

MATERIAL SAFETY DATA SHEET

MAR 14 1995

Product Name/Number..... T-4300
 Company Name..... LAKELAND CHEMICAL SPECIALTIES, INC.
 Address..... W140N5090 LILLY ROAD
 MENOMONEE FALLS, WI 53051
 Emergency Response Number..... (800) 424-9300 (CHEMTREC)
 Effective Date..... MARCH 1995
 DOT Ship Class..... CORROSIVE LIQUID, N.O.S. - CONTAINS
 SULFURIC ACID
 R.Q. P.G. II
 Emergency Response Guide Number.... 60

HMIS RATING
 HEALTH- 3 FLAMMABILITY- 0 REACTIVITY- 1 PERSONAL/PROTECTION- J

I - COMPOSITIONAL INFORMATION

Ingredients.....	Cas Number.....	Percent.....	OSHA PEL.....	ACGIH TLV.....	Other Limits
SULFURIC ACID	7664939	37-42	1 MG/M ³		
HYDROXYPHOSPHONO ACETIC ACID	23783268	2-7	NONE EST.		

Non-Hazardous Ingredients..... 51-61
 Total..... 100

II - PHYSICAL PROPERTY INFORMATION

Appearance-Odor..... DARK AMBER LIQUID, SLIGHT ODOR
 pH..... < 1.00
 Melting Point..... N.A.
 Boiling Point..... 212^oF
 Vapor Pressure (mm HG)..... SAME AS WATER
 Vapor Density (air = 1)..... SAME AS WATER
 Solubility In Water..... COMPLETE
 Percent Volatile (BY WEIGHT)..... 60%±
 Specific Gravity (WATER = 1)..... 1.32
 Evaporation Rate (WATER = 1)..... 1.00
 Water Reactive..... YES, SOME HEAT WILL BE GENERATED WHEN
 MATERIAL IS ADDED TO WATER.

III - FIRE AND EXPLOSION HAZARD INFORMATION

Flash Point..... NON-FLAMMABLE
 Auto Ignition Temperature.....
 Lower Explosion Limit (%)..... N.A.
 Upper Explosion Limit (%)..... N.A.
Extinguishing Media: USE WATER SPRAY, DRY CHEMICAL, CARBON
 DIOXIDE (CO₂) FOR FIRES ADJACENT TO NON-LEAKING TANKS OR OTHER CONTAINERS
 OF SULFURIC ACID.
Fire Extinguishing Media to Avoid: DO NOT USE SOLID WATER STREAMS NEAR
 RUPTURED TANKS OR SPILLS OF SULFURIC ACID. ACID REACTS VIOLENTLY WITH WATER AND
 CAN SPATTER ACID ONTO PERSONNEL. GENERATES HEAT UPON ADDITION OF WATER, WITH
 POSSIBLE SPATTERING.
Special Fire Fighting Procedures: AT HIGH TEMPERATURES, SULFURIC ACID
 MIST OR SULFUR TRIOXIDE GAS CAN BE RELEASED FROM VENTED OR RUPTURED
 CONTAINERS. IF WATER IS ADDED TO CONCENTRATED SULFURIC ACID, VIOLENT
 SPATTERING CAN OCCUR, AND CONSIDERABLE HEAT MAY BE EVOLVED. WEAR NIOSH-
 APPROVED SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE AND FULL
 PROTECTIVE CLOTHING. COOL NON-LEAKING FIRE-EXPOSED CONTAINERS WITH WATER.

Unusual Fire and Explosion Hazards: FLAMMABLE AND POTENTIALLY EXPLOSIVE HYDROGEN GAS CAN BE GENERATED INSIDE METAL DRUMS AND STORAGE TANKS. CONCENTRATED ACID CAN IGNITE COMBUSTIBLE MATERIALS ON CONTACT.

Special Precautions.....VAPOR MAY CONTAIN EXPLOSIVE HYDROGEN. TO PREVENT IGNITION OF GAS IF PRESENT, SMOKING, FLAMES, AND SPARKS SHOULD NOT BE PERMITTED IN STORAGE AREAS.

IV - HEALTH HAZARD INFORMATION

Primary Routes of Entry.....DERMAL CONTACT AND INHALATION ARE EXPECTED TO BE THE PRIMARY ROUTES OF OCCUPATIONAL EXPOSURE TO SULFURIC ACID.

Carcinogen Listed In.....NOT LISTED

Health Hazards: Acute.....EYES: BLINDNESS MAY RESULT, OR SEVERE OR PERMANENT INJURY.

SKIN: LIQUID CAN CAUSE SEVERE BURNS, SEVERE NECROSIS, OR ULCERATION.

INHALATION: INHALATION OF FUMES OR ACID MIST CAN CAUSE CORROSIVE BURNS TO THE UPPER RESPIRATORY SYSTEM, INCLUDING NOSE, MOUTH, AND THROAT, AND EROSION OF DENTAL SURFACES.

INGESTION: CAN CAUSE CORROSIVE BURNS TO MOUTH, THROAT, AND STOMACH. CAN BE FATAL IF SWALLOWED.

Signs And Symptoms of Exposure...EYES: LIQUID CONTACT CAN CAUSE IRRITATION, CORNEAL BURNS, AND CONJUNCTIVITIS.

SKIN: REPEATED CONTACT WITH PRODUCT MIST MAY CAUSE SKIN IRRITATION WITH DISCOMFORT OR RASH.

INHALATION: INHALATION OF FUMES OR ACID MIST CAN CAUSE IRRITATION. HIGHER EXPOSURES BY INHALATION MAY LEAD TO TEMPORARY LUNG IRRITATION EFFECTS WITH COUGH, DISCOMFORT, DIFFICULTY IN BREATHING, OR SHORTNESS OF BREATH; OR POSSIBLY MODEST INITIAL SYMPTOMS, FOLLOWED IN HOURS BY SEVERE SHORTNESS OF BREATH, REQUIRING PROMPT MEDICAL ATTENTION.

INGESTION: CAN CAUSE IRRITATION TO MOUTH, THROAT, AND STOMACH.

V - Emergency And First Aid Procedures:

Inhalation.....REMOVE PERSON TO FRESH AIR IMMEDIATELY, HAVE PATIENT LIE DOWN AND KEEP QUIET. OBSERVE FOR POSSIBLE DELAYED REACTION. APPLY ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH, IF BREATHING HAS STOPPED.

ADMINISTER OXYGEN IF BREATHING IS DIFFICULT PROVIDED A QUALIFIED OPERATOR IS AVAILABLE. CALL A PHYSICIAN.

- Eye Contact.....IMMEDIATELY (WITHIN SECONDS) FLUSH EYES WITH PLENTY OF WATER, (PREFERABLY COLD WATER) FOR AT LEAST 15 MINUTES LIFTING EYE LIDS FREQUENTLY. CALL A PHYSICIAN. CONTINUE FLUSHING WITH WATER IF MEDICAL ATTENTION IS NOT IMMEDIATELY AVAILABLE.
- Skin Contact.....IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN. CONTINUE FLUSHING WITH WATER IF MEDICAL ATTENTION IS NOT IMMEDIATELY AVAILABLE. WASH CLOTHING AND SHOES BEFORE RE-USE.
- Ingestion.....DO NOT INDUCE VOMITING. HAVE PATIENT DRINK LARGE QUANTITIES OF WATER IMMEDIATELY (OR MILK IF AVAILABLE). CALL A PHYSICIAN. DO NOT GIVE CARBONATES. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR DROWSY PERSON. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIP TO PREVENT ASPIRATION.

VI - REACTIVITY INFORMATION

- Stability.....STABLE
- Hazardous Decomposition Products...REACTS WITH MOST METALS, PARTICULARLY IN POWDER FORM, AND WHEN ACID IS DILUTE, TO GIVE FLAMMABLE, POTENTIALLY EXPLOSIVE HYDROGEN GAS. CONCENTRATED ACID IS A STRONG OXIDIZING AGENT ESPECIALLY WHEN HOT AND CAN IGNITE COMBUSTIBLE MATERIALS ON CONTACT, WITH GENERATION OF SULFUR DIOXIDE FUMES. SULFUR TRIOXIDE GAS: TOXIC, CORROSIVE AND A FIRE RISK IF IN CONTACT WITH ORGANIC MATERIALS, IS GENERATED WHEN SULFURIC ACID HEATED TO 300°C OR HIGHER.
- Hazardous Polymerization.....CAN OCCUR
- Incompatibility
(Materials To Avoid).....NITRO COMPOUNDS, CARBIDES, DIENES, ALCOHOLS (WHEN HEATED): CAUSE EXPLOSIONS. OXIDIZING AGENTS, SUCH AS CHLORATES COMPOUNDS AND ALDEHYDES: UNDERGO POLYMERIZATION, POSSIBLY VIOLENT. ALKALIS, AMINES, WATER, HYDRATED SALTS, CARBOXYLIC ACID ANHYDRIDES, NITRILES, OLEFINIC ORGANICS, GLYCOLS, AQUEOUS ACIDS: CAUSE STRONG EXOTHERMIC REACTIONS. CARBONATES, CYANIDES, SULFIDES, SULFITES, METALS SUCH AS COPPER: YIELD TOXIC GASES. DUE TO GENERATION OF HEAT, AND SPATTERING, IN NORMAL HANDLING DO NOT ADD WATER TO ACID. WHEN DILUTING, ALWAYS ADD ACID TO WATER, USING CAUTION AND PROPER AGITATION.

 VII - SPILL OR LEAK PROCEDURE INFORMATION

- For Spills.....STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Small Spills or Leaks: Dilute cautiously with plenty of water. Neutralize residue with alkali such as Soda Ash due. Adequate ventilation required due to release of Carbon Dioxide gas. No smoking in spill area. Major Spills: Keep unprotected persons away. Protected persons should contain the acid by diking the spill with soil or clay. Recover the acid if possible. Attempt to keep out of sewer. Any release to the environment of these products may be subject to Federal and/or State reporting requirements. Check with appropriate agencies.
- Waste Disposal Methods:.....IF MATERIAL IS DISPOSED OF AS IS OR AS SPENT ACID, IT IS CLASSED AS A HAZARDOUS WASTE AND MUST BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

 VIII - SPECIAL PROTECTION INFORMATION

- Respiratory Protection.....FOR EXPOSURES ABOVE PEL/TLV AND UP TO 25mg/m, USE ANY POWDERED AIR PURIFYING RESPIRATOR WITH A HIGH EFFICIENCY PARTICULATE FILTER AND ACID GAS CARTRIDGE OR CANISTER.
- Protective Clothing.....EYES: AS A MINIMUM, WEAR HARD HAT, CHEMICAL SAFETY GOGGLES, AND FULL-FACE PLASTIC SHIELD. DO NOT WEAR CONTACT LENSES. FOR INCREASED PROTECTION, USE SUPPLIED-AIR ACID HOOD.
SKIN: AS A MINIMUM, WEAR ACID-RESISTANT APRON, PROTECTIVE CLOTHING, BOOTS, AND GAUNTLET GLOVES FOR ROUTINE PRODUCT USE. FOR INCREASED PROTECTION, INCLUDE ACID-RESISTANT TROUSERS AND JACKET (WOOL, ACRYLIC, OR POLYESTER FIBERS).
- Additional Protective Measures.....EYEWASH AND QUICK-DRENCH SHOWER FACILITIES, PROTECTED FROM FREEZING, SHOULD BE AVAILABLE WHEREVER SULFURIC ACID IS STORED OR HANDLED, ALSO NEUTRALIZATION SUPPLIES AND EQUIPMENT.
- Ventilation To Be Used.....SUFFICIENT TO REDUCE VAPOR AND ACID MISTS TO PERMISSIBLE LEVELS. PACKAGING AND UNLOADING AREAS AND OPEN PROCESSING EQUIPMENT MAY REQUIRE LOCAL EXHAUST SYSTEMS. CORROSION-PROOF CONSTRUCTION RECOMMENDED.

IX - SARA TITLE III REGULATORY INGREDIENT INFORMATION

1. Title III Section 302/304 Extremely Hazardous Substance List and/or CERCLA Hazardous Substance List.

Component..... SULFURIC ACID
Cas Number..... 7664939
Percent..... 37-42
T.P.Q. (LBS)..... 1,000
R.Q. (LBS)..... 1,000

2. Title III Section 313 Toxic Chemicals Annual Release Reporting Requirements (SARA Section 313 Toxic Chemicals List).

Component..... SULFURIC ACID
Cas Number..... 7664939
Percent..... 37-42

User's Responsibility

The information and recommendations contained herein cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operations.

Disclaimer Of Liability

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.