MATERIAL SAFETY DATA SHEET

2401 WEST JEFFERSON • BLUE SPRINGS, MO 64015

24 Hour Emergency Phone
1-800-424-9300

I – IDENTIFICATION

CHEMICAL NAME	CHEMICAL FORMULA	MOLECULAR WEIGHT
PC 1	KOH	56.1

TRADE NAME
Caustic Potash Solution

SYNONYMS
KOH, Potash Lye, Lye, Lye Solution, Liquid Caustic Potash

DOT IDENTIFICATION NO.
UN 1814

II– PRODUCT AND COMPONENT DATA

COMPONENT(S) CHEMICAL NAME	CAS REGISTRY NO.	% (wt.) Approx.	OSHA PEL
Potassium Hydroxide Note: This Material Safety Data Sheet is also valid for caustic potash solutions weaker than 50%. The boiling point, vapor pressure and specific gravity will be different from those listed.	1310-58-3	50 and less	2 mg/m³ Ceiling

* Denotes chemical subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372

III – PHYSICAL DATA

APPEARANCE AND ODOR	SPECIFIC GRAVITY
White to light gray Viscous liquid; odorless	45% Solution: 1.457 @ 60/60°F 50% Solution: 1.516 @ 60/60°F
BOILING POINT	**VAPOR DENSITY IN AIR (Air = 1)**
45% Solution: 270°F (132.2°C) 50% Solution: 290°F (143.4°C)	N/A
VAPOR PRESSURE	**% VOLATILE, BY VOLUME**
45% Solution: 39 mm Hg at 140°F (60°C) 50% Solution: 27 mm Hg at 140°F (60°C)	0
EVAPORATION RATE	**SOLUBILITY IN WATER**
0	100%

IV – REACTIVITY DATA

STABILITY	CONDITIONS TO AVOID
Stable	Mixture with water, acid or incompatible materials can cause splattering and release of large amounts of heat (Refer to Section VIII). Will react with some metals forming flammable hydrogen gas.

INCOMPATIBILITY (Materials to avoid) Acids, acrolein, acrylonitrile, chlorinated hydrocarbons (e.g. 1,2 dichloroethylene, trichloroethylene), chlorine dioxide, maleic anhydride, nitroethane, nitroparaffins, 2-nitrophenol, nitropropane, phosphorus, potassium persulfate, and tetrahydrofuran.

HAZARDOUS DECOMPOSITION PRODUCTS

Will not decompose

HAZARDOUS POLYMERIZATION

Will not occur

V – FIRE AND EXPLOSION HAZARD DATA

FLASHPOINT (Method used)	FLAMMABLE LIMITS IN AIR
None	None

EXTINGUISHING AGENTS

None

NFPA Hazard Ratings: Health 3, Flammability 0, Reactivity 1

UNUSUAL FIRE AND EXPLOSION HAZARDS

Firefighters should wear self-contained positive pressure breathing apparatus, and avoid skin contact. Refer to Reactivity Data, Section IV.

VI – TOXICITY AND FIRST AID

EXPOSURE LIMITS (When exposure to this product and other chemicals is concurrent, the exposure limit must be defined in the workplace.)

ACGIH: 2 mg/m^3 Ceiling
OSHA: 2 mg/m^3 Ceiling

Effects described in this section are believed not to occur if exposures are maintained at or below appropriate TLVs.
Because of the wide variation in individual susceptibility, these exposure limits may not be applicable to all persons and those with medical conditions listed below.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

May aggravate existing skin and/or eye conditions on contact.

ACUTE TOXICITY Primary route(s) of exposure: ☒ Inhalation ☒ Skin Absorption ☐ Ingestion

Inhalation: Inhalation of solution mist can cause mild irritation at 2 mg/m^3. More severe burns and tissue damage at the upper respiratory tract, can occur at higher concentrations. Pneumonitis can result from severe exposures.

Skin: Major potential hazard - contact with the skin can cause severe burns with deep ulcerations. Contact with solution or mist can cause multiple burns with temporary loss of hair at burn site. Solutions may not cause immediate pain or irritation upon skin contact. Prolonged or repeated contact with dilute solutions may cause drying and cracking of skin and possible skin damage.

Eyes: Major potential hazard - Liquid in the eye can cause severe destruction and blindness. These effects can occur rapidly effecting all parts of the eye. Mist or dust can cause irritation with high concentrations causing destructive burns.

Ingestion: Ingestion of potassium hydroxide can cause severe burning and pain in lips, mouth, tongue, throat and stomach. Severe scarring of the throat can occur after swallowing. Death can result from ingestion.

FIRST AID

Inhalation: Move person to fresh air. If breathing stops, administer artificial respiration. Get medical attention immediately.

Skin: Remove contaminated clothing immediately and wash skin thoroughly for a minimum of 15 minutes with large quantities of water (preferably a safety shower). Get medical attention immediately.

Eyes: Wash eyes immediately with large amounts of water (preferably eye wash fountain), lifting the upper and lower eyelids and rotating eyeball. Continue washing for a minimum of 15 minutes. Get medical attention immediately.

Ingestion: If person is conscious, give large quantities of water to dilute caustic potash. Do not induce vomiting. Get medical attention immediately.

CHRONIC TOXICITY

In humans chronic skin contact has caused dermatitis.

Carcinogenicity: One study was identified relative to potassium hydroxide and carcinogenicity. Mice painted with a 3 to 6% aqueous potassium hydroxide solution for 46 weeks developed skin tumors. This study was conducted in 1925 and the adequacy of the test and its design are unknown.

Potassium hydroxide is not listed on the IARC, OSHA or NTP carcinogen lists.

Reproductive Toxicity: No studies were identified relative to potassium hydroxide and reproductive toxicity.

VII - PERSONAL PROTECTION AND CONTROLS

RESPIRATORY PROTECTION

For levels which exceed or are likely to exceed 2mg/m^3 use a NIOSH/MSHA approved high-efficiency particulate filter with full facepiece or self-contained breathing apparatus. Follow any applicable respirator use standards and regulations.

VENTILATION

As necessary to maintain concentration in air below 2 mg/m^3 at all times.

SKIN PROTECTION

Wear neoprene, PVC, or rubber gloves; PVC rain suit; rubber boots with pant legs over boots.

EYE PROTECTION

Chemical goggles which are splashproof and faceshield.

HYGIENE

Avoid contact with skin and avoid breathing mist. Do not eat, drink, or smoke in work area. Wash hands prior to eating, drinking, or using restroom. Any protective clothing, clothing or shoes which become contaminated with caustic potash should be removed immediately and thoroughly laundered before wearing again.

OTHER CONTROL MEASURES

Safety shower and eyewash station must be located in immediate work area. To determine the exposure level(s), monitoring should be performed regularly.

NOTE: Protective equipment and clothing should be selected, used, and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer or the Vulcan Chemicals Technical Service Department.

VIII - STORAGE AND HANDLING PRECAUTIONS

Follow protective controls set forth in Section VII when handling this product.
Store in closed, properly labeled tanks or containers.
Do not remove or deface labels or tags

When diluting with water, slowly add caustic potash solution to the water. Heat will be produced during dilution. Full protective equipment as outlined in Section VII should be worn. Do not add water to caustic potash because excessive heat formation will cause boiling and spattering.

Contact of caustic potash cleaning solutions with food and beverage products (in enclosed vessels or spaces) may produce lethal concentrations of carbon monoxide gas. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276.

IX - SPILL, LEAK AND DISPOSAL PRACTICES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Cleanup personnel must wear proper protective equipment (refer to Section VII). Completely contain spilled material with dikes, sandbags, etc., and prevent run-off into ground or surface waters or sewers. Recover as much material as possible into containers for disposal. Remaining material may be neutralized. Neutralization products, both liquid and solid, must be recovered for disposal. Reportable Quantity (RQ) is 1000 lbs. Notify National Response Center (800/424-8802) of uncontrolled spills in excess of RQ.

WASTE DISPOSAL METHOD

Recovered solids or liquids may be sent to a licensed reclaimer or disposed of in a permitted waste management facility. Consult federal, state, or local disposal authorities for approved procedures.

X - TRANSPORTATION

DOT HAZARD CLASSIFICATION

Corrosive

PLACARD REQUIRED

Corrosive

LABEL REQUIRED

Corrosive. Label as required by OSHA Hazard Communication Standard, and any applicable state and local regulations.

DATE OF PREPARATION: 6-1-98

NOTICE: MEYER LAB believes that the information contained on this Material Safety Data Sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily all-inclusive nor fully adequate in every circumstance. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulation, rules or insurance requirements.

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