



# 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: 574100

## SECTION I - MATERIAL IDENTIFICATION AND USE

MATERIAL NAME/I.D.: RT-741	
CHEMICAL NAME: NOT APPLICABLE	CHEMICAL FAMILY: ALKALINE BLEND
CHEMICAL FORMULA: MIXTURE	MOLECULAR WEIGHT: NOT APPLICABLE
SYNONYMS: NONE	
MATERIAL USE: RETURN LINE TREATMENT	

## SECTION II - HAZARDOUS INGREDIENTS OF MATERIAL

HAZARDOUS INGREDIENTS	APPROX. % CONCENT.	TLV PPM	C.A.S. NUMBERS	LD 50 ORAL, RAT
MORPHOLINE	10.0-30.0	20	110-91-8	1450 MG/KG

## SECTION III - PHYSICAL DATA FOR MATERIAL

PHYSICAL STATE: LIQUID
ODOUR AND APPEARANCE: CLEAR, COLOURLESS LIQUID; AMINE ODOUR.
ODOUR THRESHOLD (PPM)   SPECIFIC GRAVITY   VAPOUR PRESSURE (MM)
0.1   1.001   NOT AVAILABLE
VAPOUR DENSITY (AIR=1)   EVAPORATION RATE   SOLUBILITY IN WATER
NOT ESTABLISHED   (WATER = 1) 1.0   (20°C) COMPLETE
BOILING POINT (C)   FREEZING POINT (C)   % VOLATILE (BY WEIGHT)
>100 (EST.)   <0   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: VAPOURS MAY BE FLAMMABLE.

MEANS OF EXTINCTION: ALCOHOL FOAM, CO<sub>2</sub>, WATER SPRAY, DRY CHEMICAL.

|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 35 TCC

| HAZARDOUS COMBUSTION PRODUCTS: MAY EVOLVE NITROGEN OXIDES, CARBON  
| DIOXIDE, CARBON MONOXIDE, AMMONIA, ALDEHYDES, KETONES, IRRITATING  
| VAPOURS.

| UPPER EXPLOSION LIMIT | LOWER EXPLOSION LIMIT | AUTOIGNITION TEMP (C)  
| 1.8 (MORPHOLINE) | 10.8 (MORPHOLINE) | 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: STRONG ACIDS, OXIDIZING AGENTS, NITRITES AND  
| OTHER NITROSATING AGENTS.

|REACTIVITY AND UNDER WHAT CONDITIONS: NITROSAMINE MAY BE FORMED WHEN  
|MIXED WITH NITRITES OR OTHER NITROSATING AMINES. NITROSAMINES MAY  
|CAUSE CANCER.

| HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

| HAZARDOUS DECOMPOSITION PRODUCTS: NITROUS OXIDES, CARBON MONOXIDE,  
| CARBON DIOXIDE, AMMONIA, ALDEHYDES, KETONES, IRRITATING VAPOURS.

## 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-MAY CAUSE SEVERE IRRITATION, INTENSE WATERING, REDNESS. MAY  
|CAUSE CHEMICAL BURNS, EYE DAMAGE.  
|SKIN-MAY CAUSE IRRITATION, INFLAMMATION,REDNESS, POSSIBLE BURNS.  
|PROLONGED OR REPEATED CONTACT MAY RESULT IN ABSORPTION OF POTENTIALLY  
|HARMFUL AMOUNTS.  
|INHALATION-MAY CAUSE IRRITATION OF NOSE, EYES AND THROAT, COUGHING,  
|DIFFICULTY IN BREATHING. EXCESSIVE INHALATION MAY CAUSE BRONCHITIS,  
|PULMONARY EDEMA AND CHEMICAL PNEUMONITIS.  
|INGESTION-MAY CAUSE IRRITATION AND BURNING SENSATION OF LIPS, MOUTH  
|AND THROAT, PAIN IN SWALLOWING, GASTRO-INTESTINAL IRRITATION,  
|ABDOMINAL PAIN, NAUSEA AND VOMITING.  
|

|EFFECTS OF CHRONIC EXPOSURE TO MATERIAL: PROLONGED EXPOSURE MAY  
|CAUSE KIDNEY AND/OR LIVER DAMAGE.

|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  
|NONE KNOWN.  
|MORPHOLINE MAY REACT WITH NITRITES TO FORM N-NITROSAMINES (KNOWN  
| CARCINOGENS)  
|

## SECTION VII - PREVENTIVE MEASURES

|PERSONAL PROTECTIVE EQUIPMENT:

|TUMONIARBBB-ES



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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 |  
|ATTENTION.  
|SKIN-REMOVE CONTAMINATED CLOTHING AND FLUSH AFFECTED AREA WITH |  
|WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION. LAUNDER |  
|CLOTHING BEFORE REUSE.  
|INHALATION-MOVE VICTIM TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE |  
|OXYGEN. GET MEDICAL ATTENTION.  
|INGESTION-DO NOT INDUCE VOMITING. SLOWLY GIVE 1-2 GLASSES OF WATER |  
|OR MILK. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR |  
|CONVULSING PERSON. GET IMMEDIATE MEDICAL |  
|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, FLAMMABLE, N.O.S.	8(3)	2920	II
(MORPHOLINE)			

|HANDLING PROCEDURES AND EQUIPMENT: AVOID CONTACT WITH EYES, SKIN AND |  
|CLOTHING. USE IN ADEQUATELY VENTILATED AREAS. WASH THOROUGHLY AFTER |  
|HANDLING.  
|STORAGE REQUIREMENTS: STORE IN A COOL, DRY WELL VENTILATED AREA IN |  
|ORIGINAL CONTAINER. STORE 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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