



Technical Bulletin - KPM-104

Safe Use and Handling of Potassium Hydroxide (PV) - KOH

CAS Number: **1310-58-3**

Packing Group: **II, III**

Hazard Classification: **Corrosive (8)**

About Us

Kredence Electronics Materials India Pvt. Ltd has been providing high quality, photovoltaic grade chemicals to their customers throughout India and internationally since 2015. We at Kredence are committed to customer satisfaction achieved by clearly understanding the customers' needs and fulfilling those requirements through continual improvement of products, services, and the quality management system. In addition to that, **our company values the safety and well-being of our employees, customers, community, and the environment surrounding us. Our highly trained and experienced staff uses specialized equipment and technology to certify our customers receive quality service. Kredence Electronics Materials performs routine sample analysis to ensure grade specification requirements are met.**

Purpose

When working with hazardous materials on a day-to-day basis, it is important to be aware of the chemicals' properties, risks, and safety precautions that need to be followed. This Technical Bulletin serves the purpose to educate our customers and employees about the chemical nature, safety, and provisions associated with Potassium Hydroxide (KOH).

Potassium Hydroxide PV / EL Grade 45-50% is currently provided by Kredence Electronics Materials India Pvt. Ltd. (Other concentrations/ specifications can be available)

Product Overview

Potassium Hydroxide is an inorganic, clear, odorless solution that is stable at room temperature (20°C - 25°C). This solution acts as a strong base, which is incompatible with strong acids and metals. Thermal decomposition of KOH generates corrosive vapors, creating conditions that are harmful to the respiratory system. Potassium hydroxide is mainly used for laboratory and manufacturing purposes, but also has applications in various industries such as food, drug, agricultural, and many more. It is used as an electrolyte to produce alkaline batteries and as an intermediate for making personal care products. Potassium Hydroxide 45-50% PV / EL grade (KOH), which is offered by our company, is used in the photovoltaic industry for texturing wafers. This solution is harmful if exposed to large amounts on skin and/or respiratory tract. Refer to [OSHA](#) for exposure limit guidelines.

Safety

- ALWAYS wear personal protective equipment when handling KOH
 - Protective gloves (nitrile rubber, thickness 0.11mm), goggles / face shield, apron/long clothing, respiratory protection (only necessary when vapors/aerosols are present)
- Wash hands and exposed areas with soap and water when done handling KOH



Handling

- ALWAYS observe label precautions before working with KOH
- DO NOT eat, drink or smoke when handling this material
- Material with care to prevent exposure by vapor and spills/splashes
- When diluting KOH always add the material to water (H₂O), DO NOT reverse this action.
- While working with KOH, NEVER leave the material unattended

Storage

- DO NOT store in a zinc, tin, or aluminum container, ONLY use compatible containers
- Containers should be tightly closed
- Avoid direct sunlight and high temperatures
- Keep away from strong acids
- All containers and storage areas should be labeled properly
- DO NOT allow smoking or food consumption while handling

Transport

- Use forklift or trolley to move containers from one workplace to another
- DO NOT transport with strong acids
- Can be transported by road, air, rail, and vessel in allowable volumes

First-Aid

- If fumes are inhaled, move the individual to fresh air and contact medical personnel
- If the solution is ingested, do not induce vomiting. Instead, give two glasses of water and contact medical personnel
- If skin comes in contact with solution, remove contaminated clothing and wash the area with plenty of water. Contact medical personnel
- If the solution is exposed to eyes, wash with plenty of water and remove contact lenses. Contact an Ophthalmologist

***If exposed to Potassium Hydroxide, immediately follow First-Aid procedures as stated in MSDS.
*ALWAYS CONTACT MEDICAL PERSONNEL IN CASE OF AN EMERGENCY.**

References

(1.) J. Francis and T. Tyner, "Potassium Hydroxide" *ACS Reagent Chemicals: Specifications and Procedures for Reagents and Standard-Grade Reference Materials*, American Chemical Society, Online, Part 4, Feb.(28), 2017, DOI: 10.1021/acsreagents.4293



(2.) National Center for Biotechnology Information. "PubChem Compound Summary for CID 14797, Potassium hydroxide" *PubChem*, <https://pubchem.ncbi.nlm.nih.gov/compound/Potassium-hydroxide>. Accessed: 5 February, 2021.

(3.) R. P. Seward and K. E. Martin, "The Melting Point of Potassium Hydroxide" *Journal of the American Chemical Society*, 1949, 71(10), Pages 3564-3565, DOI: 10.1021/ja01178a530.



← Figure 2: KOH ready for transport in IBCs. Covered with poly bags to protect IBCs and contents from dust.

Figure 1: KOH PV grade stored in an IBC with proper labeling. As shown above, blue taping is used for easy visual identification. All KOH IBCs at our facility are stored together to maintain compatibility.



Potassium Hydroxide 45 - 48%	Photovoltaic Grade
	UN1814
Hazard messages : <ul style="list-style-type: none">◆ Toxic by Inhalation.◆ Corrosive to Metals.◆ Causes Severe Skin Burns.◆ Causes Severe Eye Damage.◆ Prolonged or Repeated Exposure May Cause Damage to Organs.	DANGER
Hazard Prevention : <ul style="list-style-type: none">◆ If contact with skin, eyes flush with plenty of water and consult a physician immediately.◆ If feeling uncomfortable, seek medical attention.◆ Put on suitable protective clothing, wear gloves and goggles/helmet.◆ Seal the container firmly and store it in a well ventilated area.	Potassium Hydroxide Class 8, PG - II Molecular Weight 56.11g/mol CAS No. 1310-58-3
If you need more detailed information, please refer to the SDS.	Product Code : P0005 Pack Size : 200 Ltr.
Important: <ul style="list-style-type: none">◆ No liability accepted for accidents arising while handling or use.◆ Empty container before disposal.◆ Disposal to be done as per the local Govt. rules applicable.	
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Figure 3: Customized product label included on all IBCs and containers that customers receive from Kredence. Label includes important product information.



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