Valid 11/2002 - 01/2003

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

MATERIAL SAFETY DATA SHEET

```
SECTION 1. - - - - - - - CHEMICAL IDENTIFICATION- - - - - - -
   CATALOG #:
                         P16621
                         PHENYLACETIC ACID, 99%
SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -
   CAS #: 103-82-2
   MF: C8H8O2
   EC NO: 203-148-6
  SYNONYMS
   BENZENACETIC ACID * BENZENEACETIC ACID * KYSELINA FENYLOCTOVA (CZECH)
    * PHENYLACETIC ACID * OMEGA-PHENYLACETIC ACID * ALPHA-TOLUIC ACID *
SECTION 3. - - - - - - - HAZARDS IDENTIFICATION - - -
 LABEL PRECAUTIONARY STATEMENTS
   IRRITANT
    TRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
   IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
   WATER AND SEEK MEDICAL ADVICE.
SECTION 4. - - - - - - - - FIRST-AID MEASURES- - - - - -
    IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
    CALL A PHYSICIAN.
    IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
    RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
    IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
    AMOUNTS OF WATER.
    IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF
    WATER FOR AT LEAST 15 MINUTES.
SECTION 5. - - - - - - FIRE FIGHTING MEASURES - - - - - - -
  EXTINGUISHING MEDIA
    WATER SPRAY.
    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
    EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
SECTION 6. - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - -
    WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY
    RUBBER GLOVES.
    ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR
    DISPOSAL.
    VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
SECTION 7. - - - - - - - - HANDLING AND STORAGE- - - - - - - - -
    REFER TO SECTION 8.
SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -
    MECHANICAL EXHAUST REQUIRED.
    SAFETY SHOWER AND EYE BATH.
    WASH THOROUGHLY AFTER HANDLING.
    DO NOT BREATHE VAPOR.
    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
   WHITE TO OFF-WHITE CHIPS
  PHYSICAL PROPERTIES
   BOILING POINT:
                         265 C
                       77 C TO 78.5 C
   MELTING POINT:
VAPOR PRESSURE:
    VAPOR PRESSURE: 1MM 97 C SPECIFIC GRAVITY: 1.081
    VAPOR DENSITY: 4
    SWISS POISON CLASS:
SECTION 10. - - - - - - - - STABILITY AND REACTIVITY - - - -
  STABILITY
    STABLE.
  INCOMPATIBILITIES
    STRONG OXIDIZING AGENTS
    STRONG BASES
    STRONG REDUCING AGENTS
  HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
    CARBON MONOXIDE, CARBON DIOXIDE
  HAZARDOUS POLYMERIZATION
    WILL NOT OCCUR.
                      - - - TOXICOLOGICAL INFORMATION - - - - - -
SECTION 11. - - - -
  ACUTE EFFECTS
    CAUSES SKIN IRRITATION.
    MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
    CAUSES EYE TRRITATION.
    MAY BE HARMFUL IF SWALLOWED.
    MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER
    RESPIRATORY TRACT.
    MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
    CAUSES EYE AND SKIN IRRITATION.
    TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
    TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
  RTECS #: AJ2430000
    ACETIC ACID, PHENYL-
  IRRITATION DATA
                                                  NTIS** OTS0559218
    EYE-RBT 100 MG/24H MOD
  TOXICITY DATA
                                                  VPITAR 33(5),48,1974
    ORL-RAT LD50:2250 MG/KG
    TPR-RAT LD50:1600 MG/KG
                                                  BCFAAI 112,53,1973
                                                  VPITAR 33(5),48,1974
    ORL-MUS LD50:2250 MG/KG
                                                  FRPSAX 13,286,1958
    IPR-MUS LD50:2270 MG/KG
                                                  AIPTAK 116,154,1958
    SCU-MUS LD50:1500 MG/KG
                                                  FCTXAV 13,901,1975
    SKN-RBT LD50:>5 GM/KG
                                                  VPITAR 33(5),48,1974
    ORL-GPG LD50:2250 MG/KG
  TARGET ORGAN DATA
    EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
    SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
    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
    IRRITANT
    R 36/37/38
    IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
    S 26
```

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

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

NOES 1983: HZD X4045; NIS 12; TNF 1636; NOS 37; TNE 19331; TFE 6627

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

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.

LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY