



KENCRO

CHEMICALS

CHROMIC ACID

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT IDENTIFIER: CHROMIUM TRIOXIDE, ANHYDROUS
PRODUCT USE: CHROMIUM PLATING, TIMBER TREATMENT, MEDICINE, CATALYTIC AGENT, PIGMENT, COLOURANT, OXIDIZERS, GLASS COLOURING, OXIDE CRACKING, TEXTILE MORDANT
CHEMICAL FAMILY: METALLIC OXIDES, INORGANIC ACID
SUPPLIER'S NAME AND ADDRESS: KENCRO CHEMICALS LIMITED
2172 WYECROFT RD., UNIT #4
OAKVILLE, ON
L6L 5V6
905-827-4133
24 HR. EMERGENCY NUMBER: 613-996-6666 (CANUTEC)

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS	C.A.S. #	WT.%	LC50 INHALATION	LD50 DERMAL
CHROMIUM TRIOXIDE	00133-82-0	99-100%	217MG/M ³ (RAT)	57MG/KG (RABBIT)

SECTION 3: HAZARDS IDENTIFICATION

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.

SIGNS AND SYMPTOMS OF SHORT-TERM EXPOSURE:

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 MOISTURE (EG. PERSPIRATION, HUMIDITY, TEARS), THE DUST DISSOLVES TO FORM CORROSIVE SOLUTION WHICH MAY CAUSE BURNS. AVOID HANDLING WHEN THE SKIN IS MOIST.

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.

EYE CONTACT: EXTREMELY CORROSIVE. THIS PRODUCT CAUSES CORNEAL SCARRING AND CLOUDING. GLAUCOMA, CATARACTS AND PERMANENT BLINDNESS MAY OCCUR. PROLONGED OR REPEATED 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 EDEMA (FLUID BUILD UP IN LUNGS), AND REDUCTION OF PULMONARY FUNCTION. MAY CAUSE RESPIRATORY SENSITIZATION 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.

POTENTIAL CHRONIC HEALTH EFFECTS:

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 EXPOSURE IS ESSENTIAL. CHROMIUM 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 SENSITIZATION MAY DEVELOP. CHROMIUM 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 EDEMA, LIVER DAMAGE, KIDNEY DAMAGE AND CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION. PULMONARY EDEMA IS THE BUILD-UP OF FLUID IN THE LUNGS THAT MIGHT BE FATAL. SYMPTOMS OF PULMONARY EDEMA, 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, VOMITING AND IN-COORDINATION. SEVERE OVEREXPOSURES MAY LEAD TO COMA AND POSSIBLE DEATH DUE TO RESPIRATORY FAILURE.

SECTION 4: FIRST AID MEASURES

- GENERAL:** 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 RESUSCITATION (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 OVEREXPOSURE 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 ADMINISTERED 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 SEVERELY 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 MEDIASTITIS 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 5: FIRE FIGHTING MEASURES

FIRE HAZARDS/CONDITION OF FLAMMABILITY:

NOT FLAMMABLE. 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 COMBUSTIBLE MATERIALS (WOOD, PAPER, AND ORGANIC MATERIALS SUCH AS SOLVENTS AND CARBON BASED CHEMICALS) CAN LEAD TO FIRES.

FLASH POINT:	NON-COMBUSTIBLE	FLASH POINT METHOD:	N/AP.
FLAME PROJECTION LENGTH:	N/AP	AUTO IGNITION TEMPERATURE:	N/AP.
LOWER FLAMMABLE LIMIT:	N/AP.	UPPER FLAMMABLE LIMIT:	N/AP.
(% BY VOL.)		(% BY VOL.)	

OXIDIZING PROPERTIES: STRONG OXIDIZER, STABLE UNDER NORMAL CONDITIONS, BUT CAN DECOMPOSE IF CONTAMINATED. CONTACT WITH OXIDIZABLE AND COMBUSTIBLE MATERIALS (WOOD, PAPER, AND ORGANIC MATERIALS SUCH AS SOLVENTS AND CARBON BASED CHEMICALS) CAN LEAD TO FIRES.

FLAME PROJECTION LENGTH: N/AP.

EXPLOSION DATA: SENSITIVITY TO MECHANICAL IMPACT/STATIC DISCHARGE:

NOT EXPECTED TO BE SENSITIVE TO MECHANICAL IMPACT OR STATIC DISCHARGE.

SUITABLE EXTINGUISHING MEDIA:

USE MEDIA APPROPRIATE FOR SURROUNDING FIRES AND/OR MATERIALS. USE CARBON DIOXIDE OR DRY CHEMICAL MEDIA FOR SMALL FIRES. IF ONLY WATER IS AVAILABLE, USE IT IN THE FORM OF FOG. SPILLED MATERIAL MAY CAUSE FLOORS AND CONTACT SURFACES TO BECOME SLIPPERY.

SPECIAL FIRE-FIGHTING PROCEDURES/EQUIPMENT:

USE SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING. PROTECTIVE CLOTHING FOR SKIN AND EYE PROTECTION SHOULD BE WORN TO PROTECT AGAINST CORROSIVE MATERIALS.

HAZARDOUS COMBUSTION PRODUCTS:

THERMAL DECOMPOSITION PRODUCTS ARE TOXIC AND MAY INCLUDE OXIDES OF PRODUCTS. CHROMIUM AND IRRITATING GASES. DECOMPOSITION CAUSES EVOLUTION OF OXYGEN.

SECTION 6: ACCIDENTAL RELEASE MEASURES

LEAK AND SPILL PROCEDURES:

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 SPECIFIC 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.

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.

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 OFF, CONTAIN DISCHARGE BY CONSTRUCTING DYKES OR APPLYING INERT ABSORBENT. FOR RELEASE TO WATER, UTILIZE 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.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES:

USE NORMAL "GOOD" INDUSTRIAL HYGIENE AND HOUSEKEEPING PRACTICES. MINIMIZE AIR BORNE SPREADING OF DUST. IMMERSER 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 REQUIREMENTS:

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.

INCOMPATIBLE MATERIALS:

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. MAY DECOMPOSE VIOLENTLY ON CONTACT WITH METALS, OR THEIR SALTS, DUSTS OR OTHER CONTAMINANTS, ACETIC ACID, ACETONE, DIETHYL ETHER, ETHYL ALCOHOL, DIMETHYLFORMAMIDE, HYDROGEN SULPHIDE, METHANOL, NAPHTHALENE, POTASSIUM FERRICYANIDE, AMMONIA.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS

INGREDIENTS	ACGIH	OSHA PEL	
	TLV	PEL	STEL
CHROMIC ACID	0.5 MG/M3 *A1 (as Cr)	N/AV.	N/AV.

SEE COMPOSITION/INFORMATION ON INGREDIENTS, SECTION 2.

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 SUMPS OR PITS WHERE DENSE DUST MAY COLLECT.

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 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 RECOMMENDED 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.

OTHER/TYPE:

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	SOLID FLAKES	APPEARANCE:	DARK RED
ODOUR:	ODOURLESS	ODOUR THRESHOLD:	N/AP.
PH:	1.1 (1% SOLUTION @ 25°C)	BOILING POINT:	197°C
SPECIFIC GRAVITY:	2.70 G/CM ³	MELTING/FREEZING POINT:	N/AV.
SOLUBILITY IN WATER:	SOLUBLE IN WATER 63% (BY WEIGHT) AT 25°C. DELIQUESCENT		
SOLUBILITY:	SOLUBLE IN ETHYL ALCOHOL, ETHYL ETHER, SULPHURIC ACID AND NITRIC ACID		
COEFFICIENT OF WATER/OIL		VAPOUR DENSITY (AIR=1):	N/AP.
DISTRIBUTION:	N/AV.	EVAPOURATION RATE:	N/AP.
MOLECULAR WEIGHT:	99.99		
MOLECULAR FORMULA:	CrO ₃		

SECTION 10: REACTIVITY AND STABILITY DATA

STABILITY AND REACTIVITY:

STABLE. DAMP MATERIAL MAY DECOMPOSE EXOTHERMICALLY AND MAY CAUSE COMBUSTION OF ORGANIC MATERIAL. OXIGEN RELEASE DUE TO EXOTHERMIC DECOMPOSITION MAY SUPPORT COMBUSTION.

CONDITIONS TO AVOID:

HIGH TEMPERATURES, SPARKS, OPEN FLAMES AND ALL OTHER SOURCES OF IGNITION. DECOMPOSES AT 197°C TO 250°C. DO NOT STORE ON WOODEN PALLETS OR NEAR COMBUSTIBLE MATERIALS. DO NOT STORE IN HUMID PLACES. MINIMIZE AIR BORNE SPREADING OF DUST. (SEE SECTION 7: INCOMPATIBLE MATERIALS).

HAZARDOUS DECOMPOSITION PRODUCTS:

THERMAL DECOMPOSITION PRODUCTS ARE TOXIC AND MAY INCLUDE OXIDES OF PRODUCTS. CHROMIUM AND IRRITATING GASES. DECOMPOSITION CAUSES EVOLUTION OF OXYGEN.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA: SEE SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS.

CARCINOGENIC STATUS: CLASSIFIED AS A CARCINOGENIC BY IARC, NTP AND NIOSH.

REPRODUCTIVE EFFECTS: NO ADVERSE REPRODUCTIVE EFFECTS ARE ANTICIPATED.

TERATOGENICITY: NO ADVERSE TETRATOGENIC EFFECTS ARE ANTICIPATED.

MUTAGENICITY: NO ADVERSE MUTAGENIC EFFECTS ARE ANTICIPATED.

SENSITIZATION TO MATERIAL:

MAY CAUSE SKIN AND RESPIRATORY TRACT SENSITIZATION OR OTHER ALLERGIC RESPONSES. ONCE SENSITIZED, AN INDIVIDUAL CAN REACT TO EXTREMELY LOW AIRBORNE LEVELS, EVEN BELOW THE TLV OR TO SKIN CONTACT.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

SYNERGISTIC MATERIALS: NICKEL, CHROMIUM, COBALT SALTS MAY ALL CROSS-REACT IN ALLERGIC RESPONSES.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS:

PREVENT FROM ENTERING INTO SOIL, DITCHES, SEWERS, WATERWAYS AND/OR GROUNDWATER.

IMPORTANT ENVIRONMENTAL CHARACTERISTICS:

WHEN RELEASED INTO THE SOIL, THIS MATERIAL MAY LEACH INTO GROUNDWATER. WHEN RELEASED INTO WATER, THIS MATERIAL IS NOT EXPECTED TO EVAPORATE SIGNIFICANTLY. WHEN RELEASED INTO THE AIR, THIS MATERIAL MAY BE REMOVED FROM THE ATMOSPHERE TO A MODERATE EXTENT BY WET DEPOSITION.

ECOTOXICOLOGICAL:

THIS MATERIAL IS EXPECTED TO BE TOXIC TO AQUATIC LIFE

SECTION 13: DISPOSAL CONSIDERATIONS

HANDLING FOR DISPOSAL: EMPTY CONTAINERS RETAIN PRODUCT RESIDUE AND CAN BE DANGEROUS. TREAT PACKAGE IN THE SAME MANNER AS THE PRODUCT.

METHOD OF DISPOSAL: 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 OR TO SEWER SYSTEMS.

SECTION 14: TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: CHROMIUM TRIOXIDE, ANHYDROUS
TDG CLASSIFICATION: CLASS 5.1 (8), UN 1463, PKG GRP II

SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION: C (OXIDIZER, D1A (VERY TOXIC-ACUTE EFFECTS), D2A (VERY TOXIC – CARCINOGENIC, RESPIRATORY SENSITIZER), D2B (TOXIC – SKIN SENSITIZER), E (CORROSIVE).

SECTION 16: OTHER INFORMATION

LEGEND:

ACGIH	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
CAS #	CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER
CPR	CARDIOPULMONARY RESUSCITATION
IARC	INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
LC	LETHAL CONCENTRATION
LD	LETHAL DOSE
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
PEL	PERMISSIBLE EXPOSURE LIMIT
PVC	POLYVINYL CHLORIDE
STEL	SHORT TERM EXPOSURE LIMIT
TDG	TRANSPORTATION OF DANGEROUS GOODS ACT/REGULATIONS
TLV	THRESHOLD LIMIT VALUE
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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MSDS PREPARATION DATE: (DD/MM/YYYY)
01/06/2011

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