ARGENT WELCH SCIENTIFIC CO. 7400 NORTH LINDER AVENUE SKOKIE, IL 60077 (708) 677-0600

MATERIAL SAFETY DATA SHEET
PRODUCT NO. C8800. C8808. C8827.
C11579-100GM.-500GM.-2.5KG. C3649T.V. C3652T
C11581-500GM.-2.5KG. C11585-500GM
5/17/88

SECTION I IDENTIFICATION

CHEMTREC 800-424-9300 24 HOUR EMERGENCY ASSISTANCE DAY (312) 468-3700

PRODUCT CUPRIC SULFATE, PENTAHYDRATE
TRADE/CHEMICAL SYNONYMS COPPER SULFATE, BLUE VITRIOL
FORMULA CUSO 4.5H20
RTECS# GL8900000
C.A.S. # 7758-99-8

HEALTH 2
FLAMMABILITY 0
REACTIVITY 0
HAZARD RATING
LEAST SLIGHT MODERATE HIGH EXTREME
0 1 2 3 4

TECTION II MIXTURE COMPONENTS

COMPONENT CAS NUMBER % TLV

NA=NOT APPLICABLE NE=NONE ESTABLISHED

SECTION III PHYSICAL CHARACTERISTICS INFORMATION

MELTING POINT C 110C (LOSES WATER) SPECIFIC GRAVITY (H2O=1) 2.28 BOILING POINT C >400C (DECOMPOSES) PERCENT VOLATILE BY VOLUME (%) NA VAPOR PRESSURE MM HG/C NA EVAPORATION RATE (=1) NA VAPOR DENSITY (AIR=1) NA SOLUBILITY IN WATER 24.3% & 30C APPEARANCE AND ODOR BLUE CRYSTALS/POWDER, NO ODOR.

SECTION IV FIRE/EXPLOSION HAZARD INFORMATION

FLASH POINT C NA (METHOD)
FLAMMABLE LIMITS IN AIR % BY VOLUME LOWER: UPPER:

FIRE EXTINGUISHER TYPE: USE ANY MEDIUM SUITABLE FOR EXTINGUISHING SUPPORTING

FIRE FIGHTING PROCEDURES (CALL FIRE DEPT. IMMEDIATELY): IN THE EVENT OF A FIRE EAR FULL PROTECTIVE CLOTHING AND NIOSH——APPROVED SELF—CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE.

FIRE/EXPLOSION HAZARDS: NOT CONSIDERED TO BE A FIRE/EXPLOSION HAZARD.

D.O.T. CUPRIC SULFATE ORM-E NA9109
D.O.T. REGULATIONS MAY CHANGE FROM TIME TO TIME. PLEASE CONSULT THE MOST RECENT D.O.T. REGULATIONS. ESSENTIALLY SIMILAR TO FORM OSHA-174.

SECTION V HEALTH HAZARD INFORMATION

THRESHOLD LIMIT VALUE (TLV) 1 MG/M3 (AS CU) TWA

OVEREXPOSURE SYMPTOMS (WHEN IN DOUBT, CALL A PHYSICIAN OR LOCAL POISON CONTROL CENTER) TOXIC. ACUTE: IRRITATION AND PAIN TO SKIN, EYES, LUNGS, MUCOUS MEMBRANES, AND GI TRACT. COUGHING, ITCHING, HEADACHE, CHILLS. CHRONIC: DERMATITIS, SYSTEMIC METAL POISONING HAZARD, NASAL DAMAGE.

EMERGENCY AND FIRST AID PROCEDURES: SKIN: REMOVE ANY CONTAMINATED CLOTHING. WASH SKIN WITH MILD SOAP OR MILD DETERGENT AND WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS. EYES: WASH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, LIFTING LOWER AND UPPER EYELIDS OCCASIONALLY. GET MEDICAL ATTENTION IMMEDIATELY. INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN. INGESTION: IF SWALLOWED, INDUCE VOMITING IMMEDIATELY BY GIVING TWO GLASSES OF WATER AND STICKING FINGER DOWN THROAT. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CALL A PHYSICIAN IMMEDIATELY.

SECTION VI REACTIVITY INFORMATION

TABILITY: STABLE

CONDITIONS TO AVOID: NONE

INCOMPATIBILITIES (MATERIALS TO AVOID): HYDROXYLAMINE, MAGNESIUM.

HAZARDOUS DECOMPOSITION PRODUCTS: CUPRIC OXIDE, SULFUR OXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE

SECTION VII SPILL CLEANUP/DISPOSAL INFORMATION

CLEANUP METHODS(S) CLEANUP/DISPOSAL METHODS ARE RECOMMENDATIONS ONLY.
CHECK YOU LOCAL, STATE, FEDERAL REGULATIONS.
VENTILATE AREA OF LEAK OR SPILL. CLEAN-UP PERSONNEL MAY REQUIRE PROTECTIVE CLOTHING & RESPIRATORY PROTECTION FROM DUST. SWEEP UP & CONTAINERIZE FOR RECLAMATION OR DISPOSAL. AVOID DUST DISPERSAL.

DISPOSAL METHOD(S)
WHATEVER CANNOT BE SAVED FOR RECLAMATION MAY BE DISPOSED IN A RCRA APPROVED
HAZARDOUS WASTE FACILITY. DNO NOT FLUSH TO THE SEWER. TOXIC TO AQUATIC LIFE.

SECTION VIII PERSONAL PROTECTION RECOMMENDATIONS

RESPIRATORY PROTECTION (SPECIFY TYPE): DUST

VENTILATION LOCAL EXHAUST X
MECHANICAL (GENERAL) X

PROTECTIVE GLOVES: POLY OR RUBBER EYE PROTECTION: GOGGLES OTHER PROTECTIVE EQUIPMENT: LAB COAT

SECTION IX ADDITIONAL INFORMATION

STORE IN A COOL DRY LOCATION.

CONDITIONS AGGRAVATED /TARGET ORGANS: PERSONS WITH PREEXISITNG SKIN, HEART, RESPIRATORY, OR KIDNEY/LIVER DISORDERS OR WILSON'S DISEASE MAY BE MORE SUSCEPTIBLE.

REV. NO. 4 DATE 5/17/88 APPROVED: K.KUCHEL SAFETY DIR. RMC THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE AND IS OFFERED IN GOOD FAITH FOR THE USER'S CONSIDERATION AND INVESTIGATION. NO WARRANTY EITHER EXPRESSED OR IMPLIED IS MADE FOR THE COMPLETENESS OR ACCURACY OF THE NFORMATION WHETHER ORIGINATING FROM CHEMICAL SPOORS, INC. OR NOT. USERS OF THIS MATERIAL SHOULD SATISFY THEMSELVES BY INDEPENDENT INVESTIGATION OF CURRENT SCIENTIFIC AND MEDICAL KNOWLEDGE THAT THE MATERIAL CAN BE USED SAFELY.

SARGENT WELCH SCIENTIFIC P.O. BOX 1026 SKOKIE, IL. 60077 TELEPHONE: (800) 727-4368

O1 014175862 CHIPPEWA VALLEY TECH COLL

620 WEST CLAIRMONT AVENUE EAU CLAIRE WI 54701 ATTENTION: SAFETY OFFICER

08/17/91

DEAR CUSTOMER:

ENCLOSED ARE THE MATERIAL SAFETY DATA SHEETS (MSDS'S) FOR THE PRODUCT(S) THAT YOUR COMPANY RECENTLY PURCHASED FROM SARGENT WELCH. PLEASE FORWARD THESE MSDS(S) TO YOUR SAFETY OFFICER OR OTHER INDIVIDUAL IN YOUR ORGANIZATION RESPONSIBLE FOR IMPLEMENTING THESE REGULATIONS.

"ALL DATA OR INFORMATION REGARDING THE PARTICULAR PRODUCT YOU HAVE PURCHASED FROM SARGENT WELCH, WHICH IS PROVIDED IN THE ENCLOSED MATERIAL SAFETY DATA SHEET, IS OFFERED GRATUITOUSLY AND IN GOOD FAITH AS ACCURATE, BUT IS FURNISHED WITHOUT GUARANTY. SARGENT WELCH MAKES NO REPRESENTATION AS TO THE ACCURACY OF THE INFORMATION IN THE MSDS. WHILE THE INFORMATION IS BELIEVED TO BE CORRECT. YOU SHOULD PERFORM YOUR OWN INVESTIGATION AND INDEPENDENT VERIFICATION. THE CONDITIONS OF THE USE OF THE PRODUCT, AND THE SUITABILITY OF THE PRODUCT FOR YOUR PARTICULAR PURPOSES, ARE BEYOND THE CONTROL OF SARGENT WELCH. THUS, ALL RISKS OF THE USE OF THE PRODUCT ARE THEREFORE ASSUMED BY YOU, THE USER, EXCEPT AS TO SUCH WARRANTIES AS MAY BE PUBLISHED BY SARGENT WELCH, WITH RESPECT TO A PARTICULAR PRODUCT. SARGENT WELCH EXPRESSLY DISCLAIMS ALL WARRANTIES OF EVERY KIND, AND NATURE, INCLUDING WARRANTIES OF MERCHANTIBILITY AND FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. SARGENT WELCH SHALL IN NO EVENT BE RESPONSIBLE FOR ANY DAMAGES OF WHATEVER NATURE, DIRECTLY OR INDIRECTLY, RESULTING FROM USE OF THE PRODUCT, OR FROM THE PUBLICATION OF USE OF OR RELIANCE UPON DATA CONTAINED IN THE ENCLOSED MSDS. NOTHING IN THE MSDS IS INTENDED AS A RECOMMENDATION FOR USES WHICH INFRINGE VALID PATENTS, OR WHICH EXTEND LICENSES UNDER VALID PATENTS. IF YOU RESELL THE PRODUCT, YOU ARE RESPONSIBLE TO PASS ON TO YOUR CUSTOMER THE INFOR-MATION CONTAINED IN THE MSDS, AND GIVE TO THEM APPROPRIATE WARNINGS AND SAFE HANDLING INSTRUCTIONS AS NECESSARY TO MAKE THE PRODUCT SAFE FOR THE INTENDED USES BY YOUR CUSTOMER.

THANK YOU,

SARGENT WELCH

08/17/91

| o n. wimado | INVOICE NUMBER | SALE | CATALOG NUMBER | | MSDS FORM/DOC NUMBER |
|-------------|-------------------|----------|-------------------|--------|----------------------------|
| P.U. NUMBER | | | | | |
| P-048603 | 2379264 | 08/13/91 | WL | C3652T | C11579 |