SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURER: SULCO CHEMICALS LTD.
60 FIRST STREET EAST
ELMIRA, ONTARIO
N3B 2Z5

PREPARED BY: ENVIRONMENTAL & REGULATORY AFFAIRS DEPARTMENT

PREPARATION DATE: JUL 29/2002

PRODUCT NAME: SULPHURIC ACID 98/99%
PRODUCT CODE: 899187

CHEMICAL FORMULA: H2SO4
MOLECULAR WEIGHT: 98.07
CHEMICAL FAMILY: INORGANIC

MATERIAL USE: BATTERY ACID, FERTILIZERS, PICKLING AGENT, DEHYDRATING AGENT, WASTE WATER TREATMENT

EMERGENCY PHONE NO.: (416)-444-2112

SECTION 02: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>HAZARDOUS INGREDIENTS</th>
<th>EXPOSURE LEVELS</th>
<th>LD/50, ROUTE, SPECIES</th>
<th>LC/50, ROUTE, SPECIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SULPHURIC ACID</td>
<td>1 MG/M3 TWA</td>
<td>2140 MG/KG (ORL-RAT)</td>
<td>510 MG/M3/2H</td>
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<tr>
<td>70-100</td>
<td></td>
<td>(ACGIH 1993-94)</td>
<td>(RAT, IHL)</td>
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<tr>
<td>CAS #: 7664-93-9</td>
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SECTION 03: HAZARDS IDENTIFICATION

ROUTE OF ENTRY:

SKIN CONTACT: CONTACT OF UNDILUTED PRODUCT WITH THE SKIN OR EYES QUICKLY CAUSES SEVERE IRRITATION AND PAIN AND MAY CAUSE BURNS, NECROSIS AND PERMANENT INJURY. FOR DILUTE SOLUTIONS: PROLONGED OR REPEATED CONTACT MAY CAUSE DRYING, CRACKING OR IRRITATION.

SKIN ABSORPTION: N.AV.

EYE CONTACT: CONTACT OF LIQUID WILL CAUSE SEVERE BURNS, MAY RESULT IN PERMANENT IMPAIRMENT OF VISION, EVEN BLINDNESS.

INHALATION: MISTS AND VAPOURS MAY CAUSE SEVERE IRRITATION TO THE RESPIRATORY TRACT.

INGESTION: CAN CAUSE SEVERE BURNING AND PAIN IN LIPS, MOUTH, TONGUE, THROAT AND STOMACH. MAY CAUSE NAUSEA, VOMITING, AND DIARRHEA, BLEEDING OR TISSUE ULCERATION. MAY CAUSE DELAYED GASTRIC OR OESOPHAGEAL PERFORATION. SWALLOWING MAY BE FATAL.
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SECTION 03: HAZARDS IDENTIFICATION

EFFECTS OF ACUTE EXPOSURE........EXPOSURE TO VAPOURS MAY CAUSE PULMONARY IRRITATION AND INFLAMMATION, COUGHING, PULMONARY EDEMA AND EYE IRRITATION. SEVERE CHEMICAL BURNS TO EYES AND SKIN. SEVERITY OF BURN IS GENERALLY DETERMINED BY THE CONCENTRATION OF THE SOLUTION AND DURATION OF EXPOSURE.

EFFECTS OF CHRONIC EXPOSURE......REPEATED EXPOSURE MAY CAUSE CHRONIC BRONCHITIS, PULMONARY EDEMA, AND EROSION OR DISCOLOURATION OF TEETH. REPEATED SKIN CONTACT WITH DILUTE SOLUTIONS MAY CAUSE DERMATITIS.

INHALATION, CHRONIC........N.A.V.

MEDICAL CONDITIONS AGGRAVATED....MAY AGGRAVATE AN EXISTING DERMATITIS, ASTHMA, AND BY OVEREXPOSURE INFLAMMATORY OR FIBROTIC PULMONARY DISEASE.

SECTION 04: FIRST AID MEASURES

INSTRUCTIONS:.................YOU MAY HAVE 10 SECONDS OR LESS TO AVOID SERIOUS PERMANENT INJURY. IF INHALED, IN CASE OF INHALATION, REMOVE TO FRESH AIR. IF BREATHING HAS STOPPED, ADMINISTER ARTIFICIAL RESPIRATION AND SEEK MEDICAL ATTENTION. REMOVE CONTAMINATED CLOTHING AND RINSE WITH WATER FOR 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION. MOVING THE VICTIM FROM WATER ACCESS FOR TRANSPORT TO MEDICAL AID SHOULD BE DONE ONLY ON THE ADVICE OF QUALIFIED MEDICAL PERSONNEL. WASH CONTAMINATED CLOTHING THOROUGHLY BEFORE RE-USE. DISCARD CONTAMINATED SHOES. FLUSH EYES WITH LARGE AMOUNTS OF RUNNING WATER FOR AT LEAST 15 MINUTES. HOLD EYELIDS APART TO ENSURE RINSING OF THE ENTIRE SURFACE OF THE EYE AND LIDS WITH WATER. GET IMMEDIATE MEDICAL ATTENTION. MOVING THE VICTIM FROM WATER ACCESS FOR TRANSPORT TO MEDICAL AID SHOULD BE DONE ONLY ON THE ADVICE OF QUALIFIED MEDICAL PERSONNEL. IF INGESTED, GIVE WATER, DO NOT INDUCE VOMITING, CALL A PHYSICIAN. IF VOMITING OCCURS KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. CALL A PHYSICIAN OR POISON CONTROL CENTRE IMMEDIATELY.

NOTES TO PHYSICIAN:..........THE APPLICATION OF ICE TO SKIN BURNS WILL REDUCE SCARRING.

SECTION 05: FIRE FIGHTING MEASURES

T.D.G. FLAM. CLASS..............N.A.V.
FLAMMABILITY......................NOT FLAMMABLE
IF YES, UNDER WHICH CONDITIONS?

EXTINGUISHING MEDIA............SUITABLE FOR SURROUNDING FIRE. CARBON DIOXIDE, DRY CHEMICAL, ALCOHOL FOAM, WATER FOG.

SPECIAL PROCEDURES.............USE WATER ON COMBUSTIBLE BURNING IN THE VICINITY OF THIS MATERIAL BUT USE CARE AS WATER APPLIED DIRECTLY TO ACID CAUSES SPATTERING OF THE ACID. WEAR FULL PROTECTIVE EQUIPMENT INCLUDING A SELF-CONTAINED BREATHING APPARATUS.

FLASH POINT (C), METHOD..............N.AP.
AUTO IGNITION TEMPERATURE........N.AP.
SECTION 05: FIRE FIGHTING MEASURES

- Upper Flammable Limit (% by...N.AP.
- Lower Flammable Limit (% by...N.A.P.
- Explosion Data
  - Explosive Power............N.AV.
  - Rate of Burning............N.AV.
  - Sensitivity to Static............N.AV.
  - Discharge
  - Sensitivity to Impact......N.AV.

Unusual Fire and Explosion Hazards: Evolution of explosive hydrogen gas on contact with most metals. Toxic gases (sulphuric acid fumes, sulphur dioxide and carbon monoxide) may be released due to thermal decomposition.

Hazardous Combustion Products: Sulphuric acid decomposition may result in the release of toxic gases (sulphuric acid fumes, sulphur dioxide, carbon monoxide).

SECTION 06: ACCIDENTAL RELEASE MEASURES

Leak/Spill: Notify fire and environmental authorities. Utilize full protective clothing, including boots and self-contained breathing apparatus. Contain spill in order to prevent contamination of sewage system or waterway. Remove all sources of ignition. If possible neutralize on a dry basis with suitable alkali such as lime, soda ash or sodium bicarbonate. Flush with water in accordance with applicable regulations. Pump spilled material into marked containers for reclamation or disposal. Follow all applicable fire and explosion precautions during the spill response procedure.

SECTION 07: HANDLING AND STORAGE

Handling Procedures and Equipment: Avoid all skin contact. Avoid getting in eyes. Keep away from heat, sparks, and open flame. Use adequate ventilation. Keep containers closed or sealed. Wear neoprene gloves if direct contact likely; wear eye protection. When diluting, slowly add acid to water while stirring, never add water to acid. Always wear protective clothing and wash thoroughly after handling. Empty containers retain vapour and product residue. Empty containers are hazardous, may contain flammable/explosive dusts, liquid residue or vapours. Maintain a good personal hygiene.

Storage Needs: Keep away from heat, sparks, and open flames. Protect container from physical damage. Keep the container tightly closed when not in use. Store away from incompatible materials. Store in a cool and well-ventilated area.
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SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

GLOVES/ TYPE................. PVC OR NEOPRENE.
RESPIRATORY/TYPE............ USE NIOSH APPROVED SUPPLIED-AIR RESPIRATOR
EYE/TYPE.................. SPLASH PROOF CHEMICAL GOGGLES
FOOTWEAR/TYPE............... BOOTS
CLOTHING/TYPE.............. WEAR IMPERVIOUS PROTECTIVE CLOTHING
OTHER/TYPE................ EYE BATH AND SAFETY SHOWER.

ENGINEERING CONTROLS............. VENTILATE ADEQUATELY.

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE............... LIQUID
ODOUR.......................... NO ODOUR
ODOUR THRESHOLD............... >1 MG/M3
VAPOUR PRESSURE (MMHG)........... 0.0018
VAPOUR DENSITY (AIR=1).......... 3.4
EVAPORATION RATE............... N.A.P.
BOILING POINT.................. 70%: N.AV. 80%: N.AV. 93.19%: 287 C. 96.00%: 274 C
                                  98.00%: 334 C. 100%: 274 C
PH..................................<1
SPECIFIC GRAVITY (WATER=1)........ 70%: N.AV. 80%: N.AV. 93.19%: 1.8354. 96.00%: 1.8427.
                                  98.00%: 1.8437. 100%: 1.8391
SOLUBILITY IN WATER (% W/W)...... MISCEIBLE
COEFFICIENT OF WATER/OIL DIST..... N.AV.

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY:
YES..................................YES

NO, WHICH CONDITIONS?

COMPATIBILITY WITH OTHER
SUBSTANCES:
YES

NO, WHICH ONES?................. HIGHLY REACTIVE WITH MANY MATERIALS INCLUDING WATER,
                               METALS, METAL OXIDES, CARBIDES, CHLORATES, PICRATES,
                               NITRATES, HYDROXIDES, AMINES, CARBONATES AND OTHER ALKALINE
                               MATERIALS. REACTIONS CAN GENERATE A GREAT DEAL OF HEAT AS
                               DOES THE DILUTION OF ACID WITH WATER.

CONDITIONS TO AVOID............... CONCENTRATED ACID IS STRONG OXIDIZING AGENT. MAY CAUSE
                                 IGNITION OF COMBUSTIBLE MATERIAL ON CONTACT WITH GENERATION
                                 OF TOXIC FUMES. AVOID OPEN FLAMES AND SPARKS.

REACTIVITY CONDITIONS?............... EXCESSIVE HEAT, SPARKS AND OPEN FLAME.
HAZARDOUS PRODUCTS OF............... SEE HAZARDOUS COMBUSTION PRODUCTS
DECOMPOSITION
HAZARDOUS POLYMERIZATION........... WILL NOT OCCUR

SECTION 11: TOXICOLOGICAL INFORMATION

EXPOSURE LIMIT OF MATERIAL....... 1 MG/M3 (0.25 PPM)
SECTION 11: TOXICOLOGICAL INFORMATION

CARCINOGENICITY OF MATERIAL......WHO AND IARC HAVE CONCLUDED THAT OCCUPATION EXPOSURE TO STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID IS CARCINOGENIC TO MAN, CAUSING CANCER OF THE LARYNX AND, TO A LESSER EXTENT, THE LUNG. EXPOSURE TO ANY MIST OR AEROSOL DURING THE USE OF THIS PRODUCT SHOULD BE AVOIDED AND, IN ANY CASE, KEEP EXPOSURES BELOW THE OCCUPATIONAL EXPOSURE LIMIT FOR SULFURIC ACID.

REPRODUCTIVE EFFECTS...........NONE
IRRITANCY OF MATERIAL............SEE SECTION 03
SENSITIZING CAPABILITY OF........REPEATED EXPOSURE TO SULPHURIC ACID MIST MAY INCREASE TOLERANCE OF IRRITANT EFFECTS. SENSITIZATION CAN DEVELOP AFTER BRIEF OR PROLONGED EXPOSURE, SUBSEQUENT EXPOSURES CAN RESULT IN ASTHMATIC ATTACKS.

SYNERGISTIC MATERIALS............NONE

SECTION 12: ECOLOGICAL CONSIDERATIONS

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL....................IN ACCORDANCE WITH MUNICIPAL, PROVINCIAL AND FEDERAL REGULATIONS.

SECTION 14: TRANSPORT INFORMATION

UN NUMBER.......................1830
TDG CLASSIFICATION...............8
PACKING GROUP....................II
SPECIAL SHIPPING INSTRUCTIONS....ERAP REQUIRED FOR LARGE MEANS OF CONTAINMENT.

SECTION 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION..............D1A. E
CPR COMPLIANCE....................THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

SECTION 16: OTHER INFORMATION

N.AV.=NOT AVAILABLE
N.AP.=NOT APPLICABLE