KENCRO CHEMICALS

PRODUCT: HYDROCHLORIC ACID 20° BAUME - 31.45% (MURIATIC ACID)

SECTION 1: PRODUCT INFORMATION

T.D.G. CLASSIFICATION	8
UN NUMBER	1789
PACKING GROUP	II
PRODUCT NAME	HYDROCHLORIC ACID
WHMIS CLASSIFICATION	D-1A VERY TOXIC E CORROSIVE
CHEMICAL FORMULA	H-Cl
MOLECULAR WEIGHT	36.46
CHEMICAL FAMILY	INORGANIC ACID
MATERIAL USE	ACIDIZING (ACTIVATION) OF PETROLEUM WELLS; SOLVENT
ALTERNATE NAMES.	MURIATIC ACID, CHLOROHYDRIC ACID, HYDROGEN CHLORIDE

SECTION 2: HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	TLV	C.A.S. #	LD/50,ROUTE, SPECIE	LC/50,ROUTE, SPECIE
HYDROGEN CHLORIDE	31 - 36	5 PPM	7647-01-0	900 MG/KG (ORAL, RABBIT)	4701 PPM/30M

SECTION 3: PHYSICAL DATA

APPEARANCE	COLOURLESS, OR SLIGHTLY YELLOW LIQUID
PHYSICAL STATE	LIQUID
ODOUR	PUNGENT ODOUR
ODOUR THRESHOLD	< 1
VAPOUR PRESSURE (MMHG)	20
VAPOUR DENSITY (AIR=1)	1.27 (FOR HYDROGEN CHLORIDE GAS)
EVAPORATION RATE	N.AV.
BOILING POINT	85°C
FREEZING POINT	-40°C
PH	<1
SPECIFIC GRAVITY (WATER=1)	1.16
SOLUBILITY IN WATER (% W/W)	COMPLETELY SOLUBLE IN ALL PROPORTIONS
SOLUBILITY (OTHER)	BENZENE (SLIGHT); ALCOHOL (VERY SOLUBLE), ETHERS
COEFFICIENT OF WATER/OIL DIST.	N.AV.
VISCOSITY (CP @ 20°C)	1.75
% VOLATILE BY VOLUME	100
% VOLATILE BY ORGANIC COMPOUNDS	0

SECTION 4: FIRE AND EXPLOSION DATA

FLAMMABILITY	**NOT FLAMMABLE**
IF YES, UNDER WHICH CONDITIONS?	
EXTINGUISHING MEDIA	FOR LARGE FIRES USE EXTINGUISHING AGENTS COMPATIBLE WITH ACID AND APPROPRIATE FOR THE BURNING MATERIAL. AN ALL PURPOSE TYPE AFFF FOAM MAY BE USED ACCORDING TO FOAM MANUFACTURER'S

	RECOMMENDED TECHNIQUES. THE FOAM SUPPLIER SHOULD BE CONSULTED FOR RECOMMENDATIONS REGARDING FOAM TYPES AND DELIVERY RATES FOR SPECIFIC APPLICATIONS. USE CARBON DIOXIDE OR DRY CHEMICAL MEDIA FOR SMALL FIRES. IF ONLY WATER IS AVAILABLE, USE IT IN THE FORM OF A FOG.
SPECIAL PROCEDURES	AS APPROPRIATE FOR SURROUNDING MATERIALS/EQUIPMENT. WATER SPRAY SHOULD BE USED TO COOL CONTAINERS. WATER SPRAY MAY BE USED TO KNOCK DOWN ESCAPING VAPORS. USE SELF CONTAINED BREATHING APPARATUS AND SPECIAL PROTECTIVE CLOTHING. IF TANK, RAIL CAR OR TANK TRUCK IS INVOLVED IN FIRE, ISOLATE FOR 800 METERS (1/2 MILE) IN ALL DIRECTIONS. ALSO, CONSIDER INITIAL EVACUATION FOR 800 METERS (1/2 MILE) IN ALL DIRECTIONS.
FLASH POINT(C), METHOD	N.AP.
DECOMPOSITION TEMPERATURE	THERMALLY STABLE UP TO TEMPERATURES OF ABOUT 1500°C.
COMBUSTION AND THERMAL DECOMPOSITION PRODUCTS	HYDROGEN AND CHLORINE
AUTO IGNITION TEMPERATURE	N.AP.
T.D.G. FLAM. CLASS	
UPPER FLAMMABLE LIMIT (UFL) (% BY VOL)	N.AP.
LOWER FLAMMABLE LIMIT (LFL) (% BY VOL)	N.AP.
UNUSUAL FIRE AND EXPLOSION HAZARDS	NONE KNOWN
HAZARDOUS COMBUSTION PRODUCTS	N.AP.
EXPLOSION DATA	
SENSITIVITY TO STATIC DISCHARGE	NOT EXPECTED TO BE SENSITIVE TO STATIC DISCHARGE
SENSITIVITY TO IMPACT	NOT EXPECTED TO BE SENSITIVE TO MECHANICAL IMPACT.
RATE OF BURNING.	N.AP.
EXPLOSIVE POWER	NOT SENSITIVE

SECTION 5: REACTIVITY DATA

CHEMICAL STABILITY	
YES.	STABLE UNDER CONDITIONS OF NORMAL USE
NO, WHICH CONDITIONS?	KEEP AWAY FROM HEAT, FLAMES SPARKS AND OTHER IGNITION SOURCES.
COMPATIBILITY WITH OTHER SUBSTANCES:	
YES	
NO, WHICH ONES?	A STRONG MINERAL ACID, CONCENTRATED HYDROCHLORIC ACID IS INCOMPATIBLE WITH MANY SUBSTANCES AND HIGHLY REACTIVE WITH STRONG BASES, METALS, METALOXIDES, HYDROXIDES, AMINES, CARBONATES AND OTHER ALKALINE MATERIALS. INCOMPATIBLE WITH MATERIALS SUCH AS CYANIDES, SULFIDES, SULFITES, SULFURIC ACID, AND FORMALDEHYDE. CONTACT WITH METALS MAY PRODUCE FLAMMABLE HYDROGEN GAS. WHEN DILUTING, ADD ACID TO WATER. DO NOT ADD WATER TO ACID. COMBUSTIBLE MATERIALS. CYANIDES, SULFIDES, FORMALDEHYDE.
REACTIVITY CONDITIONS	EXCESSIVE HEAT, SPARKS AND OPEN FLAME. CONTAMINATION OF ANY KIND. REACTS VIOLENTLY AND EXPLOSIVELY WITH A WIDE VARIETY OF ORGANIC AND INORGANIC CHEMICALS INCLUDING ALCOHOL, CARBIDES, CHLORATES, PICRATES, NITRATES, METALS AND OTHER COMBUSTIBLE MATERIALS.
HAZARDOUS POLYMERIZATION	WILL NOT OCCUR. HYDROCHLORIC ACID IS A STABLE PRODUCT AND DOES NOT POLYMERIZE. HOWEVER, IT MAY INDUCE HAZARDOUS POLYMERIZATION WITH ALDEHYDES AND EPOXIDES.
CONDITIONS TO AVOID	KEEP AWAY FROM HEAT AND SOURCES OF IGNITION
HAZARDOUS PRODUCTS OF DECOMPOSITION	WHEN HEATED TO DECOMPOSITION, EMITS TOXIC HYDROGEN CHLORIDE FUMES. THERMAL OXIDATIVE DECOMPOSITION PRODUCTS TOXIC CHLORINE FUMES AND EXPLOSIVE HYDROGEN GAS.

SECTION 6: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY	
SKIN CONTACT	CORROSIVE! CONCENTRATED SOLUTIONS MAY CAUSE PAIN AND DEEP AND SEVERE BURNS TO THE SKIN. PROLONGED AND REPEATED EXPOSURE TO DILUTE SOLUTION OFTEN CAUSES IRRITATION, REDNESS, PAIN, DRYING AND CRACKING OF THE SKIN.
SKIN ABSORPTION	N.AV.

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EYE CONTACT	EXTREMELY CORROSIVE. THIS PRODUCT CAUSES CORNEAL SCARRING AND CLOUDING. GLAUCOMA, CATARACTS AND PERMANENT BLINDNESS MAY OCCUR. LOW CONCENTRATIONS OF VAPOUR OR MIST (10-35 ppm) CAN BE IMMEDIATELY IRRITATING, CAUSING REDNESS.
INHALATION	CORROSIVE. PRODUCT MAY CAUSE SEVERE IRRITATION OF THE NOSE, THROAT, AND RESPIRATORY TRACT. REPEATED AND/OR PROLONGED EXPOSURES MAY CAUSE PRODUCTIVE COUGH, RUNNING NOSE, BRONCHOPNEUMONIA, PULMONARY EDEMA (FLUID BUILD-UP IN LUNGS), AND REDUCTION OF PULMONARY FUNCTION.
INHALATION, CHRONIC	SEVERE EXPOSURES (E.G. 1000-2000 PPM), FOR EVEN A FEW MINUTES, CAN CAUSE A LIFE THREATENING ACCUMULATION OF FLUID IN THE LUNGS (PULMONARY EDEMA). SYMPTOMS OF PULMONARY EDEMA SUCH AS SHORTNESS OF BREATH CAN BE DELAYED FOR SEVERAL HOURS AFTER EXPOSURE.
INGESTION	CORROSIVE. WILL IMMEDIATELY CAUSE SEVERE CORROSION OF AND DAMAGE TO GASTROINTESTINAL TRACT. SYMPTOMS MAY INCLUDE DIFFICULTY IN SWALLOWING, INTENSE THIRST, NAUSEA, VOMITING, DIARRHEA AND IN SEVERE CASES, COLLAPSE AND DEATH.
EFFECTS OF ACUTE EXPOSURE	NONE KNOWN
LD 50 MATERIAL, SPECIES & ROUTE	SEE SECTION II
LC 50 MATERIAL, SPECIES & ROUTE	SEE SECTION II
EXPOSURE LIMIT OF MATERIAL	SEE SECTION II
IRRITANCY OF MATERIAL	SEE ABOVE
SENSITIZING CAPABILITY OF MATERIAL	N.AV.
CARCINOGENICITY OF MATERIAL	THE INGREDIENTS OF THIS PRODUCT ARE NOT CLASSIFIED AS CARCINOGENIC BY ACGIH (AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS) OR IARC (INTERNATIONAL AGENCY FOR RESEARCH ON CANCER), NOT REGULATED AS CARCINOGENS BY OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION), AND NOT LISTED AS CARCINOGENS BY NTP (NATIONAL TOXICOLOGY PROGRAM)
REPRODUCTIVE EFFECTS	FEMALE RATS WERE EXPOSED TO 450 MG/M3 FOR 1 HOUR EITHER PRIOR TO MATING OR ON DAY 9 OF PREGNANCY. DEVELOPMENT EFFECTS WERE OBSERVED IN THE OFFSPRING. HOWERVE, THIS EXPOSURE CAUSED TOXIC EFFECTS, INCLUDING MORTALITY IN MOTHERS.
SYNERGISTIC MATERIALS	NONE KNOWN
MUTAGENICITY	THE SIGNIFICANCE OF THE POSITIVE REPORTS IS QUESTIONABLE SINCE pH (ACIDITY) CAN INFLUENCE THE RESULTS OF SHORT-TERM TESTS.
TERATOGENICITY AND FETOTOXICITY	NO INFORMATION IS AVAILABLE AND NO ADVERSE TERATOGENIC/ EMBRYOTOXIC EFFECTS ARE ANTICIPATED
CHRONIC EFFECTS	REPEATED EXPOSURE TO LOW CONCENTRATIONS OF ACID MIST OR VAPOR MAY CAUSE REDNESS, SWELLING AND PAIN (DERMATITIS). EXPOSURE TO LOW CONCENTRATION OF ACID MIST OR VAPOR BY INHALATION MAY CAUSE BLEEDING OF NOSE AND GUMS, BRONCHITIS, STOMACH PAIN (GASTRITIS), AND BROWNISH DISCOLORATION AND DAMAGE TO TOOTH ENAMEL. DENTAL EROSION BECOMES MORE SEVERE WITH INCREASED EXPOSURE.

SECTION 7: PREVENTATIVE MEASURES

GLOVES/TYPE	GLOVES MADE OF NEOPRENE SHOULD BE IMPERVIOUS UNDER CONDITIONS OF USE
RESPIRATORY/TYPE	A NIOSH/MSHA APPROVED AIR-PURIFYING RESPIRATOR EQUIPPED WITH ACID GAS CARTRIDGES UP TO TEN TIMES THE TLV. AN AIR SUPPLIED RESPIRATOR IF CONCENTRATIONS ARE HIGH OR UNKNOWN. UP TO 50 PPM: CHEMICAL CARTRIDGE RESPIRATOR WITH CARTRIDGE (S) TO PROTECT AGAINST HYDROGEN CHLORIDE; OR GAS MASK WITH CANISTER TO PROTECT AGAINST HYDROGEN CHLORIDE OR POWERED AIR-PURIFYING RESPIRATOR WITH CARTRIDGE(S) TO PROTECT AGAINST HYDROGEN CHLORIDE. OR SUPPLIED AIR RESPIRATOR (SAR); OR FULL FACEPIECE SELF-CONTAINED BREATHING APPARATUS (SCBA).
EYE/TYPE	WEAR SPLASH RESISTANT CHEMICAL GOGGLES AND FULL FACE SHIELD. MAINTAIN EYE WASH FOUNTAIN AND QUICK-DRENCH FACILITIES IN WORK AREA.
FOOTWEAR/TYPE	BOOTS
CLOTHING /TYPE	PROTECTIVE CLOTHING MADE FROM NEOPRENE SHOULD BE IMPERVIOUS UNDER CONDITIONS OF USE, INCLUDING BOOTS, GLOVES, LAB COAT, APRON OR FULL BODY SUIT, AS APPROPRIATE, TO PREVENT SKIN CONTACT.
OTHER/TYPE	EYE BATH AND SAFETY SHOWER

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ENGINEERING CONTROLS	LOCAL EXHAUST VENTILATION SHOULD BE APPLIED WHEREVER THERE IS AN INCIDENCE OF POINT SOURCE EMISSIONS OR DISPERSION OF REGULATED CONTAMINANTS IN THE WORK AREA. THE MOST EFFECTIVE MEASURES ARE THE TOTAL ENCLOSURE OF PROCESSES AND THE MECHANIZATION OF HANDLING PROCEDURES TO PREVENT ALL PERSONAL CONTACT WITH HYDROCHLORIC ACID. BECAUSE OF THE HIGH POTENTIAL HAZARD ASSOCIATED WITH THIS SUBSTANCE, STRINGENT CONTROL MEASURES SUCH AS ENCLOSURE OR ISOLATION ARE RECOMMENDED WHEN DEALING WITH LARGE QUANTITIES. ELECTRICAL INSTALLATIONS SHOULD BE PROTECTED AGAINST THE CORROSIVE ACTION OF
ACID	VAPORS. SMOKING SHOULD BE PROHIBITED IN AREAS IN WHICH HYDROCHLORIC ACID IS STORED OR HANDLED. WHERE SUITABLE ENGINEERING CONTROLS ARE NOT IN PLACE OR ARE INADEQUATE, WEAR SUITABLE RESPIRATORY EQUIPMENT.
LEAK/SPILL	RESTRICT ACCESS TO AREA UNTIL COMPLETION OF CLEAN UP. ENSURE TRAINED PERSONNEL CONDUCT CLEAN UP. WEAR ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. DO NOT TOUCH SPILLED MATERIAL. REMOVE ALL IGNITION SOURCES (NO SMOKING, FLARES, SPARKS, OR FLAMES). ALL EQUIPMENT SHOULD BE GROUNDED. VENTILATE AREA. STOP LEAK IF POSSIBLE WITHOUT PERSONAL RISK.
SMALL SPILLS	COVER WITH DRY EARTH, SAND, OR OTHER NON-COMBUSTIBLE MATERIAL. USE CLEAN NON-SPARKING TOOLS TO COLLECT MATERIAL AND PLACE IT INTO
LOOSELY	COVERED PLASTIC CONTAINERS FOR LATER DISPOSAL.
LARGE SPILLS	ISOLATE SPILL OR LEAK AREA IMMEDIATELY FOR AT LEAST 25 - 50 METERS (80 - 60 FEET) IN ALL DIRECTIONS. KEEP UNAUTHORIZED PERSONNEL AWAY. STAY UPWIND. KEEP OUT OF LOW AREAS. PREVENT ENTRY INTO SEWERS AND CONFINED AREAS. DIKE WITH INERT MATERIAL (SAND, EARTH, FOAMED POLYURETHANE, FOAMED CONCRETE, ETC.). CONSIDER IN-SITU NEUTRALIZATION AND DISPOSAL. ABSORB BULK LIQUID WITH FLY ASH OR CEMENT POWDER. NEUTRALIZE WITH RECOMMENDED MATERIALS, TAKING CARE TO AVOID ANY FOAMING OR SPLATTERING THAT MAY OCCUR FROM THE NEUTRALIZATION REACTION OF THE ACID WITH THESE MATERIALS. MAKE SURE ALL LIQUID HAS BEEN THOROUGHLY CONTACTED AND ABSORBED BY THE DRY MATERIALS. TRANSFER ABSORBED SPILL MATERIAL AND ANY CONTAMINATED UNDERLYING SOIL TO A SUITABLE
CHEMICAL	AND WASTE CONTAINER. ENSURE ADEQUATE DECONTAMINATION OF
TOOLS	EQUIPMENT FOLLOWING CLEAN UP. WASHING DOWN OF SPILLS WITH
WATER IS	NOT RECOMMENDED AS THIS TENDS TO SPREAD THE
CONTAMINATION AND	INCREASES THE LIKELIHOOD OF PERCOLATING THE
ACID DOWN THROUGH THE	SOIL AND/OR OF UNCONTROLLED FLOW OF ACID INTO
SEWERS, STREAMS, OR	OTHER WATERS. HYDROCHLORIC ACID LEAKS, OR
SPILLS MUST NOT COME IN	CONTACT WITH ANY ACID SOLUBLE SULFIDE WASTES
(SUCH AS SEWERS) BECAUSE	OF THE DANGER OF EVOLVING HYDROGEN
SULFIDE GAS. COMPLY WITH FEDERAL,	PROVINCIAL/STATE AND LOCAL
REGULATIONS ON REPORTING RELEASES.	
WASTE DISPOSAL	DISPOSE OF WASTE MATERIAL AT AN APPROVED WASTE HAZARDOUS WASTE TREATMENT/DISPOSAL FACILITY IN ACCORDANCE WITH MUNICIPAL, PROVINCIAL AND FEDERAL REGULATIONS. DO NOT DISPOSE OF WASTE WITH NORMAL
GARBAGE	
	OR TO SEWER SYSTEMS. WHATEVER CANNOT BE SAVED FOR RECOVER OR RECYLCING, INCLUDING CONTAINERS, SHOULD BE MANAGED IN AN APPROPRIATE AND APPROVED WASTE DISPOSAL FACILITY. PROCESSING, USE OR CONTAMINATION OF THIS PRODUCT MAY CHANGE THE WASTE MANAGEMENT OPTIONS. TEST WASTE MATERIAL FOR CORROSIVITY, D002, PRIOR TO DISPOSAL.
DEACTIVIATING CHEMICALS.	LIME, LIMESTONE, SODIUM CARBONATE (SODA ASH), SODIUM BICARBONATE. THE FOLLOWING ABSORBENT MATERIALS HAVE BEEN TESTED AND RECOMMENDED FOR VAPOUR SUPPRESSION AND/OR CONTAINMENT OF 26% AND 35% HYDROCHLORIC ACID SOLUTIONS: A MIXTURE OF (75%) ANIONIC POLYACRYLAMIDE (R1779) AND (25%) NONIONIC POLYACRYLAMIDE (VERSICOL W25), INDIVIDUALLY USE THE ANIONIC POLYACRYLAMIDE OR NONIONIC POLYACRYLAMIDE, AND CELLOSIZEE WP3H (HYDROXYETHLY CELLULOSE).
HANDLING PROCEDURES	TAKE ALL PRECAUTIONS TO AVOID PERSONAL CONTACT. PREVENT RELEASE OF
AND EQUIPMENT	VAPOR OR MIST INTO WORKPLACE AIR. ALWAYS ENSURE ADEQUATE VENTILATION IN HANDLING AREAS. LOCATE SAFETY SHOWER & EYEWASH STATION CLOSE TO CHEMICAL HANDLING AREA. INSPECT CONTAINERS FOR LEAKS BEFORE HANDLING. USE EXTREME CARE WHEN DILUTING WITH WATER. ALWAYS ADD ACID TO WATER. CAUTION: HYDROGEN, A HIGHLY FLAMMABLE GAS, CAN ACCUMULATE TO EXPLOSIVE CONCENTRATIONS INSIDE DRUMS, OR ANY TYPES OF STEEL CONTAINERS OR TANKS UPON STORAGE. STORAGE CONTAINERS SHOULD
	BE VENTED ON A REGULAR BASIS BY TRAINED PERSONNEL ONLY. LABEL

CONTAINERS. KEEP CONTAINERS CLOSED WHEN NOT IN USE. EMPTY CONTAINERS MAY CONTAIN RESIDUES WHICH ARE HAZARDOUS.

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STORAGE NEEDS	STORE IN A COOL, DRY, WELL VENTILATED AREA, OUT OF DIRECT SUNLIGHT, AWAY FROM HEAT SOURCES, AND AWAY FROM INCOMPATIBLE MATERIALS SUCH AS OXIDIZING MATERIALS, REDUCING MATERIALS, AND STRONG BASES. USE CORROSION- RESISTANT STRUCTURAL MATERIALS AND LIGHTING AND VENTILATION SYSTEMS IN THE STORAGE AREA. USE CONTAINERS WHICH ARE SECURELY LABELED AND PROTECTED FROM DAMAGE. STORAGE DRUMS MUST BE COATED WITH AN ACID RESISTANT MATERIAL. RUBBER-LINED STEEL, PVC/FRP, FRP, HASTELLOY C-276, INCONEL 625, AND TANTALUM ARE THE MOST COMMONLY USED CORROSION-RESISTANT MATERIALS OF CONSTRCUTION AT ROOM TEMPERATURE. RUBBER, GLASS, PLASTIC AND CERAMIC WARE ARE ALSO RESISTANT TO CORROSION. VENTED CONTAINERS MUST BE USED AND MUST BE KEPT CLOSED WHEN NOT BEING USED. CONTAINERS SHOULD HAVE A SAFETY RELIEF VALVE. CARE SHOULD BE TAKEN TO RELEASE ANY INTERNAL PRESSURE SLOWLY. USE CORROSION-RESISTANT TRANSFER EQUIPMENT WHEN DISPENSING. LIMIT QUANTITY OF MATERIAL IN STORAGE. RESTRICT STORAGE AREA. POST WARNINGS SIGNS WHEN APPROPRIATE. KEEP STORAGE AREA SEPARATE FROM POPULATED WORK AREAS. INSPECT PERIODICALLY FOR DEFICIENCIES SUCH AS DAMAGE OR LEAKS. STORAGE TANKS SHOULD BE ABOVE GROUND AND SURROUNDED WITH DIKES CAPABLE OF HOLDING ENTIRE CONTENTS. IDEAL STORAGE TEMPERATURE IS 10-27°C. DO NOT EXPOSE SEALED CONTAINERS TO TEMPERATURES ABOVE 40°C.
OTHER PRECAUTIONS	IF STORED INDOORS, BUILDING FLOORS SHOULD BE ACID RESISTANT WITH DRAINS TO A RECOVERY TANK. ELECTRICAL EQUIPMENT SHOULD BE FLAMEPROOF AND PROTECTED AGAINST CORROSIVE ACTION. WOOD AND OTHER ORGANIC METERIALS SHOULD NOT BE USED ON FLOORS, STRUCTURAL MATERIALS AND VENTILATION SYSTEMS IN THE STORAGE AREA.
SPECIAL SHIPPING INSTRUCTIONS	SEE SECTION 1 TDG CLASSIFICATION
NOTE	CLEAN UP MATERIAL MAY BE A RCRA HAZARDOUS WASTE ON DISPOSAL. SPILLS MAY BE SUBJECT TO REPORTING REQUIREMENTS.

SECTION 8: FIRST AID MEASURES

GENERAL: CORROSIVE EFFECTS ON THE SKIN AND EYES MAY BE DELAYED AND DAMAGE MAY OCCUR WITHOUT THE SENSATION OR ONSET OF PAIN. STRICT ADHERENCE TO FIRST AID MEASURES FOLLOWING ANY EXPOSURE IS ESSENTIAL. SPEED IS ESSENTIAL. OBTAIN *IMMEDIATE* MEDICAL ATTENTION.

INHALATION: MOVE VICTIM TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION ONLY IF BREATHING HAS STOPPED. DO NOT USE MOUTH-TO-MOUTH METHOD IF VICTIM INGESTED OR INHALED THE SUBSTANCE: INDUCE ARTIFICIAL RESPIRATION WITH THE AID OF A POCKET MASK EQUIPPED WITH A ONE-WAY VALVE OR OTHER PROPER RESPIRATORY MEDICAL DEVICE.
GIVE CARDIOPULMONARY RESUSCITATION (CPR) IF THERE IS NO BREATHING AND NO PULSE. OXYGEN ADMINISTRATION MAY BE BENEFICIAL IN THIS SITUATION BUT SHOULD ONLY BE ADMINISTERED BY PERSONNEL TRAINED IN ITS USE. OBTAIN MEDICAL ATTENTION IMMEDIATELY. SYMPTOMS MAY APPEAR UP TO 48 HOURS AFTER EXPOSURE.

SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH RUNNING WATER FOR A MINIMUM OF 20 MINUTES. START FLUSHING WHILE REMOVING CONTAMINATED CLOTHING. IF IRRITATION PERSISTS, REPEAT FLUSHING. OBTAIN MEDICAL ATTENTION IMMEDIATELY. DO NOT TRANSPORT VICTIM UNLESS THE RECOMMENDED FLUSHING PERIOD IS COMPLETED OR FLUSHING CAN BE CONTINUED DURING TRANSPORT.

EYE CONTACT: IMMEDIATELY FLUSH EYES WITH RUNNING WATER FOR A MINIMUM OF 20 MINUTES. HOLD EYELIDS OPEN DURING FLUSHING. IF IRRITATION PERSISTS, REPEAT FLUSHING. OBTAIN MEDICAL ATTENTION IMMEDIATELY. DO NOT TRANSPORT VICTIM UNTIL THE RECOMMENDED FLUSHING PERIOD IS COMPLETED UNLESS FLUSHING CAN BE CONTINUED DURING TRANSPORT.

INGESTION: IF VICTIM IS ALERT AND NOT CONVULSING, RINSE MOUTH OUT AND GIVE 240-300 ML (1 CUP) OF WATER TO DILUTE MATERIAL. IF MILK IS AVAILABLE, IT MAY BE ADMINISTERED AFTER THE WATER HAS BEEN GIVEN. DO NOT INDUCE VOMITING. IF SPONTANEOUS VOMITING OCCURS, HAVE VICTIM LEAN FORWARD WITH HEAD DOWN TO AVOID BREATHING IN OF VOMITUS, RINSE MOUTH AND ADMINISTER MORE WATER. IMMEDIATELY TRANSPORT VICTIM TO AN EMERGENCY FACILITY. IMMEDIATELY CONTACT LOCAL POISON CONTROL CENTRE.

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NOTES TO PHYSICIAN: THIS PRODUCT CONTAINS MATERIAL THAT MAY CAUSE SEVERE PENUMONITIS IF ASPIRATED. IF INGESTION HAS OCCURRED LESS THAN 2 HOURS EARLIER, CARRY OUT CAREFUL GASTRIC LAVAGE; USE ENDOTRACHEAL CUFF IF AVAILABLE, TO PREVENT ASPIRATION. OBSERVE PATIENT FOR RESPIRATORY DIFFICULTY FROM ASPIRATION PNEUMONITIS. GIVE ARTIFICIAL RESUSCITATION AND APPROPRIATE CHEMOTHERAPY IF RESPIRATION IS DEPRESSED. FOLLOWING EXPOSURE, THE PATIENT SHOULD BE KEPT UNDER MEDICAL REVIEW FOR AT LEAST 48 HOURS AS DELAYED PNEUMONTITIS MAY OCCUR. DO NOT ATTEMPT TO NEUTRALIZE THE ACID WITH WEAK BASES SINCE THE REACTION WILL PRODUCE HEAT THAT MAY EXTEND THE CORROSIVE INJURY.

SECTION 9: PREPARATION INFORMATION

EMERGENCY PHONE NO	(613) 996 6666 (CANUTEC)
PREPARED BY	KENCRO CHEMICALS LIMITED
	(905) 827 4133
DATE	JUNE 2008

THE INFORMATION IS, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE COMPILED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO REVIEW THIS INFORMATION, SATISFY THEMSELVES AS TO ITS SUITABILITY AND COMPLETENESS AND PASS ON THE INFORMATION TO ITS EMPLOYEES OR CUSTOMERS. KENCRO CHEMICALS LIMITED DOES NOT ACCEPT RESPONSIBILITY FOR ANY LOSS OR DAMAGE WHICH MAY OCCUR FROM THE USE OF THIS INFORMATION.

LEGEND:

ACGIH	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
AFFF	AQUEOUS FILM FORMING FOAM
CAS #	CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
CPR	CARDIOPULMONARY RESUSCITATION
IARC	INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
LFL	LOWER FLAMMABLE LIMIT
MSHA	MINE SAFETY AND HEALTH ADMINISTRATION
N.AP	NOT APPLICABLE
N. AV	NOT AVAILABLE
NIOSH	NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
NTP	NATIONAL TOXICOLOGY PROGRAM
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
SAR	SUPPLIED AIR RESPIRATOR
SCBA	SELF CONTAINED BREATHING APPARATUS
TDG	TRANSPORTATION OF DANGEROUS GOODS ACT/REGULATIONS
TLV	THRESHOLD LIMIT VALUE
UFL	UPPER FLAMMABLE LIMIT
WHMIS	WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM

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