

# Material Safety Data Sheet

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**ASHTA**

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MATERIAL SAFETY DATA  
FOR  
CAUSTIC POTASH LIQUID

CHEMTREC: (800) 424-9300

## SECTION I MATERIAL IDENTIFICATION

CHEMICAL NAME: POTASSIUM HYDROXIDE SOLUTION C.A.S. NO.: 001-310-583

SYNONYMS: CAUSTIC POTASH LIQUID, POTASSIUM HYDRATE, LYE

D.O.T. IDENTIFICATION NO.: UN 1814

TRADE NAME: POTASH, POTASH LIQUOR

REPORTABLE QUANTITY: 1000 LBS, 454 KG

CHEMICAL FORMULA: KOH (45 TO 52% AQUEOUS)

D.O.T. SHIPPING NAME: POTASSIUM HYDROXIDE SOLUTION

D.O.T. HAZARD GUIDE: 60 CHEMICAL FAMILY: ALKALI

N.F.P.A. REGISTRY: 3-0-1

LABELING: CORROSIVE 1814 PLACARD: UN 1814 OR RESIDUE UN 1814

## SECTION II INGREDIENTS AND HAZARDS

PRINCIPAL COMPONENT: KOH PERCENT: 45 TO 52%, REMAINDER IS WATER.

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES: REACTS VIO-  
LENTLY WITH ACIDS. REACTS WITH ALUMINUM, TIN, ZINC AND  
GENERATES FLAMMABLE HYDROGEN GAS.

## SECTION III PHYSICAL DATA

BOILING POINT: 45% = 270 °F., 50% = 292 °F.

SPECIFIC GRAVITY (H<sub>2</sub>O=1) : AT 20 °C 45% = 1.450; AT 20 °C 50% = 1.520

VAPOR PRESSURE (mm KG): AT 20 °C (68 °F) = 2 pH: >14

VAPOR DENSITY: (AIR=1): N.A. MOLECULAR WEIGHT: 56.1

APPEARANCE/ODOR: COLORLESS VISCOUS LIQUID NO ODOR.

PERCENT VOLATILE BY VOLUME: APPROXIMATELY 50%

EVAPORATION RATE: SLIGHTLY LESS THAN WATER

SOLUBILITY IN WATER: COMPLETE

FREEZE/SOLIDIFICATION TEMPERATURES: 45% = -20 °F; 50% = 48 °F

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**SECTION IV****FIRE AND EXPLOSION DATA**

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**FLASH POINT (METHOD): NONE**

**EXTINGUISHING MEDIA: SUITABLE FOR SURROUNDING FIRE**

**AUTO IGNITION TEMP:**

**LEL: NONE**

**UEL: NONE**

**SPECIAL FIRE FIGHTING PROCEDURES: WEAR CLOTHING AND EQUIPMENT TO AVOID BODY CONTACT.**

**UNUSUAL FIRE/EXPLOSION HAZARDS: THIS MATERIAL IS CORROSIVE TO ALL HUMAN TISSUE. IT WILL REACT VIOLENTLY WITH MANY ORGANIC CHEMICALS, ESPECIALLY NITROCARBONS AND CHLOROCARBONS. CAUSTIC POTASH REACTS WITH ZINC, ALUMINUM, TIN, AND OTHER ACTIVE METALS LIBERATING FLAMMABLE HYDROGEN GAS. DILUTION WITH WATER EVOLVES LARGE AMOUNTS OF HEAT.**

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**SECTION V****HEALTH HAZARD DATA**

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**THRESHOLD LIMIT VALUE: 2 mg/M<sup>3</sup>**

**PERMISSIBLE EXPOSURE LIMIT: ORAL LD<sub>50</sub> RAT 365 mg/Kg**

**OSHA LIMIT VALUE:**

**ACGIH LIMIT VALUE: 2mg/M<sup>3</sup> NTP**

**CARCINOGEN: NOT LISTED**

**IARC CARCINOGEN: NOT LISTED**

**MUTAGENIC: NOT LISTED**

**TERATOGENIC: NOT LISTED**

**REPRODUCTIVE TOXICITY: NOT LISTED**

**PRIMARY ROUTES OF EXPOSURE: BODY CONTACT**

**EFFECTS OF EXPOSURE:**

**SKIN: CONTACT WITH CONCENTRATED SOLUTIONS MAY CAUSE SERIOUS BURNS TO HUMAN TISSUE.**

**INHALATION: MIST MAY CAUSE INJURY TO ENTIRE RESPIRATORY TRACT.**

**EYES: WILL CAUSE SEVERE TO PERMANENT INJURY.**

**INGESTION: DAMAGES THROAT AREA, AND GASTRO-RESPIRATORY TRACT**

**EMERGENCY FIRST AID:**

**INHALATION: REMOVE FROM EXPOSURE. GET MEDICAL HELP**

**SKIN: REMOVE CONTAMINATED CLOTHING AND THOROUGHLY WATER FLUSH WITH TEMPERED WATER ON THE AFFECTED AREAS.**

**EYES: FLUSH EYES FOR AT LEAST 15 MINUTES WITH TEMPERED WATER**

**INGESTION: DRINK PLENTY OF WATER OR FRUIT JUICE. DO NOT INDUCE VOMITING. GET PROMPT MEDICAL HELP**

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**SECTION VI****REACTIVITY DATA**

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**STABILITY: STABLE UNDER NORMAL CONDITIONS.**

**CONDITIONS TO AVOID: DO NOT ALLOW CONTACT WITH ACIDS AND METALS SUCH AS ALUMINUM, ZINC AND TIN.**

**INCOMPATIBILITY: ORGANIC CHEMICALS, NITROCARBONS, HALOCARBONS, AND METALS OR ALLOYS MENTIONED ABOVE.**

**HAZARDOUS DECOMPOSITION PRODUCTS: FLAMMABLE HYDROGEN GAS MAY BE GENERATED WHEN KOH AND CERTAIN METALS REACT.**

**POLYMERIZATION: WILL NOT POLYMERIZE.**

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**SECTION VII****ENVIRONMENTAL PROTECTION PROCEDURES**

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**SPILL RESPONSE: PROTECTIVE CLOTHING AND EQUIPMENT MUST BE WORN BY CLEAN-UP PERSONNEL. CONTAIN SPILLAGE OR LEAKAGE IN SUITABLE CONTAINER OR CONTAIN IN A HOLDING AREA. DO NOT ALLOW DRAINAGE TO SEWERS, STREAMS OR STORM CONDUITS. RECOVER WITH VACUUM EQUIPMENT SUCH AS A, SEPTIC TANK TRUCK OR NEUTRALIZE WITH WEAK ACID SOLUTIONS AND FLUSH WITH WATER. AVOID SPLASHING OR MISTING WHICH COULD INCREASE HEALTH HAZARDS.**

**WASTE DISPOSAL METHODS: DISPOSE OF SPILLAGE WASTE PER COMPANY CONTINGENCY PLAN AND IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. NEUTRALIZED WASTE IS COMPOSED OF SALT AND WATER.**

**ADDITIONAL INFORMATION: REPORTABLE SPILLAGE QUANTITY IS 1000 LBS. OR 454 KG. PLANNING AHEAD IS ESSENTIAL FOR HANDLING SPILLS. PROPER EQUIPMENT AND TRAINED EMPLOYEES SHOULD BE READILY AVAILABLE TO CORRECT A SPILL SITUATION.**

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**SECTION VIII SPECIAL PROTECTION INFORMATION**

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**EYE PROTECTION: CHEMICAL SPLASH GOGGLES. MAY BE USED IN CONJUNCTION WITH A FULL FACE SHIELD.**

**RESPIRATORY PROTECTION: NONE IS NORMALLY REQUIRED HOWEVER IF MISTING OR HEAVY VAPOR FORMATION SHOULD OCCUR, A NIOSH APPROVED MIST RESPIRATOR SHOULD BE WORN.**

**SKIN PROTECTION: RUBBER OR PLASTIC -- IMPERVIOUS AND/OR WATERPUMP OTHER PROTECTION: RUBBER BOOTS. RUBBERS OVER LEATHER SHOES IS NOT RECOMMENDED. RUBBER APRON, RAINWARE, OR DISPOSABLE TYVEK SUIT WITH HARD HAT SHOULD BE WORN.**

**VENTILATION RECOMMENDED: PROVIDE ADEQUATE VENTILATION TO MEET TLV REQUIREMENTS.**

**GLOVE TYPE RECOMMENDED: RUBBER**

**ADDITIONAL INFORMATION: SAFETY EYE WASH/SHOWER STATIONS MUST BE AVAILABLE IN THE WORK AREA.**

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**SECTION IX SPECIAL PRECAUTIONS**

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**HYGIENIC PRACTICES IN HANDLING STORING: AVOID BODY CONTACT; IMMEDIATELY FLUSH CONTACT AREA WITH WATER.**

**PRECAUTIONS TO BE TAKEN- FOR HANDLING/ STORING: STORAGE TANKS SHOULD BE CONTAINED IN A DIRED AREA THAT HAS SUFFICIENT CAPACITY TO HOLD THE CONTENTS OF THE TANK. THIS AREA SHOULD BE FREE OF POTENTIAL CONTACT WITH ACIDS, ORGANICS AND REACTIVE METALS.**

**PRECAUTIONS FOR REPAIR MAINTENANCE OF CONTAMINATED EQUIPMENT: WASH THOROUGHLY WITH WATER.**

**OTHER PRECAUTIONS: SPILLAGE CAN BE SLIPPERY.**

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**SECTION X****TRANSPORTATION**

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**USUAL SHIPPING CONTAINERS: TANK CAR, TANK TRUCK, ABS DRUMS.**

**USUAL SHELF LIFE: SEALED CONTAINERS, UNLIMITED.**

**STORAGE/TRANSPORT TEMPERATURES: ABOVE 60 °F, BELOW 120 °F**

**SUITABLE STORAGE MATERIAL/COATINGS: STEEL, PLASTIC, PE (WHEN DRY)**

**UNSUITABLE: ALUMINUM, GALVANIZED CONTAINERS.**

**OTHER INFORMATION: KEEP CONTAINERS SEALED TO AVOID ABSORPTION OF  
MOISTURE.**