Valid 05/2002 - 07/2002

Aldrich Chemical Co., Inc. 1001 West St. Paul Milwaukee, WI 53233 USA Tel: 414-273-3850

MATERIAL SAFETY DATA SHEET

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SECTION 1. - - - - - - CHEMICAL IDENTIFICATION- - - - - -
   CATALOG #:
                         W292435
                         PROPIONIC ACID, 99%, FCC
   NAME:
SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -
   CAS #:NONE
   EC NO: 201-176-3
  SYNONYMS
   ACIDE PROPIONIQUE (FRENCH) * CARBOXYETHANE * ETHANECARBOXYLIC ACID *
   ETHYLFORMIC ACID * KYSELINA PROPIONOVA (CZECH) * LUPROSIL *
   METACETONIC ACID * METHYL ACETIC ACID * PROPANOIC ACID * PROPIONIC
   ACID (ACGIH) * PROPIONIC ACID GRAIN PRESERVER * PROZOIN *
   PSEUDOACETIC ACID * SENTRY GRAIN PRESERVER * TENOX P GRAIN
   PRESERVATIVE *
SECTION 3. - - - - - - - HAZARDS IDENTIFICATION - - - - - - -
 LABEL PRECAUTIONARY STATEMENTS
   COMBUSTIBLE (USA)
   FLAMMABLE (EU)
   CORROSIVE
   FLAMMABLE.
   HARMFUL IN CONTACT WITH SKIN.
   CAUSES BURNS.
   READILY ABSORBED THROUGH SKIN.
   COMBUSTIBLE LIQUID.
   KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
   DO NOT BREATHE VAPOR.
   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.
    IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
   IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
SECTION 4. - - - - - - - FIRST-AID MEASURES- - - - - - - - -
   IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
   CALL A PHYSICIAN.
   DO NOT INDUCE VOMITING.
   IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
   RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
   IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER
   FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND
   SHOES. CALL A PHYSICIAN.
    IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER
   FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING
   THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.
SECTION 5. - - - - - - - FIRE FIGHTING MEASURES - - - - - - - -
 EXTINGUISHING MEDIA
   CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
 SPECIAL FIREFIGHTING PROCEDURES
   WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
   PREVENT CONTACT WITH SKIN AND EYES.
 UNUSUAL FIRE AND EXPLOSIONS HAZARDS
   COMBUSTIBLE LIQUID.
   EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
SECTION 6. - - - - - - ACCIDENTAL RELEASE MEASURES- - -
   WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
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RUBBER GLOVES.
   COVER WITH DRY LIME OR SODA ASH, PICK UP, KEEP IN A CLOSED CONTAINER
   AND HOLD FOR WASTE DISPOSAL.
   VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
    EVACUATE AREA.
SECTION 7. - - - - - - - HANDLING AND STORAGE- - - - - - - - -
   REFER TO SECTION 8.
SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -
    SAFETY SHOWER AND EYE BATH.
    USE ONLY IN A CHEMICAL FUME HOOD.
    WASH CONTAMINATED CLOTHING BEFORE REUSE.
   DISCARD CONTAMINATED SHOES.
   WASH THOROUGHLY AFTER HANDLING.
   DO NOT BREATHE VAPOR.
   DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
   AVOID PROLONGED OR REPEATED EXPOSURE.
   NIOSH/MSHA-APPROVED RESPIRATOR.
    COMPATIBLE CHEMICAL-RESISTANT GLOVES.
    CHEMICAL SAFETY GOGGLES.
   FACESHIELD (8-INCH MINIMUM).
   KEEP TIGHTLY CLOSED.
    KEEP AWAY FROM HEAT AND OPEN FLAME.
    STORE IN A COOL DRY PLACE.
SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
  PHYSICAL PROPERTIES
                        141 C
   BOILING POINT:
                       -24 - -23 C
   MELTING POINT:
                             125F
   FLASHPOINT
                             51.66C
    EXPLOSION LIMITS IN AIR:
                                               12.1 %
                                               2.9 %
      LOWER
   VAPOR PRESSURE: 10 MMHG
SPECIFIC GRAVITY: 0.993
    VAPOR DENSITY: 2.55 G/L
SECTION 10. - - - - - - - - STABILITY AND REACTIVITY - - - -
  STABILITY
    STABLE.
  INCOMPATIBILITIES
    STRONG OXIDIZING AGENTS
  HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
    CARBON MONOXIDE, CARBON DIOXIDE
  HAZARDOUS POLYMERIZATION
    WILL NOT OCCUR.
SECTION 11. - - - - - - TOXICOLOGICAL INFORMATION - - - - -
  ACUTE EFFECTS
   MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES
    AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
    INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE
    LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.
    SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,
    WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND
    VOMITING.
    CAUSES BURNS.
    HARMFUL IF ABSORBED THROUGH SKIN.
    READILY ABSORBED THROUGH SKIN.
    MAY BE HARMFUL IF INHALED.
    MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES
    AND UPPER RESPIRATORY TRACT.
   MAY BE HARMFUL IF SWALLOWED.
  RTECS #: UE5950000
    PROPIONIC ACID
  TRRITATION DATA
                                                  UCDS** 3/24/1970
    SKN-RBT 495 MG OPEN SEV
                                                  UCDS** 3/24/1970
    EYE-RBT 990 UG SEV
  TOXICITY DATA
                                                  FAONAU 53A, 110, 1974
    ORL-RAT LD50:2600 MG/KG
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PAR-RAT LD50:3500 MG/KG
                                                 DEVEAA 26,5,1972
   UNR-RAT LD50:1510 MG/KG
                                                 GISAAA 35(3),96,1970
                                                 APTOA6 18,141,1961
   IVN-MUS LD50:625 MG/KG
                                                 GISAAA 35(3),96,1970
   UNR-MUS LD50:1370 MG/KG
                                                 AIHAAP 23,95,1962
   SKN-RBT LD50:500 UL/KG
                                                 GISAAA 35(3),96,1970
   UNR-RBT LD50:1900 MG/KG
                                                 GISAAA 39(4),86,1974
   ORL-MAM LD50:1640 MG/KG
 TARGET ORGAN DATA
   BEHAVIORAL (SOMNOLENCE)
   BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
   BEHAVIORAL (EXCITEMENT)
   LUNGS, THORAX OR RESPIRATION (DYSPNAE)
   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 ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.
SECTION 15. - - - - - - REGULATORY INFORMATION - - - - -
  EUROPEAN INFORMATION
    EC INDEX NO: 607-089-00-0
    FT.AMMABLE
    CORROSIVE
    R 34
    CAUSES BURNS.
    S 23
    DO NOT BREATHE VAPOR.
    S 36
    WEAR SUITABLE PROTECTIVE CLOTHING.
    S 45
    IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
    IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
  REVIEWS, STANDARDS, AND REGULATIONS
    OEL=MAK
                                                  DTLVS* TLV/BEI,1999
    ACGIH TLV-TWA 10 PPM
    EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
     FEREAC 54,7740,1989
    OEL-AUSTRALIA: TWA 10 PPM (30 MG/M3), STEL 15 PPM, JAN1993
    OEL-AUSTRIA: MAK 10 PPM (30 MG/M3), JAN1999
    OEL-BELGIUM: TWA 10 PPM (30 MG/M3), STEL 15 PPM, JAN1993
    OEL-DENMARK: TWA 10 PPM (30 MG/M3), JAN1999
    OEL-FINLAND: TWA 10 PPM, SKIN, JAN1999
    OEL-FRANCE: VME 10 PPM (30 MG/M3), JAN1999
    OEL-GERMANY: MAK 10 PPM (30 MG/M3), JAN1999
    OEL-THE NETHERLANDS: MAC-TGG 10 PPM (55 MG/M3), JAN1999
    OEL-NORWAY: TWA 10 PPM (30 MG/M3), JAN1999
    OEL-RUSSIA: STEL 20 MG/M3, JAN1993
    OEL-SWEDEN: NGV 10 PPM (30 MG/M3), KTV 15 PPM (45 MG/M3), JAN1999
    OEL-SWITZERLAND: MAK-W 10 PPM (30 MG/M3), KZG-W 20 PPM (60 MG/M3),
     TAN1999
    OEL-UNITED KINGDOM: TWA 10 PPM (31 MG/M3), STEL 15 PPM (46 MG/M3),
    OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;
    OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
    NIOSH REL TO PROPIONIC ACID-AIR: 10H TWA 10 PPM; STEL 15 PPM
     NIOSH* DHHS #92-100,1992
    NOHS 1974: HZD 62460; NIS 9; TNF 429; NOS 19; TNE 8081
    NOES 1983: HZD 62460; NIS 30; TNF 1411; NOS 42; TNE 31092; TFE 8489
    EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
    EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
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EPA TSCA SECTION 8(E) RISK NOTIFICATION, 8EHQ-0892-9234 ON EPA IRIS DATABASE

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

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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