



# 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:  
B3, D1B, D2A, E

MATERIAL REFERENCE NO: 597700

## SECTION I - MATERIAL IDENTIFICATION AND USE

MATERIAL NAME/I.D.: KEMTREET RT # 977	
CHEMICAL NAME : NOT APPLICABLE	CHEMICAL FAMILY : AMINE MIXTURE
CHEMICAL FORMULA: MIXTURE	MOLECULAR WEIGHT: NOT APPLICABLE
SYNONYMS: BLENDED NEUTRALIZING AMINE	
MATERIAL USE: CORROSION CONTROL - STEAM BOILERS	

## SECTION II - HAZARDOUS INGREDIENTS OF MATERIAL

HAZARDOUS INGREDIENTS	APPROX. % CONCENT.	TLV PPM	C.A.S. N.A. U.N. NUMBERS	LD 50 ORAL, RAT
CYCLOHEXYLAMINE	7.0-13.0	10	108-91-8	156 MG/KG
MORPHOLINE	7.0-13.0	10 MG/M3	110-91-8	1450 MG/KG

## SECTION III - PHYSICAL DATA FOR MATERIAL

PHYSICAL STATE: LIQUID		
ODOUR AND APPEARANCE: CLEAR, AMBER LIQUID; AMINE ODOUR.		
ODOUR THRESHOLD (PPM)	SPECIFIC GRAVITY	VAPOUR PRESSURE (MM)
NOT AVAILABLE	0.986	NOT AVAILABLE
VAPOUR DENSITY (AIR=1)	EVAPORATION RATE	SOLUBILITY IN WATER
NOT AVAILABLE	NOT ESTABLISHED	(20°C) SOLUBLE
BOILING POINT (C)	FREEZING POINT (C)	% VOLATILE (BY WEIGHT)
NOT AVAILABLE	NOT AVAILABLE	>80
pH (10% SOLUTION)	DENSITY (G/ML)	COEF.OF WATER/OIL DISTR
10.5-11.5	NOT APPLICABLE	NOT AVAILABLE



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## SECTION IV - FIRE AND EXPLOSION HAZARD OF MATERIAL

FLAMMABILITY: FLAMMABLE		
IF YES, UNDER WHICH CONDITIONS: HIGH TEMPERATURES		
MEANS OF EXTINCTION: CHEMICAL FOAM, CARBON DIOXIDE, WATER FOG.		
SPECIAL PROCEDURES: WEAR FULL PROTECTIVE GEAR INCLUDING SELF-CONTAINED BREATHING APPARATUS. VAPOURS ARE HEAVIER THAN AIR AND MAY TRAVEL TO IGNITION SOURCE AND FLASH BACK.		
FLASH POINT (C) AND METHOD: 46.1 (TCC)		
HAZARDOUS COMBUSTION PRODUCTS: MAY EVOLVE NITROGEN OXIDES, SMOKE, SOOT, CARBON DIOXIDE, CARBON MONOXIDE, AMMONIA, FORMALDEHYDE, ACETALDEHYDE.		
UPPER EXPLOSION LIMIT	LOWER EXPLOSION LIMIT	AUTOIGNITION TEMP(C)
NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE
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: AVOID CONTACT WITH STRONG ACIDS, OXIDIZING AGENTS		
REACTIVE METALS AND NITRITES.		
REACTIVITY AND UNDER WHAT CONDITIONS: MORPHOLINE MAY BE EXPLOSIVE IN CONTACT WITH OXIDIZING AGENTS.		
HAZARDOUS POLYMERIZATION WILL NOT OCCUR.		
HAZARDOUS DECOMPOSITION PRODUCTS: THERMAL DECOMPOSITION MAY EVOLVE NITROUS OXIDES. CARBON MONOXIDE, CARBON DIOXIDE, CARBON MONOXIDE, AMMONIA, FORMALDEHYDE, ACETALDEHYDES.		

## SECTION VI - HEALTH HAZARD DATA

ROUTE OF ENTRY:		
SKIN CONTACT: YES	SKIN ABSORPTION: YES	EYE CONTACT: YES
INHALATION: YES	INGESTION: YES	



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EFFECTS OF ACUTE EXPOSURE TO MATERIAL:  
EYES-CONTACT MAY CAUSE STINGING, BURNING, INTENSE WATERING, CONJUNCTIVITIS. MAY PRODUCE CORNEAL EDEMA.  
SKIN- CONTACT MAY CAUSE ITCHING, TINGLING, BURNING, INFLAMMATION.  
INHALATION-OF MIST MAY CAUSE SEVERE IRRITATION OF RESPIRATORY TRACT, COUGHING, SHORTNESS OF BREATH.  
INGESTION-MAY CAUSE SEVERE IRRITATION AND POSSIBLE BURNS TO GASTROINTESTINAL TRACT. TOXIC BY INGESTION. CAN CAUSE NAUSEA, VOMITING.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL:  
INHALATION-MAY CAUSE CHEMICAL BRONCHITIS.

LD 50 OF MATL.	LC 50 OF MATL.	EXPOSURE LIMIT(S)	IRRITANCY OF MATL
NOT AVAILABLE	NOT AVAILABLE	NOT AVAILABLE	TOXIC

SENSITIZATION OF MATERIAL	SYNERGISTIC MATERIALS
NOT AVAILABLE	NOT AVAILABLE

CARCINOGENICITY, REPRODUCTIVE EFFECTS, TERATOGENICITY, MUTAGENICITY NOT A CARCINOGEN.  
REPRODUCTIVE EFFECTS-CYLCOHEXYLAMINE CAUSES PATERNAL EFFECTS IN ANIMAL STUDIES AT MODERATE TO HIGH DOSAGES.  
MUTAGENICITY-CYLCOHEXYLAMINE CAUSES SOME CHROMASOMAL ABBERATRIONS IN ANIMALS. SEVERAL OTHER INVESTIGATIONS HAVE NEGATIVE RESULTS.  
TERATOGENICITY-CYLCOHEXYLAMINE CAUSES POST-IMPLANT MORTALITY IN ANIMALS FROM DOSAGES NEAR THE LC50.  
MORPHOLINE MAY REACT WITH NITRITES TO FORM N-NITROSAMINES (KNOWN CARCINOGENS)

## SECTION VII - PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:

GLOVES: RUBBER OR VINYL  
RESPIRATORY: NIOSH APPROVED FOR VAPOURS.  
EYE: FACE SHIELD OR SAFETY GOGGLES  
CLOTHING: IMPERMEABLE  
OTHER: EYE WASH AND SAFETY SHOWER  
ENGINEERING CONTROLS (EG VENTILATION, ENCLOSED PROCESS): MECHANICAL RECOMMENDED.

LEAK AND SPILL PROCEDURE: CONTAIN SPILL. PROVIDE VENTILATION. REMOVE IGNITION SOURCES. TRANSFER MATERIAL TO SUITABLE CONTAINER FOR RECLAIM OR DISPOSAL. ABSORB REMAINING MATERIAL ONTO INERT ABSORBANT AND SCOOP INTO DISPOSAL CONTAINER.

WASTE DISPOSAL: DISPOSE IN ACCORDANCE WITH LOCAL, PROVINCIAL AND FEDERAL REGULATIONS.



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## SECTION VIII - FIRST AID MEASURES

PROCEDURES: EYES-IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR 15 MINUTES. IF PAIN OR IRRITATION PERSIST, SEEK MEDICAL ASSISTANCE. SKIN-REMOVE CONTAMINATED CLOTHING AND FLUSH AFFECTED AREA WITH WATER FOR 15 MINUTES. IF PAIN OR IRRITATION PERSIST, SEEK MEDICAL ASSISTANCE. LAUNDRY CLOTHING BEFORE REUSE. INHALATION-MOVE VICTIM TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET MEDICAL ATTENTION. INGESTION, IF SWALLOWED-DO NOT INDUCE VOMITING. GIVE WATER, MILK 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.	PACKING GROUP
CORROSIVE LIQUID, FLAMMABLE N.O.S. (CYCLOHEXYLAMINE, MORPHOLINE)	8 (3)	2920	II

HANDLING PROCEDURES AND EQUIPMENT: AVOID CONTACT WITH EYES, SKIN AND CLOTHING. WASH THOROUGHLY AFTER HANDLING.

STORAGE REQUIREMENTS: STORE IN A COOL, DRY WELL VENTILATED AREA AWAY FROM INCOMPATIBLE MATERIALS. KEEP CONTAINER CLOSED WHEN NOT IN USE.

SPECIAL SHIPPING INFORMATION: NONE

## SECTION X - HMIS HAZARD RATING INFORMATION

FLAMMABILITY	REACTIVITY	HEALTH
2	0	2

## SECTION XI - PREPARATION DATE OF MSDS

PREPARED BY: TECHNICAL DEPARTMENT      TELEPHONE # (905) 456-9444  
REVIEWED: DECEMBER 13, 2002

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