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MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - CHEMICAL IDENTIFICATION- - - - - - -C7129 CATALOG #: NAME: CITRIC ACID FREE ACID MONOHYDRATE CRYSTALLINE SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -CAS #: 5949-29-1 MF: C6H8O7 EC NO: 201-069-1 SYNONYMS CITRIC ACID HYDRATE * 1,2,3-PROPANETRICARBOXYLIC ACID, 2-HYDROXY-, MONOHYDRATE * SECTION 3. - - - - - - - HAZARDS IDENTIFICATION - - - - - - -LABEL PRECAUTIONARY STATEMENTS IRRITANT IRRITATING TO RESPIRATORY SYSTEM AND SKIN. RISK OF SERIOUS DAMAGE TO EYES. POSSIBLE SENSITIZER. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION. SECTION 4. - - - - - - - FIRST-AID MEASURES- - - - - - - - -IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL

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WASH THOROUGHLY AFTER HANDLING.
   DO NOT BREATHE DUST.
   AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
   AVOID PROLONGED OR REPEATED EXPOSURE.
   NIOSH/MSHA-APPROVED RESPIRATOR.
   COMPATIBLE CHEMICAL-RESISTANT GLOVES.
    CHEMICAL SAFETY GOGGLES.
   KEEP TIGHTLY CLOSED.
    STORE IN A COOL DRY PLACE.
SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
 APPEARANCE AND ODOR
   SOLID.
 PHYSICAL PROPERTIES
                            345F
   FLASHPOINT
                            173.88C
   VAPOR DENSITY:
                     1.54 G/L
                            1.8
    SWISS POISON CLASS:
                           5
SECTION 10. - - - - - - - - - STABILITY AND REACTIVITY - - - - - - -
 STABILITY
    STABLE.
 INCOMPATIBILITIES
   OXIDIZING AGENTS
   BASES
   REDUCING AGENTS
   NITRATES
 HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
   CARBON MONOXIDE, CARBON DIOXIDE
 HAZARDOUS POLYMERIZATION
   WILL NOT OCCUR.
SECTION 11. - - - -
                     - - - TOXICOLOGICAL INFORMATION - - - -
 ACUTE EFFECTS
   CAUSES SKIN IRRITATION.
   MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
   CAUSES SEVERE EYE IRRITATION.
   MAY BE HARMFUL IF INHALED.
   MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER
   RESPIRATORY TRACT.
   MAY BE HARMFUL IF SWALLOWED.
    PROLONGED OR REPEATED EXPOSURE MAY CAUSE ALLERGIC REACTIONS IN CERTAIN
    SENSITIVE INDIVIDUALS.
   TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
   TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
 RTECS #: GE7810000
   CITRIC ACID, MONOHYDRATE
 IRRITATION DATA
   EYE-RBT 5 MG/30S RINSE MLD
                                                 TXCYAC 23,281,1982
 TOXICITY DATA
                                                 NTIS** AD-A121-876
    IPR-RAT LD50:375 MG/KG
    ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
    (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
   COMPLETE INFORMATION.
SECTION 12. - - - - - - ECOLOGICAL INFORMATION - - - - - - - -
   DATA NOT YET AVAILABLE.
SECTION 13. - - - - - - DISPOSAL CONSIDERATIONS - - - - - - -
   CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF
    THIS MATERIAL.
   DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A
    CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
    OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.
SECTION 14. - - - - - - - TRANSPORT INFORMATION - - - - - - -
   CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.
SECTION 15. - - - - - - REGULATORY INFORMATION - -
 EUROPEAN INFORMATION
   IRRITANT
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IRRITATING TO RESPIRATORY SYSTEM AND SKIN.

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RISK OF SERIOUS DAMAGE TO EYES.

S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S 36/37/39

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS OEL=MAK

NOES 1983: HZD X3648; NIS 11; TNF 715; NOS 15; TNE 17300; TFE 9926
SECTION 16. - - - - - - - OTHER INFORMATION - - - - - - - - - - THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE. COPYRIGHT 2001 SIGMA-ALDRICH CO.

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