



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: D2A, D2B

MATERIAL REFERENCE NO: 582300

SECTION I - MATERIAL IDENTIFICATION AND USE

MATERIAL NAME/I.D.: GLYCOL "E-100 {M}"	
CHEMICAL NAME : MIXTURE	CHEMICAL FAMILY : GLYCOLS
CHEMICAL FORMULA: MIXTURE	MOLECULAR WEIGHT: NOT AVAILABLE
SYNONYMS: NONE	
MATERIAL USE: FREEZE POINT DEPRESSANT	

SECTION II - HAZARDOUS INGREDIENTS OF MATERIAL

HAZARDOUS INGREDIENTS	APPROX. % CONCENT.	TLV PPM	C.A.S. N.A. U.N. NUMBERS	LD 50 ORAL, RAT
ETHYLENE GLYCOL	60.0-100.0	50	107-21-1	4700 MG/KG
SODIUM MOLYBDATE	1.0-5.0	NO DATA	1313-27-5	2 GM / KG
BALANCE NOT CONTROLLED				

SECTION III - PHYSICAL DATA FOR MATERIAL

PHYSICAL STATE: LIQUID		
ODOUR AND APPEARANCE: CLEAR LIQUID; ODOURLESS.		
ODOUR THRESHOLD (PPM)	SPECIFIC GRAVITY	VAPOUR PRESSURE (MM)
NOT ESTABLISHED	1.11	NOT ESTABLISHED
VAPOUR DENSITY (AIR=1)	EVAPORATION RATE	SOLUBILITY IN WATER
NOT ESTABLISHED	(BUTYL ACETATE=1) <1	(20°C) COMPLETE
BOILING POINT (C)	FREEZING POINT (C)	% VOLATILE (BY VOLUME)
>100	NOT AVAILABLE	100
pH (10% SOLUTION)	DENSITY (G/ML)	COEF.OF WATER/OIL DISTR
NO DATA	NOT APPLICABLE	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: CO2, DRY CHEMICAL, WATER FOG, FOAM.		
SPECIAL PROCEDURES: NONE APPLICABLE		
FLASH POINT (C) AND METHOD: MINIMUM 116 (C)		
HAZARDOUS COMBUSTION PRODUCTS: OXIDES OF CARBON.		
UPPER EXPLOSION LIMIT LOWER EXPLOSION LIMIT AUTOIGNITION TEMP(C)		
ETHYLENE GLYCOL 15.3 % ETHYLENE GLYCOL 3.2 % ETHYLENE GLYCOL 400		
EXPLOSION DATA SENSITIVITY RATE OF BURNING EXPLOSIVE POWER		
TO CHEMICAL IMPACT		
NOT AVAILABLE NOT AVAILABLE NOT AVAILABLE		
SENSITIVITY TO STATIC DISCHARGE: NOT AVAILABLE		

SECTION V - REACTIVITY DATA

CHEMICAL STABILITY: STABLE		
IF NO, UNDER WHICH CONDITIONS:		
INCOMPATIBILITY TO OTHER SUBSTANCES: YES		
IF SO, WHICH ONES: STRONG OXIDIZING MATERIALS, ALUMINUM METAL.		
REACTIVITY AND UNDER WHAT CONDITIONS: EXPLOSIVE DECOMPOSITION MAY		
OCCUR WHEN COMBINED WITH STRONG ACIDS OR BASES.		
HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.		
HAZARDOUS DECOMPOSITION PRODUCTS: OXIDES OF CARBON.		

SECTION VI - HEALTH HAZARD DATA

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



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EFFECTS OF ACUTE EXPOSURE TO MATERIAL:
EYES- MAY EYE IRRITATION, TEARING, REDNESS, SWELLING OF CONJUNCTIVA.
SKIN-MAY CAUSE IRRITATION. PROLONGED CONTACT MAY CAUSE DERMATITIS IN SENSITIVE INDIVIDUALS.
INHALATION-MAY CAUSE IRRITATION OF EYES, NOSE, THROAT AND RESPIRATORY TRACT AND CNS DEPRESSION.
INGESTION-MAY CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, DIARRHEA.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL:
PROLONGED OR REPEATED EXPOSURE TO HIGH CONCENTRATIONS MAY CAUSE LOSS OF APPETITE, AND LIVER, KIDNEY AND NEURAL DISFUNCTION.
PRE-EXISTING SKIN, EYE OR RESPIRATORY DISORDERS, OR IMPAIRED KIDNEY FUNCTION MAY BE AGGRAVATED BY EXPOSURE TO ETHYLENE GLYCOL.
INHALATION-OF MIST MAY PRODUCE SIGNS OF CNS INVOLVEMENT, PARTICULARLY DIZZINESS AND NYSTAGMUS.

LD 50 OF MATL.	LC 50 OF MATL.	EXPOSURE LIMITS	IRRITANCY OF MATL
6100-8540 MG/KG	10,000 MG/M3	NOT ESTABLISHED	TOXIC

SENSITIZATION OF MATERIAL	SYNERGISTIC MATERIALS
NOT AVAILABLE	NOT AVAILABLE

CARCINOGENICITY, REPRODUCTIVE EFFECTS, TERATOGENICITY, MUTAGENICITY:
CARCINOGENIC-CLASSIFIED A4-NOT CLASSIFIED FOR HUMANS OR ANIMALS BY ACGIH. TERATOGEN-CLASSIFIED PROVEN FOR HUMANS.

SECTION VII - PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: GLOVES & GLASSES IF USING CONCENTRATE

GLOVES: RUBBER, PVC
RESPIRATORY: NIOSH APPROVED AIR-PURIFYING FOR CONC. UP TO 500PPM
AIR SUPPLIED RESPIRATOR IF CONC. IS HIGHER OR UNKNOWN.
EYE: CHEMICAL GOGGLES
FOOTWEAR: IMPERVIOUS
CLOTHING: IMPERVIOUS APRON
OTHER: EYE WASH
ENGINEERING CONTROLS (EG VENTILATION, ENCLOSED PROCESS): SUFFICIENT MECHANICAL (GENERAL OR LOCAL EXHAUST) TO MAINTAIN TLV BELOW BELOW ACCEPTABLE LIMITS.

LEAK AND SPILL PROCEDURE: WEAR PROPER PROTECTIVE CLOTHING. CONTAIN SPILL. TRANSFER TO SUTABLE CONTAINER FOR REUSE OR DISPOSAL. ABSORB REMAINING MATERIAL ONTO INERT ABSORBANT. KEEP OUT OF SEWERS, STORM DRAINS AND WATERWAYS.

WASTE DISPOSAL:
DISPOSE OF IN A LICENSED FACILITY IN ACCORDANCE WITH ALL FEDERAL, PROVINCIAL AND LOCAL REGULATIONS.



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SECTION VIII - FIRST AID MEASURES

PROCEDURES:	
EYE CONTACT-FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15	
MINUTES. GET MEDICAL ASSISTANCE IF IRRITATION PERSISTS.	
SKIN CONTACT-FLUSH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION	
PERSISTS, SEEK MEDICAL ATTENTION.	
INHALATION-MOVE VICTIM TO FRESH AIR. IF BREATHING IS DIFFICULT,	
ADMINISTER OXYGEN. SEEK MEDICAL ATTENTION.	
INGESTION-INDUCE VOMITING BY EITHER GIVING IPECAC SYRUP OR PLACING	
FINGER AT BACK OF THROAT. NEVER GIVE ANYTHING TO AN UNCONSCIOUS	
OR CONVULSING PERSON. 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.	PACKING GROUP
NOT REGULATED			
HANDLING PROCEDURES AND EQUIPMENT: AVOID CONTACT WITH EYES AND SKIN.			
USE IN WELL VENTILATED AREAS. WASH THOROUGHLY AFTER HANDLING.			
STORAGE REQUIREMENTS: STORE IN A COOL, DRY AREA AWAY FROM			
INCOMPATIBLE MATERIALS. KEEP CONTAINER CLOSED WHEN NOT IN USE.			
SPECIAL SHIPPING INFORMATION: NONE			

SECTION X - HAZARD RATING INFORMATION

FLAMMABILITY	REACTIVITY	TOXICITY
1	0	2

SECTION XI - PREPARATION DATE OF MSDS

PREPARED BY: TECHNICAL DEPARTMENT	TELEPHONE # (905) 456-9444
REVIEWED: DECEMBER 14, 2002	

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