4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
- 4.5 Special Hazards of Combustion Products: Not pertinent
- 4.6 Behavior in Fire: Not pertinent
- 4.7 Auto Ignition Temperature: Not flammable
- 4.8 Electrical Hazards: Not pertinent
- 4.9 Burning Rate: Not pertinent
- 4.10 Adiabatic Flame Temperature: Currently not available
- 4.11 Stoichiometric Air to Fuel Ratio: Not pertinent
- 4.12 Flame Temperature: Currently not available
- 4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent
- 4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

- 5.1 Reactivity with Water: Dissolves with liberation of much heat; may steam and spatter.
- 5.2 Reactivity with Common Materials: When wet, attacks metals such as aluminum, tin, lead, and zinc to produce flammable hydrogen gas.
- 5.3 Stability During Transport: Stable
- 5.4 Neutralizing Agents for Acids and Caustics: Flush with water, rinse with dilute acetic acid.
- 5.5 Polymerization: Not pertinent
- 5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

- 6.1 Aquatic Toxicity: Very high
- 6.2 Water/fall Toxicity: Currently not available
- 6.3 Ecological Oxygen Demand (BOD): Currently not available
- 6.4 Food Chain Concentration Potential: None
- 6.5 CESAMP Hazard Profile: Bioaccumulation: None; Damage to living resources: None; Human oral hazard: 2; Human contact hazard: 2; Reduction of amenities: None

7. SHIPPING INFORMATION

- 7.1 Grades of Purity: Technical grade: 85-90%; USP pellets: 85-90%
- 7.2 Storage Temperature: Ambient
- 7.3 Inert Atmosphere: No requirement
- 7.4 Venting: Open
- 7.5 IMO Pollution Category: C
- 7.6 Ship Type: 3
- 7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 49 CFR Category: Corrosive material
- 8.2 49 CFR Class: II
- 8.3 49 CFR Package Group: II
- 8.4 Marine Pollution: Not listed
- 8.5 NPFA Hazard Classification: Category Classification Health Hazard (Blue): None Flammability (Red): 0 Instability (Yellow): None
- 8.6 EPA Reportable Quantity: 1000 pounds
- 8.7 EPA Pollution Category: C
- 8.8 RCRA Waste Number: Not listed
- 8.9 EPA FWPCA List: Yes

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 Physical State at 15° C and 1 atm: Solid
- 9.2 Molecular Weight: 56.11
- 9.3 Boiling Point at 1 atm: Very high
- 9.4 Freezing Point: 716°F = 380°C = 653°K
- 9.5 Critical Temperature: Not pertinent
- 9.6 Critical Pressure: Not pertinent
- 9.7 Specific Gravity: 2.04 at 15°C (solid)
- 9.8 Liquid Surface Tension: Not pertinent
- 9.9 Liquid Water Interfacial Tension: Not pertinent
- 9.10 Vapor (Gas) Specific Gravity: Not pertinent
- 9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
- 9.12 Latent Heat of Vaporization: Not pertinent
- 9.13 Heat of Combustion: Not pertinent
- 9.14 Heat of Decomposition: Not pertinent
- 9.15 Heat of Solutions: Not pertinent
- 9.16 Heat of Polymerization: Not pertinent
- 9.17 Heat of Fusion: 31.3 cal/g
- 9.18 Limiting Value: Currently not available
- 9.19 Reid Vapor Pressure: Currently not available

NOTES

JUNE 1999
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<td>LIQUID THERMAL CONDUCTIVITY</td>
<td>LIQUID VISCOSITY</td>
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### 9.26 SATURATED VAPOR DENSITY

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### 9.27 IDEAL GAS HEAT CAPACITY

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