



KENCRO

CHEMICALS

PRODUCT: SULPHURIC ACID 50%

SECTION 1: PRODUCT INFORMATION

T.D.G. CLASSIFICATION	8
UN NUMBER	2796
PACKING GROUP	II
PRODUCT NAME	SULPHURIC ACID
PRODUCT SYNONYM	SULFURIC ACID
WHMIS CLASSIFICATION	D1A E
CHEMICAL FORMULA	H ₂ SO ₄
CHEMICAL FAMILY	INORGANIC ACID
MATERIAL USE	INDUSTRIAL

SECTION 2: HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	T.L.V.	C.A.S. #	LD/50,ROUTE,SPECI E	LC/50,ROUTE,SPECI E
SULPHURIC ACID	0-51%	1 MG/M ³	7664-93-9	2140 MG/KG (ORAL,RAT)	510 MG/M ³ FOR 2 HRS (INHALATION,RAT)
<u>NON-HAZARDOUS:</u> WATER	51-100%	N.AV.	7732-18-5	N.AV.	N.AV.

SECTION 3: PHYSICAL DATA

APPEARANCE	CLEAR TO AMBER, HEAVY, OILY
PHYSICAL STATE	LIQUID
ODOUR	A SHARP PENETRATING ODOUR MAY EXIST IF IMPURITIES ARE PRESENT IN THE ACID
ODOUR THRESHOLD	N.AP.
VAPOUR PRESSURE (MMHG)	77.67% : 1.2 93.19% : 0.0016 98% : 0.002
VAPOUR DENSITY (AIR=1)	3.4 SULFURIC ACID COMPONENT
EVAPORATION RATE	N.AP.
BOILING POINT	77.67% : 193°C 93.19% : 276°C 98% : 330°C
FREEZING POINT	77.67% : -11.2°C 93.19% : -29.5°C 98% : -1.1°C
PH	0.3 (1 N SOLUTION @ 25 °C)
SPECIFIC GRAVITY (WATER=1)	77.67% : 1.7059 93.19% : 1.8354 98% : 1.8437 50.0% : 1.400
SOLUBILITY IN WATER (% W/W)	MISCIBLE IN ALL PROPORTIONS IN WATER.
COEFFICIENT OF WATER/OIL DIST.	N.AV.

SECTION 4: FIRE AND EXPLOSION DATA

FLAMMABILITY	NOT FLAMMABLE, NOT COMBUSTIBLE
IF YES, UNDER WHICH CONDITIONS?	REACTS WITH MOST METALS TO FORM EXPLOSIVE/FLAMMABLE HYDROGEN GAS.
EXTINGUISHING MEDIA	IF ONLY WATER IS AVAILABLE, USE IT IN THE FORM OF A FOG. USE DRY CHEMICAL OR CARBON DIOXIDE.
FOR SMALL FIRES	USE AN ALL PURPOSE TYPE AFFF FOAM ACCORDING TO FOAM
FOR LARGE FIRES	MANUFACTURER'S RECOMMENDED TECHNIQUES. THE FOAM SUPPLIER SHOULD BE CONSULTED FOR RECOMMENDATIONS REGARDING FOAM TYPES AND DELIVERY RATES FOR SPECIFIC APPLICATIONS.

PRODUCT: SULPHURIC ACID 50%

SPECIAL PROCEDURES	WEAR A NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING IF VAPORS OR MISTS ARE PRESENT. FOR FIGHTING FIRES IN CLOSE PROXIMITY TO SPILL OR VAPORS USE ACID-RESISTANT PERSONAL PROTECTIVE EQUIPMENT. EVACUATE RESIDENTS WHO ARE DOWNWIND OF FIRE. PREVENT UNAUTHORIZED ENTRY TO FIRE AREA. DIKE AREA TO CONTAIN RUNOFF AND PREVENT CONTAMINATION OF WATER SOURCES. NEUTRALIZE RUNOFF WITH LIME, SODA ASH OR OTHER SUITABLE NEUTRALIZING AGENTS. COOL CONTAINERS THAT ARE EXPOSED TO FLAME WITH STREAMS OF WATER UNTIL FIRE IS OUT.
FLASH POINT(C), METHOD	N.AP.
AUTO IGNITION TEMPERATURE	N.AP.
T.D.G. FLAM. CLASS	N.AP.
UPPER FLAMMABLE LIMIT (UFL) (% BY VOL)	N.AP.
LOWER FLAMMABLE LIMIT (LFL) (% BY VOL)	N.AP.
HAZARDOUS COMBUSTION PRODUCTS	OXIDES OF SULPHUR
OTHER FIRE/EXPLOSION	NOT FLAMMABLE BUT HIGHLY REACTIVE. STRONG DEHYDRATING AGENT, WHICH MAY CAUSE IGNITION OF FINELY DIVIDED COMBUSTIBLE MATERIALS ON CONTACT. REACTS VIOLENTLY WITH WATER WITH EVOLUTION OF HEAT CAN REACT WITH ORGANIC MATERIALS EXPLOSIVELY. REACTS WITH MANY METALS TO LIBERATE HYDROGEN GAS WHICH CAN FORM EXPLOSIVE MIXTURES WITH AIR. HYDROGEN, A HIGHLY FLAMMABLE GAS, CAN ACCUMULATE TO EXPLOSIVE CONCENTRATIONS INSIDE DRUMS, OR ANY TYPES OF STEEL CONTAINERS OR TANKS UPON STORAGE. OXIDES OF SULPHUR MAY BE PRODUCED IN FIRE.
EXPLOSION DATA	
SENSITIVITY TO STATIC DISCHARGE	N.AV
SENSITIVITY TO IMPACT	N.AV
RATE OF BURNING	N.AV
EXPLOSIVE POWER	N.AV

SECTION 5: REACTIVITY DATA

CHEMICAL STABILITY	
YES	UNDER NORMAL CONDITIONS
NO, WHICH CONDITIONS?	REACTS VIOLENTLY WITH WATER AND ORGANIC MATERIALS WITH EVOLUTION OF HEAT. UNDER FIRE CONDITIONS DECOMPOSES TO FORM SULPHUR DIOXIDE, SULPHUR TRIOXIDE, SULPHURIC ACID VAPOURS AND HYDROGEN GAS.
COMPATIBILITY WITH OTHER SUBSTANCES:	
YES	
NO, WHICH ONES?	CONTACT WITH ORGANIC MATERIALS (SUCH AS ALCOHOL, ACRYLONITRILE, CHLORATES, CARBIDES, EPICHLOROHYDRIN, FULMINATES, ISOPRENE, NITRATES AND PICRATES) MAY CAUSE FIRE AND EXPLOSIONS. CONTACT WITH METALS MAY PRODUCE FLAMMABLE HYDROGEN GAS. <u>WHEN DILUTING, ADD ACID TO WATER.</u> DO NOT ADD WATER TO ACID.
REACTIVITY CONDITIONS	EXCESSIVE HEAT, SPARKS AND OPEN FLAME.
CONDITIONS TO AVOID	KEEP AWAY FROM HEAT AND SOURCES OF IGNITION. AVOID TEMPERATURES, WHICH MAY HAVE A NEGATIVE EFFECT ON THE MATERIALS OF CONSTRUCTION USED IN EQUIPMENT.
CORROSIVITY TO METALS	SULPHURIC ACID CAN BE CORROSIVE TO MOST METALS, DEPENDING ON SUCH FACTORS AS ACID CONCENTRATION, TEMPERATURE AND IMPURITIES. CONCENTRATED SULFURIC ACID (CONTAINING MORE THAN 90 wt-% H ₂ SO ₄) CAN BE SAFELY HANDLED USING CARBON STEEL, CAST IRON, AND CERTAIN STAINLESS STEEL ALLOYS. THE RESISTANCE OF ALLOYS TO SULFURIC ACID CORROSION GENERALLY INCREASES WITH INCREASING CHROMIUM, MOLYBDENUM, COPPER, AND SILICON CONTENT. CORROSION TABLES AND/OR THE SUPPLIER SHOULD BE CONSULTED FOR FURTHER INFORMATION ON THE CORROSIVENESS OF SULPHURIC ACID TOWARDS METALS.
HAZARDOUS POLYMERIZATION	WILL NOT OCCUR.
HAZARDOUS PRODUCTS OF DECOMPOSITION	TOXIC GASES AND VAPORS (E.G. SULPHUR DIOXIDE, SULPHURIC ACID VAPORS/MISTS AND SULFUR TRIOXIDE) MAY BE RELEASED WHEN SULPHURIC ACID DECOMPOSES.

PRODUCT: SULPHURIC ACID 50%

SECTION 6: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY	
SKIN CONTACT	CAUSES BURNS, AND BROWNISH OR YELLOW STAINS. CONCENTRATED SOLUTIONS MAY CAUSE SECOND OR THIRD DEGREE BURNS WITH SEVERE NECROSIS. PROLONGED AND REPEATED EXPOSURE TO DILUTE SOLUTIONS MAY CAUSE IRRITATION, REDNESS, PAIN AND DRYING & CRACKING OF THE SKIN.
SKIN ABSORPTION	N.AV
EYE CONTACT	IMMEDIATE PAIN, SEVERE BURNS AND CORNEAL DAMAGE, WHICH MAY RESULT IN PERMANENT BLINDNESS.
INHALATION	CAUSES RESPIRATORY IRRITATION AND AT HIGH CONCENTRATIONS MAY CAUSE SEVERE INJURY, BURNS OR DEATH. EFFECTS OF EXPOSURE MAY BE DELAYED.
INHALATION, CHRONIC INGESTION	N.AV. CAUSES SEVERE IRRITATION OR BURNS OF THE MOUTH, THROAT AND ESOPHAGUS.
EFFECTS OF ACUTE EXPOSURE	SEVERE CHEMICAL BURNS TO EYES AND SKIN. SEVERITY OF BURN IS GENERALLY DETERMINED BY THE CONCENTRATION OF THE SOLUTION AND THE DURATION OF THE EXPOSURE.
EFFECTS OF CHRONIC EXPOSURE	AT HIGHER CONCENTRATIONS, EXPOSURE CAN LEAD TO SEVERE INFLAMMATION OF THE RESPIRATORY TRACT. REPEATED EXPOSURE MAY CAUSE CHRONIC BRONCHITIS WITH COUGH, PHLEGM, SHORTNESS OF BREATH AND EMPHYSEMA; PULMONARY EDEMA; EROSION OR DISCOLORATION OF TEETH. CORROSIVE EFFECTS ON THE SKIN AND EYES MAY BE DELAYED AND DAMAGE MAY OCCUR WITHOUT THE ONSET OF PAIN. REPEATED OVEREXPOSURE CAN LEAD TO CONTACT DERMATITIS, CHRONIC RUNNY NOSE, TEARING OF THE EYES, NOSEBLEEDS AND STOMACH UPSETS.
EXPOSURE LIMIT OF MATERIAL	1 mg/m ³ (0.25 ppm)
IRRITANCY OF MATERIAL	SKIN IRRITATION MAY BE AGGRAVATED IN INDIVIDUALS WITH EXISTING SKIN LESIONS. BREATHING OF VAPORS OR SPRAYS (MISTS) MAY AGGRAVATE ACUTE OR CHRONIC ASTHMA AND CHRONIC PULMONARY DISEASE SUCH AS EMPHYSEMA AND BRONCHITIS.
SENSITIZING CAPABILITY OF MATERIAL	REPEATED EXPOSURE TO SULPHURIC ACID MIST MAY INCREASE TOLERANCE IRRITANT EFFECTS. SENSITIZATION CAN DEVELOP AFTER BRIEF OR PROLONGED EXPOSURE, SUBSEQUENT EXPOSURES CAN RESULT IN ASTHMATIC ATTACKS.
CARCINOGENICITY OF MATERIAL	THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CONCLUDED THAT OCCUPATIONAL EXPOSURE TO STRONG INORGANIC ACID MISTS CONTAINING SULPHURIC ACID IS CARCINOGENIC TO MAN, CAUSING CANCER OF THE LARYNX (THE VOICE BOX) AND, TO A LESSER EXTENT, THE LUNG. ALTHOUGH NO DIRECT LINK HAS BEEN ESTABLISHED BETWEEN EXPOSURE TO SULPHURIC ACID ITSELF, AND CANCER IN MAN, EXPOSURE TO ANY MIST OR AEROSOL DURING THE USE OF THIS PRODUCT SHOULD BE AVOIDED AND, IN ANY CASE, KEEP EXPOSURES BELOW THE OCCUPATIONAL LIMIT FOR SULPHURIC ACID. THE NATIONAL TOXICOLOGY PROGRAM (NTP) DOES NOT CLASSIFY SULPHURIC ACID OR STRONG INORGANIC ACID MISTS AS KNOWN (OR REASONABLY ANTICIPATED TO BE) HUMAN CARCINOGENS.
REPRODUCTIVE EFFECTS.	SLIGHTLY EMBRYOTOXIC IN RABBITS (A MINOR, RARE SKELETAL VARIATION.
MUTAGENICITY DATA.	CYTOGENIC ANALYSIS (HAMSTER) OVARIES 4 mmol/L
TERATOGENICITY DATA	NOT TERATOGENIC IN MICE AND RABBITS.
SYNERGISTIC MATERIALS	NONE KNOWN

SECTION 7: PREVENTATIVE MEASURES

GLOVES/TYPE	IMPERVIOUS (i.e., PVC OR NEOPRENE)
RESPIRATORY/TYPE	A NIOSH/MSHA APPROVED AIR-PURIFYING RESPIRATOR EQUIPPED WITH ACID GAS/FUME, DUST, MIST CARTRIDGES FOR CONCENTRATIONS UP TO 10 mg/m ³ . AN AIR-SUPPLIED RESPIRATOR IF CONCENTRATIONS ARE HIGHER OR UNKNOWN.
EYE/TYPE	TIGHT FITTING CHEMICAL GOGGLES AND FACE SHIELD.
FOOTWEAR/TYPE	IMPERVIOUS (NEOPRENE OR PVC) BOOTS
CLOTHING /TYPE	ACID RESISTANT PROTECTIVE CLOTHING LIKE COVERALLS. ACID RESISTANT APRONS OR SUITS IF DANGER OF SPILLING OR SPLASHING. TROUSER LEGS SHOULD BE WORN OUTSIDE RUBBER BOOTS.

PRODUCT: SULPHURIC ACID 50%

OTHER/TYPE	EYE BATH AND SAFETY SHOWER SHOULD BE INSTALLED IN STORAGE & HANDLING AREAS.
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. VENTILATION CONTROL OF THE CONTAMINANT AS CLOSE TO ITS POINT OF GENERATION IS BOTH THE MOST ECONOMICAL AND SAFEST METHOD TO MINIMIZE PERSONNEL EXPOSURE TO AIRBORNE CONTAMINANTS. THE MOST EFFECTIVE MEASURES ARE THE TOTAL ENCLOSURE OF PROCESSES AND THE MECHANIZATION OF HANDLING PROCEDURES TO PREVENT ALL PERSONAL CONTACT WITH SULPHURIC ACID. ELECTRICAL INSTALLATIONS SHOULD BE PROTECTED AGAINST THE CORROSION ACTION OF ACID VAPORS. SMOKING SHOULD BE PROHIBITED IN AREAS IN WHICH SULPHURIC ACID IS STORED OR HANDLED.
LEAK/SPILL.	REMOVE ALL IGNITION SOURCES (NO SMOKING, FLARES, SPARKS OR FLAMES). ALL EQUIPMENT SHOULD BE GROUNDED. VENTILATE AREA. USE APPROPRIATE PERSONAL PROTECTION EQUIPMENT. PREVENT LIQUID FROM ENTERING SEWERS OR WATERWAYS. STOP OR REDUCE LEAK IF SAFE TO DO SO.
SMALL SPILLS	COVER WITH <u>DRY</u> 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	PREVENT LIQUID FROM ENTERING SEWERS OR WATERWAYS. DIKE WITH INERT MATERIAL (SAND, EARTH, ETC.). COLLECT INTO PLASTIC CONTAINERS FOR DISPOSAL. CONSIDER INSITU NEUTRALIZATION AND DISPOSAL. ENSURE ADEQUATE DECONTAMINATION OF TOOLS AND EQUIPMENT FOLLOWING CLEAN UP. COMPLY WITH FEDERAL, PROVINCIAL/STATE, AND LOCAL REGULATIONS ON REPORTING RELEASES.
WASTE DISPOSAL.	DO NOT DISPOSE OF WASTE WITH NORMAL GARBAGE, OR TO SEWER SYSTEMS. RESPONSIBILITY FOR PROPER WASTE DISPOSAL IS WITH THE OWNER OF THE WASTE. WORK WITH APPROPRIATE REGULATORY BODIES TO ENSURE COMPLIANCE WITH REGULATIONS. CONSIDER THE COLLECTION OF RESIDUAL SULPHURIC ACID INTO CONTAINERS FOR RECLAMATION OR DISPOSAL ONLY IF THE CONTAINER IS SUITABLE TO WITHSTAND THE MATERIAL. CONSIDER INSITU NEUTRALIZATION AND DISPOSAL. CLEAN-UP MATERIAL MAY BE A RCRA HAZARDOUS WASTE ON DISPOSAL. PROVINCIAL/STATE OR LOCAL REGULATIONS ARE COMPLEX AND MAY DIFFER FROM FEDERAL REGULATIONS. THE INFORMATION APPLIES TO THE MATERIAL AS MANUFACTURED, PROCESSING, NEUTRALIZING, USE OR CONTAMINATION MAY MAKE THE INFORMATION INAPPROPRIATE, INACCURATE OR INCOMPLETE.
HANDLING PROCEDURES EQUIPMENT	WEAR PERSONAL PROTECTION EQUIPMENT. DO NOT BREATHE SPRAYS OR AND MISTS. DO NOT INGEST. DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. KEEP IGNITION SOURCES AWAY FROM SULPHURIC ACID STORAGE, HANDLING AND TRANSPORTATION EQUIPMENT. CARBON STEEL, CAST IRON, AS WELL AS CERTAIN ALLOYS OR STAINLESS STEELS ARE SUITABLE FOR USE FOR ACID CONCENTRATIONS EQUAL TO OR GREATER THAN 93%. HOWEVER, THE EFFECT OF LOWER CONCENTRATIONS ON MATERIALS OF CONSTRUCTION CAN BE VERY COMPLEX. CONTACT PRODUCT SUPPLIER FOR SPECIFIC RECOMMENDATIONS WHEN HANDLING SULPHURIC ACID AT STRENGTHS LESS THAN 71%. INSPECT CONTAINERS FOR LEAKS BEFORE HANDLING. SECONDARY PROTECTIVE CONTAINERS MUST BE USED WHEN THIS MATERIAL IS BEING CARRIED. KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. ASSUME THAT EMPTY CONTAINERS CONTAIN RESIDUES, WHICH ARE HAZARDOUS. USE CORROSION-RESISTANT TRANSFER EQUIPMENT WHEN TRANSFERRING ACID.
STORAGE REQUIREMENTS	STORE ABOVE FREEZING POINT. ELEVATED TEMPERATURES WILL INCREASE THE CORROSION RATE OF MOST MATERIALS. STORE PACKAGED ACID IN A DRY, WELL, VENTILATED LOCATION PREFERABLY IN THE SUPPLIER'S CONTAINER. PROTECT THE LABEL AND KEEP IT VISIBLE. KEEP AWAY FROM COMBUSTIBLES, OXIDIZERS, BASES, OR METALLIC POWDERS. STORAGE TANKS SHOULD BE PROTECTED FROM WATER INGRESS, BE WELL VENTILATED, AND MAINTAINED STRUCTURALLY IN A SAFE AND RELIABLE CONDITION. SULPHURIC ACID WILL ATTACK SOME FORMS OF PLASTICS AND COATINGS. <u>ALWAYS ADD ACID TO WATER, NOT WATER TO ACID.</u> IF KEPT IN UPPER FLOORS OF BUILDINGS, FLOORS SHOULD BE ACID PROOF WITH DRAINS TO A RECOVERY TANK. EMPTY CONTAINERS ARE HAZARDOUS, MAY CONTAIN

PRODUCT: SULPHURIC ACID 50%

FLAMMABLE EXPLOSIVE LIQUID RESIDUE OR VAPOURS. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAMES. PROTECT CONTAINER FROM PHYSICAL DAMAGE. STORE AWAY FROM INCOMPATIBLE MATERIALS. STORE IN A COOL AND WELL VENTILATED AREA. KEEP CONTAINER CLOSED WHEN NOT IN USE.

SPECIAL SHIPPING INSTRUCTIONS SEE SECTION 1 T.D.G. CLASSIFICATION.

SECTION 8: FIRST AID MEASURES

INSTRUCTIONS: 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 MEDICAL ATTENTION IMMEDIATELY. PROMPT REMOVAL OF THIS MATERIAL FROM CONTACT WITH THE BODY IS OF UTMOST IMPORTANCE. START FIRST AID AT ONCE.

PRECAUTION: PERSONS ATTENDING THE VICTIM SHOULD AVOID DIRECT CONTACT WITH HEAVILY CONTAMINATED CLOTHING AND VOMITUS. WEAR IMPERVIOUS GLOVES WHILE DECONTAMINATING SKIN AND HAIR.

IN CONTACT WITH SKIN: IMMEDIATELY FLUSH SKIN WITH RUNNING WATER FOR A MINIMUM OF 20 MINUTES. START FLUSHING WHILE REMOVING CONTAMINATED CLOTHING. IF IRRITATION PERSISTS, REPEAT FLUSHING IMMEDIATELY. OBTAIN MEDICAL ATTENTION IMMEDIATELY. DO NOT TRANSPORT VICTIM UNLESS THE RECOMMENDED FLUSHING PERIOD IS COMPLETED OR FLUSHING CAN BE CONTINUED DURING TRANSPORT. WHILE THE PATIENT IS BEING TRANSPORTED TO A MEDICAL FACILITY, APPLY COMPRESSES OF ICED WATER. IF MEDICAL TREATMENT MUST BE DELAYED, IMMERSE THE AFFECTED AREA IN ICED WATER. IF IMMERSION IS NOT PRACTICAL, COMPRESSES OF ICED WATER CAN BE APPLIED. AVOID FREEZING TISSUES. DISCARD HEAVILY CONTAMINATED CLOTHING AND SHOES IN A MANNER THAT LIMITS FURTHER EXPOSURE. OTHERWISE, WASH CLOTHING SEPARATELY BEFORE REUSE.

IN CONTACT WITH THE EYES: 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.

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. OBTAIN MEDICAL ATTENTION IMMEDIATELY.

INGESTION: DO NOT INDUCE VOMITING. IF VICTIM IS ALERT AND NOT CONVULSING, RINSE MOUTH AND GIVE ½ TO 1 GLASS OF WATER TO DILUTE MATERIAL. IF SPONTANEOUS VOMITING OCCURS, HAVE VICTIM LEAN FORWARD WITH HEAD DOWN TO AVOID BREATHING IN OF VOMITUS, RINSE MOUTH AND ADMINISTER MORE WATER. IMMEDIATELY CONTACT LOCAL POISON CONTROL CENTER. VOMITING MAY NEED TO BE INDUCED BUT SHOULD BE DIRECTED BY A PHYSICIAN OR A POISON CONTROL CENTRE. IMMEDIATELY TRANSPORT VICTIM TO AN EMERGENCY FACILITY.

NOTES TO PHYSICIAN: THIS PRODUCT CONTAINS MATERIALS THAT MAY CAUSE SEVERE PNEUMONITIS IF ASPIRATED. IF INGESTION HAS OCCURRED LESS THAN TWO HOURS EARLIER, CARRY OUT FULL 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 DELAY PNEUMONITIS 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

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
IARC INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

PRODUCT: SULPHURIC ACID 50%

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
PVC	POLYVINYL CHLORIDE
T.D.G.	TRANSPORTATION OF DANGEROUS GOODS ACT/REGULATIONS
TLV	THRESHOLD LIMIT VALUE
UFL	UPPER FLAMMABLE LIMIT
WHMIS	WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM

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.