



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: 577600

SECTION I - MATERIAL IDENTIFICATION AND USE

MATERIAL NAME/I.D.: KEMTREET RT 776	
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.	TWA PPM	C.A.S. NUMBERS	LD 50 ORAL, RAT
CYCLOHEXYLAMINE	7.0-13.0	10	108-91-8	156 MG/KG
MORPHOLINE	7.0-13.0	20	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) NOT AVAILABLE	SPECIFIC GRAVITY 0.986	VAPOUR PRESSURE (MM) NOT AVAILABLE
VAPOUR DENSITY (AIR=1) NOT AVAILABLE	EVAPORATION RATE NOT ESTABLISHED	SOLUBILITY IN WATER (20°C) SOLUBLE
BOILING POINT (C) NOT AVAILABLE	FREEZING POINT (C) NOT AVAILABLE	% VOLATILE (BY WEIGHT) >80
pH (10% SOLUTION) 10.5-11.5	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: COMBUSTIBLE |
|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: 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, KETONES. |

SECTION VI - HEALTH HAZARD DATA

|ROUTE OF ENTRY: |

|SK -3.5734(I)-3.5734(.)-3.5734()-3.5734(C)-3.5734(O)-3.5734(N)-3.5734(T)-3.5734(A)-3.5



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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: 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. |

|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 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
2	0	2

SECTION XI - PREPARATION DATE OF MSDS

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

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