KENCRO CHEMICALS

PRODUCT : CHROMIC ACID

SECTION 1 : PRODUCT INFORMATION

T.D.G. CLASSIFICATION 5.1 (8)
T.D.G. NAME . . . . . CHROMIUM TRIOXIDE, ANHYDROUS
UN NUMBER 1463
PACKING GROUP II
PRODUCT NAME . . .. .CHROMIUM TRIOXIDE
WHIMIS CLASSIFICATION . . . . CLASS C – OXIDIZER
CLASS D-1A – VERY TOXIC (ACUTE EFFECTS)
CLASS D-2A – VERY TOXIC (CARCINOGENIC, RESPIRATORY SENSITIZER)
CLASS D-2B – TOXIC (SKIN SENSITIZER)
CLASS E – CORROSIVE
CHEMICAL FORMULA. Cr03
MOLECULAR WEIGHT 99.99
CHEMICAL FAMILY. . . . . METALLIC OXIDES. INORGANIC ACID

SECTION 2: HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	T.L.V.	C.A.S. #	LD/50,ROUTE,SPECIE	LC/50,ROUTE,SPECIE
CHROMIC ACID	99-100%	0.5mg/M3 * A1 (as Cr)	00133-82-0	57 mg/kg (DERMAL, RABBIT)	217 mg/M3 (INHALATION, RAT)

SECTION 3: PHYSICAL DATA

PHYSICAL STATE. . . . . SOLID, DARK RED FLAKES
ODOUR. . . . . .ODOURLESS
ODOUR THRESHOLD. . . . . .N. AV.
VAPOUR PRESSURE (MMHG) . . . . . NEGLIBLE
VAPOUR DENSITY (AIR=1) . . . . . N. AP.
EVAPORATION RATE . . . . . .N. AP.
BOILING POINT. 197ºC
FREEZING POINT . . . . . N. AV.
pH . . . . . 1.1 (1% AQUEOUS SOLUTION) AT 25ºC
SOLUBILITY . . . . . SOLUBLE IN ETHYL ALCOHOL, ETHYL ETHER, SULPHURIC ACID AND NITRIC ACID.
SOLUBILITY IN WATER (% W/W) . . . . . SOLUBLE IN WATER. 63% (BY WEIGHT) AT 25ºC. DELIQUESCENT.
COEFFICIENT OF WATER/OIL . . . . . .N. AV.
DIST.

SECTION 4 : FIRE AND EXPLOSION DATA

FLAMMABILITY. . . . . **NOT FLAMMABLE**

IF YES, UNDER WHICH CONDITIONS? STRONG OXIDIZERS CAN CAUSE IGNITION OF COMBUSTIBLE OR OXIDIZABLE MATERIALS. MAY DECOMPOSE VIOLENTLY ON CONTACT WITH METALS, OR THEIR SALTS, DUSTS OR OTHER CONTAMINANTS. DAMP MATERIAL MAY DECOMPOSE EXOTHERMICALLY AND MAY CAUSE COMBUSTION OF ORGANIC MATERIAL. OXYGEN RELEASE DUE TO EXOTHERMIC DECOMPOSITION MAY SUPPORT COMBUSTION. CONTACT WITH OXIDIZABLE AND COMBUSITBLE MATERIALS (WOOD, PAPER, AND ORGANIC MATERIALS SUCH AS SOLVENTS AND CARBON BASED CHEMICALS) CAN LEAD TO FIRES.
EXTINGUISHING MEDIA . . . . . USE MEDIA APPROPRIATE FOR SURROUNDING FIRE AND/OR MATERIALS. USE CARBON DIOXIDE OR DRY CHEMICAL MEDIA FOR SMALL FIRES. IF ONLY WATER IS AVAILABLE, USE IT IN THE FORM OF A FOG. SPILLED MATERIAL MAY CAUSE FLOORS AND CONTACT SURFACES TO BECOME SLIPPERY. USE SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING. PROTECTIVE CLOTHING FOR SKIN AND EYE PROTECTION SHOULD BE WORN TO PROTECT AGAINS CORROSIVE MATERIALS.
SPECIAL PROCEDURES . . . . . MINIMIZE AIR BORNE SPREADING OF DUST. ENFORCE **NO SMOKING** RULES IN AREA OF USE.
FLASH POINT(C), METHOD . . . . . NON-COMBUSTIBLE (**DOES NOT** BURN)

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AUTO IGNITION TEMPERATURE . . . . . N.AP
UPPER FLAMMABLE LIMIT. . . . . N.AP
(% BY VOL)
LOWER FLAMMABLE LIMIT. . . . . N.AP
(% BY VOL)
HAZARDOUS COMBUSTION . . . . . THERMAL DECOMPOSITION PRODUCTS ARE TOXIC AND MAY INCLUDE OXIDES OF
PRODUCTS. CHROMIUM AND IRRITATING GASES. DECOMPOSITION CAUSES EVOLUTION OF OXYGEN.

EXPLOSION DATA
SENSITIVITY TO STATIC. . . . . NOT EXPECTED TO BE SENSITIVE TO STATIC DISCHARGE
DISCHARGE
SENSITIVITY TO IMPACT. . . . . NOT EXPECTED TO BE SENSITIVE TO MECHANICAL IMPACT.
RATE OF BURNING. . . . . N. AV.
EXPLOSIVE POWER. . . . . .N. AV.

SECTION 5 : REACTIVITY DATA

CHEMICAL STABILITY **STABLE**
YES . . . . . .
NO, WHICH CONDITIONS? . .
COMPATIBILITY WITH OTHER SUBSTANCES:
YES . . . . . .
NO, WHICH ONES? . . . . . REDUCING AGENTS. STRONG ACIDS, ALKALIES, OILS, GLYCEROL, ANHYDRIDE, PYRIDINES, TURPENTINE, ORGANIC MATERIALS, COMBUSTIBLES, ALUMINIUM AND ITS ALLOYS, BRONZE. CORROSIVE TO IRON, STEEL, COPPER AND THEIR ALLOYS, SILVER, BRASS, NICKEL, POTASSIUM-SODIUM ALLOYS. AVOID CONTACT WITH WATER. STRONG OXIDIZERS CAN CAUSE IGNITION OF COMBUSTIBLE OR OXIDIZABLE MATERIALS. MAY DECOMPOSE VIOLENTLY ON CONTACT WITH METALS, OR THEIR SALTS, DUSTS OR OTHER CONTAMINANTS, ACETIC ACID, ACETONE, DIETHYL ETHER, EYTHYL ALCHOHOL, DIMETHYLFORMAMIDE, HYDROGEN SULPHIDE, METHANOL, NAPHTHALENE, POTASSIUM FERRICYANDIE, AMMONIA.
REACTIVITY CONDITIONS . . . . . NOT FLAMMABLE. DAMP MATERIAL MAY DECOMPOSE EXOTHERMICALLY AND MAY CAUSE COMBUSTION OR ORGANIC MATERIAL. OXYGEN RELEASE DUE TO EXOTHERMIC DECOMPOSTION MAY SUPPORT COMBUSTION.
HAZARDOUS POLYMERIZATION . . . . . WILL **NOT** OCCUR.
CONDITIONS TO AVOID . . . . . HIGH TEMPERATURES, SPARKS, OPEN FLAMES AND ALL OTHER SOURCES OF IGNITION. DECOMPOSE AT 197º TO 250º C. **DO NOT** STORE IN HUMID PLACES. MINIMIZE AIR BORNE SPREADING OF DUST. SWEEP UP IMMEDIATELY TO ELIMINATE SLIPPING HAZARD.
HAZARDOUS PRODUCTS . . . . . THERMAL DECOMPOSITION PRODUCTS ARE TOXIC AND MAY INCLUDE OXIDES OF
OF DECOMPOSITION CHROMIUM AND IRRITATING GASES. DECOMPOSITION CAUSES EVOLUTION OF OXYGEN.

SECTION 6: TOXICOLOGICAL PROPERTIES

EMERGENCY OVERVIEW : TOXIC/POISONOUS! CORROSIVE! TOXIC EFFECTS ARE PRINCIPALLY RELATED TO ITS CORROSIVE PROPERTIES. MAY BE FATAL IF INHALED, ABSORBED THROUGH SKIN, OR SWALLOWED. CAUSES SEVERE SKIN AND EYE BURNS. DUST IS IRRITATING TO RESPIRATORY TRACT. MAY CAUSE SKIN AND RESPIRATORY SENSITIZATION OR OTHER ALLERGIC RESPONSES. CANCER HAZARD. THIS MATERIAL IS A STRONG OXIDIZER WHICH IS STABLE UNDER NORMAL CONDITIONS, BUT CAN DECOMPOSE IF CONTAMINATED. CONTACT WITH OTHER COMBUSITIBLE MATERIAL CAN CAUSE FIRE. **DO NOT** STORE INDOORS ON WOODEN PALLETS OR NEAR COMBUSTIBLE MATERIALS (E.G. WOOD, PAPER, AND ORGANIC MATERIALS SUCH AS SOLVENTS AND CARBON CHEMICALS).
ROUTE OF ENTRY
SKIN CONTACT. . . . . CORROSIVE! CHROMIC ACID MAY CAUSE SYMPTOMS OF SKIN IRRITATION SUCH AS REDDENING, SWELLING, RASHING, SCALING OR BLISTERING. BRIEF CONTACT WITH DUST CAUSES IRRITATION. GREATER EXPOSURE CAUSES SEVERE BURNS. IN THE PRESENCE OF MOISURE (E.G. PERSPIRATION, HUMIDITY, TEARS), THE DUST DISSOLVES TO FORM CORROSIVE SOLUTION WHICH MAY CAUSE BURNS. AVOID HANDLING WHEN THE SKIN IS MOIST, WET OR ABRAIDED. MAY CAUSE SKIN SENSITIZATION OR OTHER ALLERGIC RESPONSES.
SKIN ABSORPTION. . . . . TOXIC BY WAY OF SKIN CONTACT. PROLONGED OR WIDE SPREAD SKIN CONTACT MAY RESULT IN THE ABSORPTION OF POTENTIALLY HARMFUL AMOUNTS OF MATERIAL.

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EYE CONTACT	EXTREMELY CORROSIVE. THIS PRODUCT CAUSES CORNEAL SCARRING AND CLOUDING. GLAUCOMA, CATARACTS AND PERMANENT BLINDNESS MAY OCCUR. PROLONGED OR REPATED EYE CONTACT MAY CAUSE CONJUNCTIVITIS.
INHALATION	TOXIC/POISONOUS! CORROSIVE! PRODUCT MAY CAUSE SEVERE IRRITATION OF THE NOSE, THROUGH RESPIRATORY TRACT. REPEATED AND/OR PROLONGED EXPOSURES MAY CAUSE COUGH, RUNNING NOSE, BRONCHOPNEUMONIA, PULMONARY OEDEMA (FLUID BUILD-UP IN LUNGS), AND REDUCTION OF PULMONONARY FUNCTION. MAY CAUSE RESPIRATORY SENSIZATION OR OTHER ALLERGIC RESPONSES.
INGESTION	TOXIC/POISONOUS! CORROSIVE! THIS PRODUCT CAUSES SEVERE BURNING AND PAIN IN MOUTH, THROAT AND ABDOMEN. VOMITING, DIARRHEA, AND PERFORATION OF THE ESOPHAGUS AND STOMACH LINING MAY OCCUR.
EFFECTS OF CHRONIC EXPOSURE. . . .	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. CHOMIUM VI COMPOUNDS ARE PRIMARY SKIN IRRITANTS AND THEY MAY CAUSE DERMATITIS, SKIN SENSITIZATION AND SKIN ULCERATION (“CHOMIC HOLES”). CHROMIUM VI COMPOUNDS MAY IRRITATE MUCOUS MEMBRANES CAUSING SNEEZING, IRRITATION, REDNESS OF THROAT, NOSEBLEEDS, AND PERFORATED NASAL SEPTA. RESPIRATORY SENSIZATION MAY DEVELOP. CHOMIUM VI COMPOUNDS HAVE BEEN IMPLICATED AS RESPONSIBLE FOR SUCH EFFECTS AS ULCERATED NASAL MUCOSA, PERFORATED EARDRUMS, PULMONARY EDEMA, KIDNEY DAMAGE, AND EPIGASTRIC PAIN. MAY CAUSE PULMONARY OEDEMA, LIVER DAMAGE, KIDNEY DAMAGE AND CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION. PULMONARY OEDEMA IS THE BUILD-UP OF FLUID IN THE LUNGS THAT MIGHT BE FATAL. SYMPTOMS OF PULMONARY OEDEMA, SUCH AS SHORTNESS OF BREATH, MAY NOT APPEAR UNTIL SEVERAL HOURS AFTER EXPOSURE AND ARE AGGRAVATED BY PHYSICAL EXERTION. LIVER DAMAGE IS CHARACTERIZED BY THE LOSS OF APPETITE, JAUNDICE AND OCCASIONAL PAIN IN THE UPPER LEFT-HAND SIDE OF THE ABDOMEN. SIGNS AND SYMPTOMS OF KIDNEY DAMAGE GENERALLY PROGRESS FROM OLIGURIA, TO BLOOD IN THE URINE TO TOTAL RENAL FAILURE. CNS DEPRESSION IS CHARACTERIZED BY HEADACHE, DIZZINESS, DROWSINESS, NAUSEA, VOMINTING AND IN-COORDINATION. SEVERE OVEREXPOSURES MAY LEAD TO COMA AND POSSIBLE DEATH DUE TO RESPIRATORY FAILURE.
LD 50 MATERIAL, SPECIES &	SEE SECTION II
ROUTE	
LC 50 MATERIAL, SPECIES &	SEE SECTION II
ROUTE	
EXPOSURE LIMIT OF MATERIAL	SEE SECTION II
IRRITANCY OF MATERIAL	CHROMIC ACID MAY CAUSE SKIN SENSITIZATION OR OTHER ALLERGIC RESPONSES AND RESPIRATORY SENSITIZATION OR OTHER ALLERGIC RESPONSES. ONCE SENSITIZED, AN INDIVIDUAL CAN REACT TO EXTREMELY LOW AIRBORNE LEVELS, EVEN BELOW THE TLV OR TO SKIN CONTACT.
CARCINOGENICITY OF MATERIAL. . . .	CHROMIUM TRIOXIDE, IS (ARE) CLASSIFIED AS CARCINOGENIC BY IARC, NTP, AND NIOSH.
MUTAGENICITY DATA	NO ADVERSE MUTAGENIC EFFECTS ARE ANTICIPATED.
TERATOGENICITY DATA	NO ADVERSE TERATOGENIC EFFECTS ARE ANTICIPATED
REPRODUCTIVE EFFECTS	NO ADVERSE REPRODUCTIVE EFFECTS ARE ANTICIPATED.
SYNERGISTIC MATERIALS.	NICKEL, CHROMIUM AND COBALT SALTS MAY ALL CROSS-REACT IN ALLERGIC RESPONSES.

SECTION 7 : PREVENTATIVE MEASURES

GLOVES & CLOTHING /TYPE.	GLOVES AND PROTECTIVE CLOTHING MADE FROM PVC, NITRILE RUBBER OR NATURAL RUBBER SHOULD BE IMPERVIOUS UNDER CONDITIONS OF USE. **DO NOT** USE GLOVES OR PROTECTIVE CLOTHING MADE FROM LEATHER. PRIOR TO USE, USER SHOULD CONFIRM IMPERMEABILITY. DISCARD CONTAMINATED GLOVES.
RESPIRATORY/TYPE.	**DO NOT** USE CHEMICAL CARTRIDGE RESPIRATORS WITH OXIDIZABLE SORBENTS (CHARCOAL). A NIOSH/MSHA – APPROVED FULL FACE PIECE AIR-PURIFYING RESPIRATOR EQUIPPED WITH DUST, MIST, FUME, ACID GAS CARTRIDGES FOR CONCENTRATIONS UP TO 0.5 MG/M3 IS RECOMMENDED. AIR-SUPPLIED RESPIRATOR IF CONCENTRATIONS ARE HIGHER OR UNKNOWN IS RECOMMENDED.
EYE/TYPE.	SAFETY GOGGLES WITH SIDE SHIELDS ARE RECOMMENEDED AS MINIMAL EYE PROTECTION. USE DUST-TIGHT CHEMICAL SAFETY GOGGLES WHERE THERE IS POTENTIAL FOR EYE CONTACT. USE FULL FACE SHIELD AND CHEMICAL SAFETY GOGGLES WHEN THERE IS POTENTIAL FOR CONTACT.
FOOTWEAR/TYPE.	WEAR IMPERMEABLE APRON AND BOOTS.

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OTHER/TYPE. . . . . .LOCATE SAFETY SHOWER AND EYEWASH STATION CLOSE TO HANDLING AREA. TAKE ALL PRECAUTIONS TO AVOID PERSONAL CONTACT.

ENGINEERING CONTROLS. . . . . RECOMMENDATIONS LISTED IN THIS SECTION INDICATE THE TYPE OF EQUIPMENT, WHICH WILL PROVIDE PROTECTION AGAINST OVER EXPOSURE TO THIS PRODUCT. CONDITIONS OF USE, ADEQUACY OF ENGINEERING OR OTHER CONTROL MEASURES, AND ACTUAL EXPOSURES WILL DICTATE THE NEED FOR SPECIFIC PROTECTIVE DEVICES AT YOUR WORKPLACE.
VENTILATION SHOULD BE CORROSION PROOF. LOCAL EXHAUST VENTILATION SHOULD BE CORROSION PROOF. MAKE UP AIR SHOULD BE SUPPLIED TO BALANCE AIR THAT IS REMOVED BY LOCAL OR GENERAL EXHAUST VENTILATION. VENTILATE LOW LYING AREA SUCH AS SUMPOS OR PITS WHERE DENSE DUST MAY COLLECT.

LEAK/SPILL. . . . . INFORMATION IN THIS SECTION IS FOR RESPONDING TO SPILLS, LEAKS OR RELEASES IN ORDER TO PREVENT OR MINIMIZE THE ADVERSE EFFECTS ON PERSONS, PROPERTY AND THE ENVIRONMENT. THERE MAY BE SEPCIFIC REPORTING REQUIREMENTS ASSOCIATED WITH SPILLS, LEAKS OR RELEASES, WHICH CHANGE FROM REGION TO REGION.
IN ALL CASES OF LEAK OR SPILL CONTACT VENDOR AT EMERGENCY NUMBER SHOWN ON THE LAST PAGE OF THIS MSDS. MINIMIZE AIR BORNE SPREADING OF DUST. WEAR RESPIRATOR, PROTECTIVE CLOTHING, AND GLOVES. AVOID DRY SWEEPING. DO NOT USE COMPRESSED AIR TO CLEAN SURFACES. VACUUMING IS PREFERRED. RETURN ALL MATERIAL POSSIBLE TO CONTAINER FOR PROPER DISPOSAL.

DEACTIVITATING CHEMICALS . . . . . HEXAVALENT CHROMIUM MAY BE REDUCED TO TRIVALENT CHROMIUM BY REDUCING AGENTS SUCH AS SODIUM BISULPHITE, SODIUM SULPHITE, FERROUS SULPHATE, FERROUS CHLORIDE OR SULPHUR DIOXIDE. THE REDUCED CHROMIUM MAY THEN BE PRECIPITATED AS THE CHROMIC OXIDE BY NEUTRALIZING TO A pH OF 7.5 WITH SODA ASH, CAUSTIC SODA OR LIME. NEUTRALIZATION IS EXPECTED TO BE EXOTHERMIC. EFFERVESCENCE MAY RESULT. RECOVER SPILLED MATERIAL ON ABSORBENTS, SUCH AS SAND OR VERMICULITE AND PLACE IN COVERED CONTAINERS FOR DISPOSAL.

WASTE DISPOSAL. . . . . .ANY RECOVERED PRODUCT CAN BE USED FOR THE USUAL PURPOSE, DEPENDING ON THE EXTENT AND KIND OF CONTAMINATION. WHERE A PACKAGE (DRUM OR BAG) IS DAMAGED AND/OR LEAKING, REPAIR IT, OR PLACE IT INTO AN OVER-PACK DRUM **IMMEDIATELY** SO AS TO AVOID OR MINIMIZE MATERIAL LOSS AND CONTAMINATION OF SURROUNDING ENVIRONMENT. REPLACE DAMAGED CONTAINERS **IMMEDIATELY** TO AVOID LOSS OF MATERIAL AND CONTAMINATION OF SURROUNDING ATMOSPHERE. COLLECT PRODUCT FOR RECOVERY OR DISPOSAL. FOR RELEASE TO LAND, OR STORM WATER RUN OF, CONTAIN DISCHARGE BY CONSTRUCTING DYKES OR APPLYING INERT ABSORBENT. FOR RELEASE TO WATER, UTLIZE DAMMING AND/OR WATER DIVERSION TO MINIMIZE THE SPREAD OF CONTAMINATION. VENTILATE ENCLOSED SPACES. NOTIFY APPLICABLE AUTHORITY IF RELEASE IS REPORTABLE AND COULD ADVERSELY AFFECT THE ENVIRONMENT.
THIS INFORMATION APPLIES TO THE MATERIAL AS MANUFACTURED. RE-EVALUATION OF THE PRODUCT MAY BE REQUIRED BY THE USER AT THE TIME OF DISPOSAL SINCE THE PRODUCT USES, TRANSFORMATIONS, MIXTURES AND PROCESSES MAY INFLUENCE WASTE CLASSIFICATION. DISPOSE OF WASTE MATERIAL AT AN APPROVED (HAZARDOUS) WASTE TREATMENT/DISPOSAL FACILITY IN ACCORDANCE WITH APPLICABLE LOCAL, PROVINCIAL, AND FEDERAL REGULATIONS. **DO NOT** DISPOSE OF WASTE WITH NORMAL GARBAGE TO SEWER SYSTEMS.

DISPOSAL OF PACKAGING . . . . . EMPTY CONTAINERS RETAIN PRODUCT RESIDUE AND CAN BE DANGEROUS. TREAT PACKAGE IN THE SAME MANNER AS THE PRODUCT.

HANDLING PROCEDURES. . . . . .USE NORMAL “GOOD” INDUSTRIAL HYGIENE AND HOUSEKEEPING PRACTICES AND EQUIPMENT MINIMIZE AIR BORNE SPREADING OF DUST. IMMERSE CONTAMINATED CLOTHING IN WATER **IMMEDIATELY** AND **KEEP WET** UNTIL DISCARDED OR LAUNDERED. USE ONLY WITH ADEQUATE VENTILATION AND AVOID BREATHING DUSTS. AVOID CONTACT WITH EYES, SKIN, OR CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING. WASH CONTAMINATED CLOTHING THOROUGHLY BEFORE RE-USE. **DO NOT** STORE OR TRANSPORT WITH FOOD OR FEED.

STORAGE NEEDS . . . . . STORE IN A COOL, DRY, AND WELL-VENTILATED AREA. KEEP AWAY FROM HEAT, SPARKS, AND FLAMES. KEEP CONTAINERS CLOSED. AVOID MOISTURE CONTAMINATION. PROLONGED STORAGE MAY RESULT IN LUMPING OR CAKING. **DO NOT** STORE ON WOODEN FLOORS OR WOODEN PALLETS.
EQUIPMENT FOR STORAGE, HANDLING, OR TRANSPORT SHOULD **NOT** BE MADE FROM THE FOLLOWING MATERIAL, OR WHERE APPLICABLE, ITS ALLOYS: BRASS, SILVER, ALUMINUM, AND ITS ALLOYS, BRONZE AND NICKEL. CORROSIVE TO IRON, STEEL, COPPER, AND THEIR ALLOYS. CONFIRM SUITABILITY OF ANY MATERIAL BEFORE USING.

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SPECIAL SHIPPING INSTRUCTIONS . . . SEE SECTION 1 TDG CLASSIFICATION

SECTION 8 : FIRST AID MEASURES

GENERAL GUIDELINES: PROMPT REMOVAL OF THE MATERIAL AND OBTAINING MEDICAL ATTENTION ARE ESSENTIAL FOR ALL CONTACT. REMOVE ALL CONTAMINATED CLOTHING AND **IMMEDIATELY** WASH THE EXPOSED AREAS WITH COPIOUS AMOUNTS OF WATER. CONTINUE THE FLUSHING DURING TRANSPORTATION TO THE EMERGENCY DEPARTMENT. CORROSIVE EFFECTS MAY BE DELAYED (UP TO 72 HOURS) AND DAMAGE MAY OCCUR WITH THE SENSATION OR ONSET OF PAIN. CONTACT LOCAL POISON CONTROL CENTRE FOR FURTHER GUIDANCE.

INHALATION . . . . . MOVE VICTIM TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION **ONLY** IF BREATHING HAS STOPPED. GIVE CARDIOPULMONARY RESESCITATION (CPR) ONLY IF THERE IS NO PULSE **AND** NO BREATHING. OBTAIN MEDICAL ATTENTION **IMMEDIATELY.**

SKIN CONTACT . . . . . 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 30 MINUTES, PREFERABLY UP TO 60 MINUTES. HOLD EYELIDS OPEN DURING FLUSHING. IF IRRITATION PERSISTS, REPEAT FLUSHING. **DO NOT** TRANSPORT VICTIM UNTIL RECOMMENDED FLUSHING PERIOD IS COMPLETED UNLESS FLUSHING CAN BE COMPLETED DURING TRANSPORT. WHERE POSSIBLE, CONSULT AN OPHTHALMOLOGIST.

INGESTION . . . . . **DO NOT** ATTEMPT TO GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. IF VICTIM IS ALERT AND NOT CONVULSING, RINSE MOUTH OUT AND GIVE ½ TO 1 GLASS OF WATER TO DILUTE MATERIAL. **IMMEDIATELY** CONTACT LOCAL POISON CONTROL CENTRE. VOMITING SHOULD ONLY BE INDUCED UNDER THE DIRECTION OF A PHYSICIAN OR A POISON CONTROL CENTRE. 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.

NOTES TO PHYSICIAN: . . . . . VICTIMS HAVING INGESTED CHROMIUM VI COMPOUNDS SHOULD BE GIVEN 5-10 GRAMS OF ASCORBIC ACID (**NOT** EFFERVESCENT TABLETS) DISSOLVED IN WATER. THIS DOSE CAN BE REPEATED SEVERAL TIMES.

MASSIVE OVEREXPOSRURE TO SOLUTIONS OF THIS PRODUCT COULD LEAD TO KIDNEY FAILURE AND DEATH. DEATH HAS BEEN AVOIDED IN SEVERAL SUCH CASES THROUGH THE USE OF EARLY RENAL DIALYSIS. IT HAS BEEN REPORTED THAT THERE IS LITTLE VALUE FROM CHELATING AGENTS, HOWEVER, ASCORBIC ACID ADMINISTRED INTRAVENOUSLY IS AN EFFECTIVE ANTIDOTE IN PREVENTING RENAL FAILURE. SKIN ULCERS MAY BE TREATED BY REMOVAL FROM EXPOSURE, DAILY CLEANSING AND DEBRIDEMENT OF ANTIBIOTIC CREAM AND DRESSING.

TREATMENT FOR CORROSIVE CHEMICAL CONTACT WITH SKIN:

1. IMMERSE THE EXPOSED PART **IMMEDIATELY** IN ICE WATER TO RELIEVE PAIN AND TO PREVENT SWELLING AND BLISTERING. PLACE COLD PACKS, ICE OR WET CLOTHS ON THE BURNED AREA IF IMMERSION IS NOT POSSIBLE.
2. REMOVE ANYTHING THAT IS CONSTRICTIVE, SUCH AS RINGS, BRACELETS OR FOOTWEAR, BEFORE SWELLING BEGINS.
3. COVER EXPOSED PART WITH A CLEAN, PREFERABLY STERILE, LINT-FREE DRESSING.
4. FOR SEVERE EXPOSURE, **IMMEDIATELY** SEEK MEDICAL ATTENTION AND MONITOR BREATHING AND TREAT FOR SHOCK.

DUE TO THE SEVERLY IRRITATING OR CORROSIVE NATURE OF THE MATERIAL, SWALLOWING MAY LEAD TO ULCERATION AND INFLAMMATION OF THE UPPER ALIMENTARY TRACT WITH HEMORRHAGE AND FLUID LOSS. ALSO, PERFORATION OF THE ESOPHAGUS OR STOMACH MAY OCCUR, LEADING TO MEDIASTINITIS OR PERITONITIS AND THE RESULTANT COMPLICATIONS. MUCOSAL INJURY FOLLOWING INGESTION OF THIS CORROSIVE MATERIAL MAY CONTRAINDICATE THE INDUCTION OF VOMITING IN THE TREATMENT OF POSSIBLE INTOXICATION. SIMILARLY, IF GASTRIC LAVAGE IS PERFORMED, INTUBATION SHOULD BE DONE WITH GREAT CARE. IF ORAL BURNS ARE PRESENT OR A CORROSIVE INGESTION IS SUSPECTED BY THE PATIENT'S HISTORY, PERFORM ESOPHAGOSCOPY AS SOON AS POSSIBLE. SCOPE SHOULD NOT BE PASSED BEYOND THE FIRST BURN BECAUSE OF THE RISK OF PERFORATION.

MEDICAL SUPERVISION OF ALL EMPLOYEES WHO HANDLE OR COME IN CONTACT WITH SENSITIZERS IS RECOMMENDED. THIS SHOULD INCLUDE PRE-EMPLOYMENT AND PERIODIC MEDICAL EXAMINATIONS. PERSONS SENSITIZED TO THIS MATERIAL SHOULD BE EXCLUDED FROM WORKING WITH THIS PRODUCT. ONCE A PERSON IS DIAGNOSED AS SENSITIZED, NO FURTHER EXPOSURE TO ANY SENSITIZER SHOULD BE PERMITTED.
MEDICAL CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT INCLUDE DISEASES OF THE SKIN, EYES OR RESPIRATORY TRACT, ASTHMA, PRE-EXISTING LIVER AND KIDNEY DISORDERS.

SECTION 9 : PREPARATION INFORMATION

EMERGENCY PHONE NO . . . . . (613) 996 6666 (CANUTEC)
PREPARED BY. . . . . .KENCRO CHEMICALS LIMITED
(905) 827 4133
DATE. . . . . .JUNE 2005

LEGEND:
ACGIH . . . . . AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
AFFF . . . . . .AQUEOUS FILM FORMING FOAM
CAS # . . . . . .CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
CFR . . . . . .CODE OF FEDERAL REGULATIONS
CPR . . . . . CARDIOPULMONARY RESUSCITATION
DOT . . . . . .DEPARTMENT OF TRANSPORT
IARC . . . . . .INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
LC_{50} . . . . . THE CONCENTRATION OF METERIAL IN AIR EXPECTED TO KILL 50% OF A GROUP OF TEST ANIMALS
LD_{50} . . . . . .LETHAL DOSE EXPECTED TO KILL 50% OF A GROUP OF TEST ANIMALS
LFL . . . . . .LOWER FLAMMABLE LIMIT
MSHA . . . . . .MINE SAFETY AND HELATH 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
PEL . . . . . PERMISSIBLE EXPOSURE LIMIT
PVC . . . . . POLYVINYL CHLORIDE
T.D.G. . . . . .TRANSPORTATION OF DANGEROUS GOODS ACT/REGULATIONS
TLV . . . . . THRESHOLD LIMIT VALUE
TWA . . . . . TIME-WEIGHTED AVERAGE
UFL . . . . . .UPPER FLAMMABLE LIMIT
WHMIS . . . . . WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM

DEFINITIONS

DELIQUESCENT . . . . . .SUBSTANCES THAT ABSORBS MOISTURE FROM THE AIR AND FORMS A WET SOLID OR SOLUTION ARE TERMED ‘DELIQUESCENT”.

SENSITIZATION . . . . . THE PROCESS WHEREBY A BIOLOGICAL CHANGE OCCURS IN THE INDIVIDUAL BECAUSE OF PREVIOUS EXPOSURE TO A SUBSTANCE AND, AS A RESULT, THE INDIVIDUAL REACTS MORE STRONGLY WHEN SUBSEQUENTLY EXPOSED TO THE SUBSTANCE.

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