



MATERIAL SAFETY DATA SHEET

KEM CANADA MFG.
 4 BLAIR DRIVE
 BRAMPTON, ONTARIO
 L6T 2H5
 TEL# (905) 456-9444

EMERGENCY # CANUTEC (613) 996-6666
"USE IN CASE OF CHEMICAL EMERGENCY ONLY"

W.H.M.I.S. CLASSIFICATION: D2B, E

MATERIAL REFERENCE NO: 238500

SECTION I - MATERIAL IDENTIFICATION AND USE

MATERIAL NAME/I.D.: MIROKEM	
CHEMICAL NAME: NOT APPLICABLE	CHEMICAL FAMILY: ALKALINE BLEND
CHEMICAL FORMULA: MIXTURE	MOLECULAR WEIGHT: NOT APPLICABLE
SYNONYMS: NONE	
MATERIAL USE: LIQUID AUTOMATIC DISHWASHING DETERGENT	

SECTION II - HAZARDOUS INGREDIENTS OF MATERIAL

HAZARDOUS INGREDIENTS	APPROX. CONCENT.	TLV PPM	C.A.S. NUMBERS	LD 50 RAT, ORAL
POTASSIUM HYDROXIDE	5.0-10.0	2 MG/M3	1310-58-3	365 Mg/Kg
ETHYLENE DIAMINE	1.0-5.0	NOT AVAILABLE	64-02-8	300 Mg/Kg
TETRA ACETIC ACID ANIONIC SURFACTANT	1.0-5.0	NOT AVAILABLE	MIXTURE	2400 Mg/Kg

SECTION III - PHYSICAL DATA FOR MATERIAL

PHYSICAL STATE: LIQUID		
ODOUR AND APPEARANCE: BROWN LIQUID, LOW ODOUR		
ODOUR THRESHOLD (PPM) NOT AVAILABLE	SPECIFIC GRAVITY 1.318	VAPOUR PRESSURE (MM) NOT AVAILABLE
VAPOUR DENSITY (AIR=1) NOT AVAILABLE	EVAPORATION RATE (WATER=1) 1	SOLUBILITY IN WATER (20 ø C) COMPLETE
BOILING POINT (C) 100	FREEZING POINT (C) NOT AVAILABLE	% VOLATILE (BY WEIGHT) 53
pH (10% SOLUTION) 13.0-13.5	DENSITY (G/ML) NOT APPLICABLE	COEF.OF WATER/OIL DISTR NOT AVAILABLE



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SECTION IV - FIRE AND EXPLOSION HAZARD OF MATERIAL

FLAMMABILITY: NON-FLAMMABLE IF YES, UNDER WHICH CONDITIONS:		
MEANS OF EXTINCTION: WATER FOG, CHEMICAL FOAM, CARBON DIOXIDE		
SPECIAL PROCEDURES: WEAR FULL PROTECTIVE GEAR, INCLUDING SELF- CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.		
FLASH POINT (C) AND METHOD: NONE (TCC)		
HAZARDOUS COMBUSTION PRODUCTS: ALKALINE SOLUTIONS WILL REACT WITH ALUMINUM TO FORM FLAMMABLE HYDROGEN GAS. CARBON DIOXIDE, CARBON MONOXIDE.		
UPPER EXPLOSION LIMIT NOT APPLICABLE	LOWER EXPLOSION LIMIT NOT APPLICABLE	AUTOIGNITION TEMP(C) NOT AVAILABLE
EXPLOSION DATA SENSITIVITY TO CHEMICAL IMPACT NOT AVAILABLE	RATE OF BURNING NOT APPLICABLE	EXPLOSIVE POWER NOT AVAILABLE
SENSITIVITY TO STATIC DISCHARGE: NOT AVAILABLE		

SECTION V - REACTIVITY DATA

CHEMICAL STABILITY: NORMALLY STABLE IF NO, UNDER WHICH CONDITIONS: HIGH TEMPERATURES		
INCOMPATIBILITY TO OTHER SUBSTANCES: YES IF SO, WHICH ONES: STRONG ACIDS, METALS, LEATHER, WOOL, ORGANIC HALOGEN COMPOUNDS, ORGANIC, NITRO COMPOUNDS.		
REACTIVITY AND UNDER WHAT CONDITIONS: CORRODES METALS. EXOTHERMIC WHEN ADDED TO WATER. CAN REACT VIOLENTLY WITH ACIDS. CAN PRODUCE CARBON MONOXIDE WHEN ADDED TO REDUCING SUGARS.		
HAZARDOUS DECOMPOSITION PRODUCTS: CARBON DIOXIDE, CARBON MONOXIDE UPON BURNING.		

SECTION VI - HEALTH HAZARD DATA

ROUTE OF ENTRY:		
SKIN CONTACT: YES INHALATION: NO	SKIN ABSORPTION: YES INGESTION: YES	EYE CONTACT: YES



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EFFECTS OF ACUTE EXPOSURE TO MATERIAL
EYES- CONTACT CAN CAUSE STINGING OR BURNING, INTENSE WATERING, CONJUNCTIVITIS.
SKIN-CONTACT CAN CAUSE SEVERE IRRITATION, ITCHING, INFLAMMATION.
INHALATION-MAY CAUSE IRRITATION OF NOSE, EYES AND THROAT, COUGHING DIZZINESS, DIFFICULTY IN BREATHING.
INGESTION-MAY CAUSE IRRITATION AND BURNING SENSATION OF LIPS, MOUTH AND THROAT, PAIN IN SWALLOWING, GASTRO-INTRESTINAL IRRITATION, ABUNDANT SALIVATION, STOMACH CRAMPS, NAUSEA, VOMITING, DIFFICULTY IN BREATHING.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL:
EYES-CONTACT MAY CAUSE ULCERATION OF EYES, LOSS OF SIGHT.
SKIN-CONTACT MAY SEVERE IRRITATION, DRYING, CRACKING OF SKIN.
INHALATION-MAY CAUSE CHEMICAL BRONCHITIS, ASPHYXIA.
INGESTION-MAY CAUSE RISK OF PERFORATION OF STOMACH, STATE OF SHOCK, UNCONSCIOUSNESS.

LD 50 OF MATL. NOT AVAILABLE	LC 50 OF MATL. NOT AVAILABLE	EXPOSURE LIMIT(S) NOT AVAILABLE	IRRITANCY OF MATL CORROSIVE
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SENSITIZATION OF MATERIAL NOT AVAILABLE	SYNERGISTIC MATERIALS NOT AVAILABLE
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CARCINOGENICITY, REPRODUCTIVE EFFECTS, TERATOGENICITY, MUTAGENICITY
NONE KNOWN.

SECTION VII - PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:

GLOVES: RUBBER OR VINYL WHEN HANDLING CONCENTRATE
RESPIRATORY: NOT NORMALLY REQUIRED
EYE: SAFETY GLASSES
FOOTWEAR: RUBBER
CLOTHING: IMPERMEABLE
OTHER: EYE WASH AND SAFETY SHOWER
ENGINEERING CONTROLS (EG VENTILATION, ENCLOSED PROCESS): NOT NORMALLY REQUIRED.

LEAK AND SPILL PROCEDURE: STOP LEAKS AND CONTAIN SPILL. TRANSFER TO SUITABLE CONTAINER FOR RECLAIM OR REUSE. ABSORB REMAINING MATERIAL ONTO INERT ABSORBENT AND SCOOP INTO CONTAINER FOR DISPOSAL.
FLUSH REMAINING RESIDUE WITH VOLUMES OF WATER.

WASTE DISPOSAL: SMALL SPILLS-FLUSH TO SEWER WITH LARGE VOLUME OF WATER.
LARGE SPILLS-DISPOSE IN ACCORDANCE WITH LOCAL, PROVINCIAL AND FEDERAL REGULATIONS.



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SECTION VIII - FIRST AID MEASURES

PROCEDURES:
EYES-IMMEDIATELY FLUSH WITH RUNNING WATER FOR 15 MINUTES. GET MEDICAL ATTENTION.
SKIN-REMOVE CONTAMINATED CLOTHING IMMEDIATELY AND FLUSH AFFECTED AREA WITH WATER FOR 15 MINUTES. IF PAIN OR IRRITATION PERSIST CONTACT A PHYSICIAN. WASH CLOTHING BEFORE RE-USE.
INHALATION-MOVE VICTIM TO FRESH AIR. IF BREATHING IS DIFFICULT GIVE OXYGEN. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION AND THEN OXYGEN CONTACT A PHYSICIAN.
INGESTION-IF SWALLOWED DO NOT INDUCE VOMITING. GIVE COLD WATER OR ICE TO RINSE MOUTH. GIVE WATER, VINEGAR AND WATER, OR FRUIT JUICE. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. GET IMMEDIATE MEDICAL ATTENTION.

SOURCES USED: RAW MATERIAL SUPPLIER'S MATERIAL SAFETY DATA SHEETS

ADDITIONAL INFORMATION: NONE

SECTION IX - TDG SHIPPING INFORMATION

SHIPPING NAME	CLASS	UN NO.	PG
CORROSIVE LIQUID, N.O.S. (POTASSIUM HYDROXIDE)	8	1760	II

HANDLING PROCEDURES AND EQUIPMENT: AVOID CONTACT WITH EYES, SKIN AND CLOTHING. AVOID CONTACT WITH STRONG ACIDS OR REACTIVE MATERIALS. WASH THOROUGHLY AFTER HANDLING.

STORAGE REQUIREMENTS: STORE IN TIGHTLY SEALED CONTAINERS IN A COOL, DRY AREA. KEEP FROM FREEZING.

SPECIAL SHIPPING INFORMATION: HEATED

SECTION X - HMIS HAZARD RATING INFORMATION

FLAMMABILITY	REACTIVITY	HEALTH
0	0	2

SECTION XI - PREPARATION DATE OF MSDS

PREPARED BY: TECHNICAL DEPARTMENT TELEPHONE # (905) 456-9444
REVIEWED: MARCH 20, 2003

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