



KENCRO

CHEMICALS

POTASSIUM HYDROXIDE, SOLUTION (CAUSTIC POTASH 45% LIQUID)

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT IDENTIFIER: CAUSTIC POTASH SOLUTION
PRODUCT USE: REAGENT; CHEMICAL INTERMEDIATE
CHEMICAL FAMILY: ALKALINE MIXTURE
SUPPLIER'S NAME AND ADDRESS: KENCRO CHEMICALS LIMITED
2172 WYECROFT RD., UNIT #4
OAKVILLE, ON
L6L 5V6
905-827-4133
24 HR. EMERGENCY NUMBER: 613-996-6666 (CANUTEC)

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	C.A.S. #	WT.%	LC50 (4HR)	LD50 (ORAL, RAT)	(RABBIT, DERMAL)
POTASSIUM HYDROXIDE	1310-58-3	40.00 – 55.00	N/AV.	273mg/kg	N/AV.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CLEAR COLOURLESS LIQUID. ODOURLESS.
DANGER! MAY REACT WITH WATER, GENERATING HEAT.
CONTACT WITH METALS MAY RELEASE SMALL AMOUNTS OF FLAMMABLE HYDROGEN GAS.
CAUSES SEVERE BURNS. CORROSIVE TO ALL TISSUES. POISON! MAY BE FATAL IF INGESTED.

SIGNS AND SYMPTOMS OF SHORT-TERM (ACUTE) EXPOSURE:

SKIN CONTACT: CAUSES SEVERE BURNS. DIRECT SKIN CONTACT MAY CAUSE CORROSIVE SKIN BURNS, DEEP ULCERATIONS AND POSSIBLY PERMANENT SCARRING. PAINFUL TISSUE DESTRUCTION MAY RESULT. SYMPTOMS MAY BE DELAYED.

SKIN ABSORPTION: N/AP.

EYE CONTACT: CAUSES SEVERE BURNS. CHEMICAL BURNS, CORNEAL DAMAGE, GLAUCOMA, CATARACTS AND POSSIBLY BLINDNESS CAN RESULT FROM DIRECT CONTACT. SYMPTOMS MAY BE DELAYED AND MAY NOT BE INITIALLY APPARENT.

INHALATION: MAY CAUSE SEVERE IRRITATION TO THE NOSE, THROAT AND RESPIRATORY TRACT. SYMPTOMS MAY INCLUDE COUGHING, CHOKING AND WHEEZING. COULD RESULT IN PULMONARY EDEMA (FLUID ACCUMULATION). SYMPTOMS OF PULMONARY EDEMA (CHEST PAIN, SHORTNESS OF BREATH) MAY BE DELAYED.

INGESTION: MAY BE FATAL IF INGESTED. IF INGESTED, SEVERE BURNS OF THE MOUTH AND THROAT, AS WELL AS A DANGER OF BURNS, PERFORATIONS, BLEEDING AND EVENTUALLY DEATH.

POTENTIAL CHRONIC HEALTH EFFECTS:
PROLONGED OR REPEATED SKIN EXPOSURE MAY CAUSE REDNESS, A BURNING SENSATION, DRYING AND CRACKING OF THE SKIN (DERMATITIS).

OTHER IMPORTANT HAZARDS:
SEE TOXICOLOGICAL INFORMATION, SECTION 11.

SECTION 4: FIRST AID MEASURES

INHALATION: IMMEDIATELY REMOVE PERSON TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN BY QUALIFIED MEDICAL PERSONNEL ONLY. SEEK IMMEDIATE MEDICAL ATTENTION/ADVICE.

SKIN CONTACT: TAKE OFF ALL CONTAMINATED CLOTHING IMMEDIATELY. FLUSH AFFECTED SKIN WITH GENTLY FLOWING LUKEWARM WATER FOR AT LEAST 20 MINUTES. IF IRRITATION PERSISTS, REPEAT FLUSHING. SEEK IMMEDIATELY MEDICAL ATTENTION/ADVICE. DO NOT TRANSPORT VICTIM UNLESS THE RECOMMENDED FLUSHING PERIOD IS COMPLETED OR FLUSHING CAN BE CONTINUED DURING TRANSPORT. WASH CONTAMINATED CLOTHING BEFORE RE-USE. LEATHER AND SHOES THAT HAVE BEEN CONTAMINATED WITH THE SOLUTION MAY NEED TO BE DESTROYED.

EYE CONTACT: IMMEDIATE MEDICAL ATTENTION IS REQUIRED. IMMEDIATELY FLUSH EYES THOROUGHLY WITH RUNNING WATER FOR AT LEAST 20 TO 30 MINUTES. HOLD EYELIDS OPEN DURING FLUSHING. DELAYS GREATER THAN 5 SECONDS MAY CAUSE PERMANENT EYE DAMAGE, DO NOT TRANSPORT VICTIM UNTIL THE RECOMMENDED FLUSHING PERIOD IS COMPLETED UNLESS FLUSHING CAN BE CONTINUED DURING TRANSPORT. SEEK IMMEDIATE MEDICAL ATTENTION/ADVICE.

INGESTION: DO NOT INDUCE VOMITING. HAVE VICTIM RINSE MOUTH WITH WATER, THEN GIVE ONE OR TWO GLASSES OF WATER TO DRINK. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF SPONTANEOUS VOMITING OCCURS, HAVE VICTIM LEAN FORWARD WITH HEAD DOWN TO AVOID BREATHING IN OF VOMITUS, RINSE MOUTH AND ADMINISTER MORE WATER. SEEK MEDICAL ATTENTION/ADVICE.

NOTES TO PHYSICIAN: POTASSIUM HYDROXIDE EYE BURNS OFTEN GO THROUGH THREE STAGES – AN ACUTE STAGE WHEN EARLY DAMAGE IS EXPERIENCED, A REPARATION STAGE WHEN EYE BEGINS TO HEAL, AND A STAGE OF LATER COMPLICATIONS WHEN A RELAPSE MAY OCCUR WITH MORE SEVERE DAMAGE. FOLLOW UP CARE IS ESSENTIAL.

SECTION 5: FIRE FIGHTING MEASURES

FIRE HAZARDS/CONDITION OF FLAMMABILITY:

NOT FLAMMABLE UNDER NORMAL CONDITIONS OF USE. MAY REACT WITH WATER, GENERATING HEAT. THE HEAT THAT IS GENERATED MAY BE SUFFICIENT ENOUGH TO IGNITE NEARBY COMBUSTIBLE MATERIALS. CONTACT WITH SOME REACTIVE METALS MAY PRODUCE FLAMMABLE HYDROGEN GAS. DO NOT USE A SOLID STREAM OF WATER.

FLASH POINT:	N/AP.	AUTO IGNITION TEMPERATURE:	N/AV.
FLASH POINT METHOD:	N/AP.	UPPER FLAMMABLE LIMIT:	N/AP.
LOWER FLAMMABLE LIMIT:	N/AP.	(% BY VOL.)	
OXIDIZING PROPERTIES:	NONE KNOWN	FLASHBACK OBSERVED:	N/AP.
FLAME PROJECTION LENGTH:	N.AP.		

EXPLOSION DATA: SENSITIVITY TO MECHANICAL IMPACT/STATIC DISCHARGE:

NOT EXPECTED TO BE SENSITIVE TO MECHANICAL IMPACT OR STATIC DISCHARGE.

SUITABLE EXTINGUISHING MEDIA:

USE MEDIA SUITABLE TO THE SURROUNDING FIRE SUCH AS WATER FOG OR FINE SPRAY, ALCOHOL FOAMS, CARBON DIOXIDE AND DRY CHEMICAL. USE WATER SPRAY WITH CAUTION. MAY REACT WITH WATER. AVOID THE USE OF A STREAM OF WATER TO CONTROL FIRES SINCE FROTHING CAN OCCUR. CONTACT WITH ORGANIC LIQUIDS OR VAPOURS MAY CAUSE IMMEDIATE FIRE OR EXPLOSION, ESPECIALLY IF HEATED.

SPECIAL FIRE-FIGHTING PROCEDURES/EQUIPMENT:

FIRE FIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF SAFE TO DO SO. COOL CLOSED CONTAINERS EXPOSED TO FIRE WITH WATER SPRAY. DO NOT ALLOW WATER RUN-OFF FROM FIRE FIGHTING TO ENTER DRAINS OR WATER COURSES.

HAZARDOUS COMBUSTION PRODUCTS:

POTASSIUM OXIDES.

SECTION 6: ACCIDENTAL RELEASE MEASURES

LEAK AND SPILL PROCEDURES:

AREA WILL BE SLIPPERY UNTIL CLEANED, USE CARE TO AVOID FALLING. STOP AND CONTAIN LEAK OR SPILL. VENTILATE AREA. PROTECTIVE EQUIPMENT MUST BE WORN. DYKE WITH INERT MATERIAL (SAND, EARTH, ETC). DO NOT ALLOW ENTRY INTO WATERWAYS. PUMP INTO STEEL OR PLASTIC CONTAINERS FOR RECLAIM OR DISPOSAL. FOR SMALL SPILLS, NEUTRALIZE AND FLUSH AREA WITH WATER; PREVENT WASHINGS FROM ENTERING WATERWAYS. COMPLY WITH FEDERAL, PROVINCIAL/STATE AND LOCAL REGULATIONS ON REPORTING RELEASES.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES:

USE ONLY IN WELL-VENTILATED AREAS. WEAR CHEMICALLY RESISTANT PROTECTIVE EQUIPMENT DURING HANDLING. AVOID BREATHING VAPOUR OR MIST. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. KEEP AWAY FROM EXTREME HEAT AND FLAME. KEEP AWAY FROM METALS AND INCOMPATIBLES. WHEN PREPARING OR DILUTING SOLUTION, ALWAYS ADD ACID TO WATER, SLOWLY AND WITH STIRRING. NEVER ADD WATER TO THE PRODUCT. LABEL CONTAINERS APPROPRIATELY. KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. WASH THOROUGHLY AFTER USE.

STORAGE REQUIREMENTS:

STORE IN A COOL, DRY, WELL VENTILATED AREA, AWAY FROM HEAT AND IGNITION SOURCES. STORE AWAY FROM INCOMPATIBLE MATERIALS. STORAGE AREA SHOULD BE CLEARLY IDENTIFIED, CLEAR OF OBSTRUCTION AND ACCESSIBLE ONLY TO TRAINED AND AUTHORIZED PERSONNEL. INSPECT PERIODICALLY FOR DAMAGE OR LEAKS. STORE IN CORROSION-RESISTANT CONTAINERS. MILD STEEL MAY BE USED IF THE STORAGE TEMPERATURE DOES NOT EXCEED 50°C (122°F). FOR TEMPERATURES ABOVE 50°C (122°F), MATERIALS SUCH AS NICKEL OR LINED STEEL MAY BE REQUIRED.

INCOMPATIBLE MATERIALS:

ACIDS; ORGANIC MATERIALS; WATER; METALS (E.G. TIN, ALUMINUM, LEAD, COPPER, BRONZE, BRASS, ZINC AND ALLOYS CONTAINING THESE METALS); CHLOROCARBONS.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS

INGREDIENTS	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
POTASSIUM HYDROXIDE	2MG/M ³ (CEILING)	N/AV.	2MG/M ³ (CEILING)	N/AV.

SEE COMPOSITION/INFORMATION ON INGREDIENTS, SECTION 2.

ENGINEERING CONTROLS:

PROVIDE EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP THE AIRBORNE CONCENTRATION OF VAPOURS BELOW THEIR RESPECTIVE THRESHOLD LIMIT VALUE.

GLOVES/TYPE:

IMPERVIOUS GLOVES MUST BE WORN WHEN USING THIS PRODUCT; RUBBER OR NEOPRENE GLOVES. THE SUITABILITY FOR A SPECIFIC WORKPLACE SHOULD BE DISCUSSED WITH THE PRODUCERS OF THE PROTECTIVE GLOVES.

RESPIRATORY/TYPE:

RESPIRATORY PROTECTION IS REQUIRED IF THE CONCENTRATIONS EXCEED THE TLV. A NIOSH/MSHA APPROVED AIR-PURIFYING RESPIRATOR WITH THE APPROPRIATE CHEMICAL CARTRIDGES OR A POSITIVE-PRESSURE, AIR-SUPPLIED RESPIRATOR MAY BE USED TO REDUCE EXPOSURE.

EYE/TYPE:

CHEMICAL SPLASH GOGGLES ARE RECOMMENDED. A FULL FACE SHIELD MAY ALSO BE NECESSARY.

FOOTWEAR/TYPE:

RUBBER SAFETY BOOTS.

CLOTHING/TYPE:

WEAR CHEMICALLY PROTECTIVE GLOVES (IMPERVIOUS), BOOTS, APRONS, AND GAUNTLETS TO PREVENT PROLONGED OR REPEATED SKIN CONTACT.

OTHER/TYPE:

AN EYEWASH STATION AND SAFETY SHOWER SHOULD BE MADE AVAILABLE IN THE IMMEDIATE WORKING AREA. OTHER EQUIPMENT MAY BE REQUIRED DEPENDING ON WORKPLACE STANDARDS.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	LIQUID	APPEARANCE:	CLEAR COLOURLESS LIQUID
ODOUR:	ODOURLESS	ODOUR THRESHOLD:	N/AV.
PH:	ALKALINE	BOILING POINT:	133°C (271°F)
SPECIFIC GRAVITY:	1.46 @ 15.5°C (60°F)	MELTING/FREEZING POINT:	-30°C (-22°F)
COEFFICIENT OF WATER/OIL		SOLUBILITY IN WATER:	N/AV.
DISTRIBUTION:	N/AV.	VAPOUR DENSITY (AIR=1):	N/AV.
EVAPOURATION RATE:	N/AV.	VAPOUR PRESSURE (mmHg) at 20°C /68°F:	2mmHg
MOLECULAR WEIGHT:	56.11		
MOLECULAR FORMULA:	KOH		

SECTION 10: REACTIVITY AND STABILITY DATA

STABILITY AND REACTIVITY:

STABLE UNDER THE RECOMMENDED STORAGE AND HANDLING CONDITIONS PRESCRIBED. MAY REACT WITH WATER, GENERATING HEAT. CONTACT WITH SOME REACTIVE METALS MAY PRODUCE FLAMMABLE HYDROGEN GAS. HAZARDOUS POLYMERIZATION DOES NOT OCCUR. PRODUCT MAY ABSORB CARBON DIOXIDE FROM THE AIR TO FORM POTASSIUM CARBONATE.

CONDITIONS TO AVOID: AVOID HEAT AND OPEN FLAME. AVOID CONTACT WITH INCOMPATIBLE MATERIALS. AVOID MOISTURE. SEE SECTION 7 (HANDLING AND STORAGE) FOR FURTHER DETAILS.

HAZARDOUS DECOMPOSITION PRODUCTS:

NONE KNOWN, REFER TO HAZARDOUS COMBUSTION MATERIALS IN SECTION 5.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA: NO DATA IS AVAILABLE ON THE PRODUCT ITSELF. REFER TO SECTION 2 FOR INDIVIDUAL INGREDIENT LD50'S AND LC50'S.

CARCINOGENIC STATUS: NO COMPONENTS ARE LISTED AS CARCINOGENS BY ACGIH, IARC, OSHA OR NTP.

REPRODUCTIVE EFFECTS: NOT EXPECTED TO HAVE ANY REPRODUCTIVE EFFECTS.

TERATOGENICITY: NOT EXPECTED TO BE A TERATOGEN.

MUTAGENICITY: NOT EXPECTED TO BE MUTAGENIC IN HUMANS.

SENSITIZATION TO MATERIAL:

NOT EXPECTED TO BE A SKIN OR RESPIRATORY SENSITIZER.

SYNERGISTIC MATERIALS: NO INFORMATION AVAILABLE.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:

PRE-EXISTING SKIN, EYE AND RESPIRATORY DISORDERS.

ADDITIONAL HEALTH HAZARDS:

NONE KNOWN.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS:

THE ECOLOGICAL CHARACTERISTICS OF THIS PRODUCT HAVE NOT BEEN FULLY INVESTIGATED. THE PRODUCT SHOULD NOT BE ALLOWED TO ENTER DRAINS OR WATER COURSES, OR BE DEPOSITED WHERE IT CAN AFFECT GROUND OR SURFACE WATERS.

IMPORTANT ENVIRONMENTAL CHARACTERISTICS:

NO INFORMATION AVAILABLE.

ECOTOXICOLOGICAL: NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.

SECTION 13: DISPOSAL CONSIDERATIONS

HANDLING FOR DISPOSAL: SEE SECTION 7 – HANDLING AND STORAGE FOR FURTHER DETAILS. EMPTY CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOUR) AND CAN BE DANGEROUS.

METHOD OF DISPOSAL: DISPOSE OF IN ACCORDANCE WITH FEDERAL, PROVINCIAL AND LOCAL HAZARDOUS WASTE LAWS.

SECTION 14: TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: POTASSIUM HYDROXIDE, SOLUTION

TDG CLASSIFICATION: CLASS 8, UN1814, PACKING GROUP II

SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION: CLASS D1B (MATERIALS CAUSING IMMEDIATE AND SERIOUS TOXIC EFFECTS, TOXIC MATERIAL)
CLASS E (CORROSIVE MATERIAL)

SECTION 16: OTHER INFORMATION

LEGEND:	ACGIH	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
	CAS #	CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
	IARC	INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
	KOH	POTASSIUM HYDROXIDE SOLUTION
	LC	LETHAL CONCENTRATION
	LD	LETHAL DOSE
	MSHA	MINE SAFETY AND HEALTH ADMINISTRATION
	N/AP.	NOT APPLICABLE
	N/AV.	NOT AVAILABLE
	NIOSH	NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
	NTP	NATIONAL TOXICOLOGY PROGRAM
	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
	PEL	PERMISSIBLE EXPOSURE LIMIT
	STEL	SHORT TERM EXPOSURE LIMIT
	TDG	TRANSPORTATION OF DANGEROUS GOODS ACT/REGULATIONS
	TLV	THRESHOLD LIMIT VALUE
	TWA	TIME WEIGHTED AVERAGE
	WHMIS	WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM

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