



KENCRO

CHEMICALS

SULPHURIC ACID

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY INFORMATION

PRODUCT IDENTIFIER: SULPHURIC ACID
PRODUCT USE: REAGENT, CHEMICAL INTERMEDIATE. USED IN MANUFACTURE OF FERTILIZERS, EXPLOSIVES, OTHER ACIDS, METAL PICKLING AND PETROLEUM PROCESSING.
CHEMICAL FAMILY: MINERAL ACIDS
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. % | LC ₅₀ (4 hr) (RAT. IHL ₅₀) | LD ₅₀ (ORAL, RAT) (RABBIT, DERMAL) |
|----------------|-----------|---------------|--|--|
| SULPHURIC ACID | 7664-93-9 | 90.0 - 100.00 | 255 mg/m ³ | 2140 mg/kg N/AV. |

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

COLOURLESS TO SLIGHTLY AMBER LIQUID. PUNGENT ODOUR.
DANGER! CONTACT WITH METALS MAY RELEASE SMALL AMOUNTS OF FLAMMABLE HYDROGEN GAS. TOXIC FUMES MAY BE RELEASED DURING A FIRE. REACTS VIOLENTLY WITH WATER AND OTHER ORGANIC MATERIALS WITH EVOLUTION OF HEAT.
CORROSIVE LIQUID. CAUSES EYE, SKIN AND DIGESTIVE TRACT BURNS. SEVERE RESPIRATORY IRRITANT.
POISON! MAY BE FATAL IF INHALED.
PROLONGED INHALATION OF AN INGREDIENT(S) IN THIS PRODUCT MAY CAUSE EDEMA OF THE LUNGS AND/OR LUNG DAMAGE.

SIGNS AND SYMPTOMS OF SHORT-TERM EXPOSURE:

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. DIRECT SKIN CONTACT MAY CAUSE CORROSIVE SKIN BURNS, DEEP ULCERATIONS AND POSSIBLY PERMANENT SCARRING. SEVERITY OF BURN IS GENERALLY DETERMINED BY THE CONCENTRATION OF THE SOLUTION AND THE DURATION OF THE EXPOSURE.

SKIN ABSORPTION: N/AV.

EYE CONTACT: IMMEDIATE PAIN, SEVERE CHEMICAL BURNS, CORNEAL DAMAGE AND POSSIBLY BLINDNESS CAN RESULT FROM DIRECT CONTACT.

INHALATION: MAY BE FATAL IF INHALED. MAY CAUSE SEVERE IRRITATION TO THE NOSE, THROAT AND RESPIRATORY TRACT. SYMPTOMS MAY INCLUDE COUGHING, CHOKING AND WHEEZING. INHALATION OF EXTREMELY HIGH CONCENTRATIONS COULD CAUSE SEVERE INJURY, BURNS, PULMONARY EDEMA (FLUID ACCUMULATION), OR DEATH. SYMPTOMS OF PULMONARY EDEMA (CHEST PAIN, SHORTNESS OF BREATH) MAY BE DELAYED. MAY RESULT IN UNCONSCIOUSNESS AND POSSIBLY DEATH.

INGESTION: MAY CAUSE SEVERE IRRITATION AND CORROSIVE DAMAGE IN THE MOUTH, THROAT AND STOMACH. SYMPTOMS MAY INCLUDE ABDOMINAL PAIN, VOMITING, BURNS, PERFORATIONS, BLEEDING AND EVENTUALLY DEATH.

POTENTIAL CHRONIC HEALTH EFFECTS:

PROLONGED OR REPEATED CONTACT MAY CAUSE SEVERE INFLAMMATION OF THE RESPIRATORY TRACT, DRYING, CRACKING AND DEFATTING OF THE SKIN. PROLONGED OR REPEATED INHALATION OF FUMES OR VAPOURS MAY CAUSE CHRONIC LUNG EFFECTS, SUCH AS BRONCHITIS, WITH COUGH, PHLEGM, SHORTNESS OF BREATH AND EMPHYSEMA, PULMONARY EDEMA AND TOOTH ENAMEL EROSION. PROLONGED OR REPEATED INHALATION MAY CAUSE SEVERE, PERMANENT RESPIRATORY IMPAIRMENT AND LUNG INJURY. 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.

OTHER IMPORTANT HAZARDS:

SEE TOXICOLOGICAL INFORMATION, SECTION 11.

SECTION 4: 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 MEDICAL ATTENTION IMMEDIATELY. PROMPT REMOVAL OF THIS MATERIAL FROM CONTACT WITH THE BODY IS OF UTMOST IMPORTANCE. START FIRST AID AT ONCE. PERSONS ATTENDING TO THE VICTIM SHOULD AVOID DIRECT CONTACT WITH HEAVILY CONTAMINATED CLOTHING AND VOMITUS. WEAR IMPERVIOUS GLOVES WHILE DECONTAMINATING SKIN AND HAIR.
- INHALATION:** IMMEDIATELY REMOVE PERSON TO FRESH AIR. IF BREATHING HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. 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. IF BREATHING IS DIFFICULT, GIVE OXYGEN BY QUALIFIED MEDICAL PERSONNEL ONLY. SEEK IMMEDIATE MEDICAL ATTENTION/ADVICE.
- SKIN CONTACT:** REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RUN A GENTLE STREAM OF WATER OVER THE AFFECTED AREA FOR 15 MINUTES. IF IRRITATION PERSISTS, REPEAT FLUSHING IMMEDIATELY. DO NOT RUB AREA OF CONTACT. SEEK IMMEDIATE MEDICAL ATTENTION/ADVICE. 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.
- EYE CONTACT:** IMMEDIATELY FLUSH EYES THOROUGHLY WITH RUNNING WATER FOR AT LEAST 20 TO 30 MINUTES. HOLD EYELIDS OPEN DURING FLUSHING. SEEK IMMEDIATE MEDICAL ATTENTION/ADVICE. DO NOT TRANSPORT VICTIM UNTIL THE RECOMMENDED FLUSHING PERIOD IS COMPLETED UNLESS FLUSHING CAN BE CONTINUED DURING TRANSPORT.
- INGESTION:** SEEK IMMEDIATE MEDICAL ATTENTION/ADVICE. DO NOT INDUCE VOMITING. HAVE VICTIM RINSE MOUTH WITH WATER, THEN GIVE ONE TO TWO GLASSES OF WATER TO DRINK. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. 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 CENTER. 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 5: FIRE FIGHTING MEASURES

FIRE HAZARDS/CONDITION OF FLAMMABILITY:

NOT FLAMMABLE UNDER NORMAL CONDITIONS OF USE. VAPOURS ARE HEAVIER THAN AIR AND COLLECT IN CONFINED AND LOW-LYING AREAS. VAPOUR CAN TRAVEL CONSIDERABLE

DISTANCE AND FLASHBACK TO A SOURCE OF IGNITION. CLOSED CONTAINERS MAY RUPTURE IF EXPOSED TO EXCESS HEAT OR FLAME DUE TO A BUILD-UP OF INTERNAL PRESSURE. CONTACT WITH METALS MAY RELEASE SMALL AMOUNTS OF FLAMMABLE HYDROGEN GAS. TOXIC FUMES MAY BE RELEASED DURING A FIRE. REACTS VIOLENTLY WITH A WIDE VARIETY OF ORGANIC AND INORGANIC CHEMICALS INCLUDING ALCOHOL, CARBIDES, CHLORATES, PICRATES, NITRATES AND METALS. REACTS VIOLENTLY WITH WATER AND ORGANIC MATERIALS WITH EVOLUTION OF HEAT. CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.

| | | | |
|---------------------------------|------------|-----------------------------------|-------|
| FLASH POINT: | N/AP. | AUTO IGNITION TEMPERATURE: | N/AV. |
| FLASH POINT METHOD: | N/AP. | UPPER FLAMMABLE LIMIT: | N/AP. |
| LOWER FLAMMABLE LIMIT: | N/AP. | (% BY VOL.) | |
| OXIDIZING PROPERTIES: | NONE KNOWN | | |
| FLAME PROJECTION LENGTH: | N/AP. | FLASHBACK OBSERVED: | 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 SUITABLE TO THE SURROUNDING FIRE SUCH AS WATER FOG OR FINE SPRAY, ALCOHOL, FOAMS, CARBON DIOXIDE AND DRY CHEMICAL. SOME CHEMICAL EXTINGUISHING AGENTS MAY REACT WITH THIS MATERIAL. USE CHEMICAL EXTINGUISHING AGENTS WITH CAUTION. USE WATERSPRAY WITH CAUTION. WATER MAY CAUSE SPATTERING OF HOT MATERIAL AND MAY SPREAD BURNING. FOR LARGE FIRES USE AN ALL PURPOSE TYPE AFFF FOAM ACCORDING TO FOAM MANUFACTURER'S RECOMMENDED TECHNIQUES. THE FOAM SUPPLIER SHOULD BE CONSULTED FOR RECOMMENDATIONS REGARDING FOAM TYPES AND DELIVERY RATES FOR SPECIFIC APPLICATIONS.

SPECIAL FIRE-FIGHTING PROCEDURES/EQUIPMENT:
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF CONTAINED BREATHING APPARATUS WITH FULL FACE PIECE OPERATED IN POSITIVE PRESSURE MODE. A FULL-BODY CHEMICAL RESISTANT SUIT SHOULD BE WORN. MOVE CONTAINERS FROM FIRE AREA IF SAFE TO DO SO. WATER SPRAY MAY BE USEFUL IN COOLING EQUIPMENT EXPOSED TO HEAT AND FLAME. 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.

HAZARDOUS COMBUSTION PRODUCTS:
SULPHUR OXIDES.

SECTION 6: ACCIDENTAL RELEASE MEASURES

LEAK AND SPILL PROCEDURES:

ALL PERSONS DEALING WITH CLEAN-UP SHOULD WEAR THE APPROPRIATE PROTECTIVE EQUIPMENT INCLUDING SELF-CONTAINED BREATHING APPARATUS. KEEP ALL OTHER PERSONNEL UPWIND AND AWAY FROM THE SPILL/RELEASE AREA. RESTRICT ACCESS TO AREA UNTIL COMPLETION OF CLEAN-UP. ENSURE SPILLED PRODUCT DOES NOT ENTER DRAINS, SEWERS, WATERWAYS OR CONFINED SPACES. FOR LARGE SPILLS, DIKE THE AREA TO PREVENT SPREADING. ALL EQUIPMENT SHOULD BE GROUNDED.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES:

USE IN A WELL VENTILATED AREA WEAR CHEMICALLY RESISTANT PROTECTIVE EQUIPMENT DURING HANDLING. AVOID BREATHING VAPOUR OR MIST. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. KEEP AWAY FROM HEAT AND SOURCES OF IGNITION. KEEP AWAY FROM METALS AND INCOMPATIBLES. WHEN PREPARING OR DILUTING SOLUTION, ALWAYS ADD ACID TO WATER, SLOWLY AND WITH STIRRING. WHEN DILUTING, ALWAYS ADD THE PRODUCT TO WATER. NEVER ADD WATER TO THE PRODUCT. LABEL CONTAINERS APPROPRIATELY. WASH THOROUGHLY AFTER HANDLING. KEEP CONTAINERS CLOSED WHEN NOT IN USE. GIVES OFF HYDROGEN BY REACTION WITH METALS. ASSUME THAT EMPTY CONTAINERS CONTAIN RESIDUES, WHICH ARE HAZARDOUS. USE CORROSION-RESISTANT TRANSFER EQUIPMENT WHEN TRANSFERRING ACID.

STORAGE REQUIREMENTS:

STORE IN A COOL, DRY, WELL-VENTILATED AREA. STORE AWAY FROM INCOMPATIBLES AND OUT OF DIRECT SUNLIGHT. STORAGE AREA SHOULD BE CLEARLY IDENTIFIED, CLEAR OF OBSTRUCTION AND ACCESSIBLE ONLY TO TRAINED AND AUTHORIZED PERSONNEL. INSPECT PERIODICALLY FOR DAMAGE OR LEAKS. NO SMOKING IN THE AREA. STORE IN CORROSION-RESISTANT CONTAINERS. SUITABLE CONTAINER AND PACKAGING MATERIALS FOR SAFE STORAGE: CARBON STEEL; TEFLON. CONTACT PRODUCT SUPPLIER FOR SPECIFIC PACKAGING RECOMMENDATIONS WHEN HANDLING SULPHURIC ACID AT STRENGTHS LESS THAN 77%. STORAGE TANKS SHOULD BE PROTECTED FROM WATER INGRESS, BE WELL VENTILATED AND

MAINTAINED STRUCTURALLY IN A SAFE AND RELIABLE CONDITION. EMPTY CONTAINERS ARE HAZARDOUS, MAY CONTAIN FLAMMABLE EXPLOSIVE LIQUID RESIDUE OR VAPOURS.

INCOMPATIBLE MATERIALS:

ALKALIES; STRONG OXIDIZING AGENTS; METALS; REDUCING AGENTS; ORGANIC MATERIALS; COMBUSTIBLE MATERIALS; WATER. HYDROGEN, A HIGHLY FLAMMABLE GAS, CAN ACCUMULATE TO EXPLOSIVE CONCENTRATION INSIDE DRUMS, OR ANY TYPES OF STEEL CONTAINERS OR TANKS UPON STORAGE. CARBON STEEL STORAGE TANKS MUST BE VENTED. PEOPLE WORKING WITH THIS CHEMICAL SHOULD BE PROPERLY TRAINED REGARDING ITS HAZARDS AND ITS SAFE USE.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS

| INGREDIENTS | ACGIH TLV | | OSHA PEL | |
|----------------|-----------------------|-------|---------------------|-------|
| | TWA | STEL | PEL | STEL |
| SULPHURIC ACID | 0.2 mg/m ³ | N/AV. | 1 mg/m ³ | N/AV. |

SEE COMPOSITION/INFORMATION ON INGREDIENTS, SECTION 2.

ENGINEERING CONTROLS:

PROVIDE EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP THE AIRBORNE CONCENTRATION OF VAPOURS BELOW THEIR RESPECTIVE THRESHOLD LIMIT VALUE. 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.

GLOVES/TYPE:

IMPERVIOUS GLOVES (I.E. PVC OR NEOPRENE) MUST BE WORN WHEN USING THIS PRODUCT. THE SUITABILITY FOR A SPECIFIC WORKPLACE SHOULD BE DISCUSSED WITH THE PRODUCERS OF THE PROTECTIVE GLOVES.

RESPIRATORY/TYPE:

RESPIRATORY PROTECTION IS REQUIRED IF THE CONCENTRATIONS EXCEED THE TLV. A NIOSH/MSHA APPROVED AIR-PURIFYING RESPIRATOR WITH THE APPROPRIATE CHEMICAL CARTRIDGES OR A POSITIVE-PRESSURE, AIR-SUPPLIED RESPIRATOR MAY BE USED TO REDUCE EXPOSURE.

EYE/TYPE:

CHEMICAL SPLASH GOGGLES ARE RECOMMENDED. A FULL FACE SHIELD MAY ALSO BE NECESSARY.

FOOTWEAR/TYPE:

IMPERVIOUS (NEOPRENE OR PVC) BOOTS.

CLOTHING/TYPE:

WEAR CHEMICALLY PROTECTIVE APRONS, COVERALLS, AND GAUNTLETS TO PREVENT PROLONGED OR REPEATED SKIN CONTACT.

OTHER/TYPE:

AN EYEWASH STATION AND SAFETY SHOWER SHOULD BE MADE AVAILABLE IN THE IMMEDIATE WORKING AREA. OTHER EQUIPMENT MAY BE REQUIRED DEPENDING ON WORKPLACE DEPENDING ON WORKPLACE STANDARDS.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|--------------------------------|--------------------------------|-------------------------------------|
| PHYSICAL STATE: | LIQUID | APPEARANCE: | COLOURLESS TO SLIGHTLY AMBER LIQUID |
| ODOUR: | PUNGENT | ODOUR THRESHOLD: | N/AV. |
| pH: | 0.30 | BOILING POINT: | 276°C (529°F) |
| SPECIFIC GRAVITY: | 1.8354 @ 15°C (59°F) | MELTING/FREEZING POINT: | -29.5°C (-21.1°F) |
| COEFFICIENT OF WATER/OIL: | N/AV. | SOLUBILITY IN WATER: | MISCIBLE |
| DISTRIBUTION: | | VAPOUR DENSITY (AIR=1): | 3.4 |
| EVAPOURATION RATE (n-BUTYL ACETATE = 1): | | | |
| VAPOUR PRESSURE (mmHg @20°C/68°F): | | | |
| MOLECULAR WEIGHT: | 98.08 | | |
| MOLECULAR FORMULA: | H ₂ SO ₄ | | |

SECTION 10: REACTIVITY AND STABILITY DATA

STABILITY AND REACTIVITY:

STABLE UNDER THE RECOMMENDED STORAGE AND HANDLING CONDITIONS PRESCRIBED. CONTACT WITH SOME REACTIVE METALS MAY PRODUCE FLAMMABLE HYDROGEN GAS. REACTS VIOLENTLY WITH A WIDE VARIETY OF ORGANIC AND INORGANIC CHEMICALS INCLUDING ALCOHOL, CARBIDES, CHLORATES, PICRATES, NITRATES AND METALS. REACTS VIOLENTLY WITH WATER

AND OTHER ORGANIC MATERIALS WITH EVOLUTION OF HEAT. CORROSIVE TO METALS. SUITABLE CONTAINER AND PACKAGING MATERIALS FO SAFE STORAGE: CARBON STEEL, TEFLON. THE RESISTANCE OF METAL ALLOYS TO SULPHURIC ACID CORROSION INCREASES WITH INCREASING CHROMIUM, MOLYBDENUM, COPPER AND SILICON CONTENT. CONTACT PRODUCT SUPPLIER FOR SPECIFIC PACKAGING RECOMMENDATIONS WHEN HANDLING SULPHURIC ACID AT STRENGTHS LESS THAN 77% . HARZARDOUS POLYMERIZATION DOES NOT OCCUR.

CONDITIONS TO AVOID: AVOID HEAT, OPEN FLAME AND SOURCES OF IGNITION. ENSURE ADEQUATE VENTILATION, ESPECIALLY IN CONFINED AREAS. AVOID CONTACT WITH INCOMPATIBLE MATERIALS.

HAZARDOUS DECOMPOSITION PRODUCTS: NONE KNOWN, REFER TO HAZARDOUS COMBUSTION PRODUCTS IN SECTION 5.

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA: THERE IS NO AVAILABLE DATA FOR THE PRODUCT ITSELF, ONLY FOR THE INGREDIENTS. REFER TO SECTION 2 FOR INDIVIDUAL INGREDIENT LD50'S AND LC50'S.

CARCINOGENIC STATUS: STRONG INORGANIC ACID MIST CONTAINING SULPHURIC ACID IS CLASSIFIED AS A GROUP 1 HUMAN CARCINOGEN BY IARC. HOWEVER, THIS CLASSIFICATION DOES NOT APPLY TO LIQUID FORMS OF SULPHURIC ACID OR SULPHURIC ACID SOLUTIONS IN A BATTERY.

REPRODUCTIVE EFFECTS: NOT EXPECTED TO HAVE OTHER REPRODUCTIVE EFFECTS.

TERATOGENICITY: NOT EXPECTED TO BE A TERATOGEN.

MUTAGENICITY: NOT EXPECTED TO BE MUTAGENIC IN HUMANS.

SENSITIZATION TO MATERIAL: NOT EXPECTED TO BE A SKIN OR RESPIRATORY SENSITIZER.

SYNERGISTIC MATERIALS: N/AV.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: PRE-EXISTING SKIN, EYE AND RESPIRATORY DISORDERS.

ADDITIONAL HEALTH HAZARDS: NONE KNOWN OR REPORTED BY THE MANUFACTURER.

SECTION 12: ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS: THE PRODUCT SHOULD NOT BE ALLOWED TO ENTER DRAINS OR WATER COURSES, OR BE DEPOSITED WHERE IT CAN AFFECT GROUND OR SURFACE WATERS. MAY BE DANGEROUS FOR THE ENVIRONMENT. TOXICITY IS PRIMARILY ASSOCIATED WITH pH.

IMPORTANT ENVIRONMENTAL CHARACTERISTICS: NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.

ECOTOXICOLOGICAL: NO DATA IS AVAILABLE ON THE PRODUCT ITSELF.
TOXICITY TO FISH:
LC50/96H/RAINBOW TROUT = 2.8 µg/L
LC50/96H/BLUEGIL SUNFISH = 10.5 PPM

SECTION 13: DISPOSAL CONSIDERATIONS

HANDLING FOR DISPOSAL: HANDLE WASTE ACCORDING TO RECOMMENDATIONS IN SECTION 7. EMPTY CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOUR) AND CAN BE DANGEROUS. CONSIDER THE COLLECTION OF RESIDUAL SULPHURIC ACID INTO CONTAINERS FOR RECLAMATION OR DISPOSAL ONLY IF THE CONTAINER IS SUITABLE TO WITHSTAND THE MATERIAL.

METHOD OF DISPOSAL: DISPOSE OF IN ACCORDANCE WITH FEDERAL, PROVINCIAL AND LOCAL HAZARDOUS WASTE LAWS.

SECTION 14: TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: SULPHURIC ACID
TDG CLASSIFICATION: CLASS 8, UN1830, PACKING GROUP II.

SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION: CLASS D1A (MATERIALS CAUSING IMMEDIATE AND SERIOUS TOXIC EFFECTS, VERY TOXIC MATERIAL)
CLASS D2A (MATERIALS CAUSING OTHER TOXIC EFFECTS, VERY TOXIC MATERIAL)
CLASS E (CORROSIVE MATERIAL)
ALL INGREDIENTS LISTED APPEAR ON THE DOMESTIC SUBSTANCE LIST (DSL) AND THE TOXIC SUBSTANCE CONTROL ACT (TSCA) INVENTORY.

SECTION 16: OTHER INFORMATION

| | | |
|----------------|-------|--|
| LEGEND: | ACGIH | AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS |
| | CAS | CHEMICAL ABSTRACT SERVICES |
| | LC | LETHAL CONCENTRATION |
| | LD | LETHAL DOSE |
| | MSHA | MINE SAFETY AND HEALTH ASSOCIATION |
| | N/AP. | NOT APPLICABLE |
| | N/AV. | NOT AVAILABLE |
| | NIOSH | NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH |
| | OSHA | OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION |
| | PEL | PERMISSIBLE EXPOSURE LIMIT |
| | STEL | SHORT TERM EXPOSURE LIMIT |
| | TDG | CANADIAN TRANSPORTATION OF DANGEROUS GOODS ACT & REGULATIONS |
| | TLV | THRESHOLD LIMIT VALUES |
| | TWA | TIME WEIGHTED AVERAGE |
| | TSCA | TOXIC SUBSTANCE CONTROL ACT |
| | WHMIS | WORKPLACE HAZARDOUS MATERIALS IDENTIFICATION SYSTEM |

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MSDS PREPARATION DATE: (DD/MM/YYYY)
01/06/2011

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