



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, E

MATERIAL REFERENCE NO: 577700

SECTION I - MATERIAL IDENTIFICATION AND USE

MATERIAL NAME/I.D.: KEMTREET RT 777	
CHEMICAL NAME: NOT APPLICABLE	CHEMICAL FAMILY: AMINE MIXTURE
CHEMICAL FORMULA: MIXTURE	MOLECULAR WEIGHT: NOT APPLICABLE
SYNONYMS: BLENDED NEUTRALIZING AMINES	
MATERIAL USE: RETURN LINE TREATMENT	

SECTION II - HAZARDOUS INGREDIENTS OF MATERIAL

HAZARDOUS INGREDIENTS	APPROX. % CONCENT.	TWA PPM	C.A.S. NUMBERS	LD 50 ORAL, RAT
MORPHOLINE	3.0-7.0	20	110-91-8	1450 MG/KG
CYCLOHEXYLAMINE	3.0-7.0	10	108-91-8	156 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	0.983	NOT AVAILABLE
VAPOUR DENSITY (AIR=1)	EVAPORATION RATE	SOLUBILITY IN WATER
NOT ESTABLISHED	NOT ESTABLISHED	(20°C) COMPLETE
BOILING POINT (C)	FREEZING POINT (C)	% VOLATILE (BY WEIGHT)
NOT AVAILABLE	NOT AVAILABLE	100
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: OPEN FLAME, SPARKS, HIGH			
TEMPERATURES			

MEANS OF EXTINCTION: ALCOHOL FOAM, CARBON DIOXIDE, WATER SPRAY.			

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: MINIMUM 29 (C)			

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, KETONES.			

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-CORROSIVE. CONTACT MAY CAUSE BURNS, STINGING, INTENSE, WATERING, SEVERE DAMAGE AND BLINDNESS.
SKIN- CORROSIVE. CONTACT MAY CAUSE BURNS WITH DISCOMFORT OR PAIN, REDNESS, SWELLING, TISSUE DAMAGE.
INHALATION-OF MIST MAY CAUSE SEVERE IRRITATION OF RESPIRATORY TRACT, NASAL DISCOMFORT AND DISCHARGE, CHEST PAIN, COUGHING. VAPOURS MAY CAUSE PULMONARY EDEMA.
INGESTION-MAY CAUSE SEVERE IRRITATION AND POSSIBLE BURNS TO DIGESTIVE TRACT. MAY CAUSE INFLAMMATION OF MOUTH, THROAT, ESOPHAGUS AND STOMACH. TOXIC BY INGESTION. CAN CAUSE NAUSEA, VOMITING, LOSS OF APPETITE.

EFFECTS OF CHRONIC EXPOSURE TO MATERIAL:
SKIN-PROLONGED OR WIDESPREAD CONTACT MAY RESULT IN ABSORPTION OF POTENTIALLY HARMFUL AMOUNTS OF MATERIAL.

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: IMPERVIOUS (i.e. RUBBER OR VINYL)
RESPIRATORY: NIOSH APPROVED FOR VAPOURS. USE A POSITIVE-PRESSURE AIR-SUPPLIED RESPIRATOR IF EXPOSURE LEVELS ARE HIGH.
EYE: FACE SHIELD OR SAFETY GOGGLES
CLOTHING: IMPERMEABLE
OTHER: EYE WASH AND SAFETY SHOWER
ENGINEERING CONTROLS (EG VENTILATION, ENCLOSED PROCESS): LOCAL EXHAUST RECOMMENDED IF USED IN CONFINED AREAS OR IF TLV IS EXCEEDED.

LEAK AND SPILL PROCEDURE: WEAR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT. ELIMINATE ALL IGNITION SOURCES. CONTAIN SPILL. PROVIDE VENTILATION. TRANFER MATERIAL TO SUITABLE CONTAINER FOR RECLAIM OR DISPOSAL. ABSORB REMAINING MATERIAL ONTO INERT ABSORBANT AND SCOOP INTO DISPOSAL CONTAINER. DO NOT ALLOW LIQUID TO FLOW INTO WATERWAYS. PRODUCT IS EXPECTED TO BE TOXIC TO AQUATIC LIFE.



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

SECTION VIII - FIRST AID MEASURES

|PROCEDURES: EYES-IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR AT
|LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET IMMEDIATE MEDICAL
|ASSISTANCE.
|SKIN-REMOVE CONTAMINATED CLOTHING AND FLUSH AFFECTED AREA WITH
|WATER FOR AT LEAST 15 MINUTES. GET IMMEDIATE MEDICAL ASSISTANCE.
|LAUNDER 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. SLOWLY GIVE 1-2
|GLASSES OF WATER OR MILK. GET IMMEDIATE MEDICAL ATTENTION. NEVER
|GIVE ANYTHING BY MOUTH TO A CONVULSING OR UNCONSCIOUS PERSON.

|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)	8 (3)	2920	II

|HANDLING PROCEDURES AND EQUIPMENT: AVOID CONTACT WITH EYES, SKIN AND
|CLOTHING. USE IN WELL-VENTILATED AREA. 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
3	0	2

SECTION XI - PREPARATION DATE OF MSDS

|PREPARED BY: TECHNICAL DEPARTMENT TELEPHONE # (905) 456-9444
|REVIEWED: OCTOBER 10, 2009

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