

Potassium Hydroxide

This document provides a brief description of potassium hydroxide, its uses, and the potential hazards associated with short-term and long-term exposure. Environmental impact information for accidental releases is included. This information is general in nature and is not intended as a replacement for the material safety data sheet (SDS), product label and other safe handling literature. For additional information consult the LANXESS Corporation safety data sheet.

Identification

Chemical Name:	Potassium hydroxide
Synonym(s):	Lye Potassium potash
CAS Number:	1310-58-3

Description

Overview: Potassium hydroxide is a white crystalline solid.

Uses: Potassium hydroxide (KOH) is widely used in the chemical industry as a strong base for manufacturing soaps and liquid detergents, especially soft or liquid soaps. It is a key reagent in producing potassium salts, including potassium carbonate, phosphates, and various specialty chemicals. It can also be used as a release agent in the rubber industry.

Properties:

Solubility:	Highly soluble, 1210 g/l, 25 °C
Melting Point:	406°C (763 °F)
Boiling Point:	1327 °C (2421 °F)

Exposure and Potential Human Health Effects

Occupational Exposure

Potential for occupational exposure, both dermal and inhalation, exists during manufacture, at storage and staging areas and within operations where potassium hydroxide solid or solutions are used to process other products. Strict preventative measures should be taken to avoid direct contact with the substance.

Employee Training

Workers should be trained to implement proper handling procedures and to understand the potential health and physical hazards of potassium hydroxide. Local and general exhaust ventilation should be used to keep worker exposure to airborne contaminants below any recommended or statutory limits. In cases where airborne concentrations are unknown, a NIOSH approved air-purifying respirator with particulate prefilter should be used to minimize exposure. In addition, LANXESS recommends chemical-resistant safety glasses with side shields, impervious gloves and suitable protective clothing be worn when handling the corrosive solutions of this substance or the substance itself as a solid. PVC, Neoprene, Natural rubber, Butyl rubber are appropriate materials for the gloves and other PPE equipment.

Consumer Exposure

LANXESS Corporation does not sell potassium hydroxide to the general public. Consumers may be exposed to trace amounts of the chemical compound.

Short-Term Health Effects

Potassium hydroxide, solid or aqueous solutions, are highly corrosive to skin or eyes and can cause severe damages to the gastrointestinal tract if swallowed. Inhalation of dust or mist can cause corrosion to the respiratory tract, and in severe cases, may cause deaths due to extensive damages to organs and tissues. Strict precautionary measures should be taken to avoid direct contact with this substance.

Long-Term Health Effects

Despite the corrosive nature, no adverse chronic health effects are expected in low levels of exposure of highly diluted solutions.

Physical Hazards

Potassium hydroxide reacts violently with water and releases hydrogen by contact with water. Storage conditions should avoid contact with air. Contact with the following substances should be avoided: strong acids, oxidizing agents, highly flammable materials, and halogens.

Potential Environmental Impact

Potassium hydroxide can react violently with water. Thus, short-term releases into water can cause harms to aquatic life. However, short-term or long-term controlled releases of diluted solutions of this substance should pose no significant concerns to aquatic life. Due to its inorganic chemical

Potassium Hydroxide

nature, the concept of environmental biodegradation does not apply, and a persistence, bioaccumulation, and toxicity (PBT) assessment is not required.

Conclusion

Under normal conditions of anticipated use as described in this Product Safety Assessment, and if the recommended safe use and handling procedures are followed, Potassium hydroxide is not expected to pose a significant risk to human health or the environment.

References

ECHA CHEM Dossier, *Potassium hydroxide*, European Chemicals Agency

Contact Information

LANXESS Corporation, Product Safety & Regulatory Affairs, 111 RIDC Park West Drive, Pittsburgh, PA 15275-1112, USA, Phone 1-800-526-9377 [1-800-LANXESS]

Notices

Use and Application Information

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent.