Valid 05/1999 - 07/1999

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MATERIAL SAFETY DATA SHEET
SECTION 1. - - - - - - CHEMICAL IDENTIFICATION- - - - - - -
                         134449
                         P-XYLENE, 99%
SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -
   CAS #: 106-42-3
   MF: C8H10
   EC NO: 203-396-5
 SYNONYMS
   CHROMAR * P-DIMETHYLBENZENE * 1,4-DIMETHYLBENZENE * P-METHYLTOLUENE *
   SCINTILLAR * 1,4-XYLENE * P-XYLENE (ACGIH:OSHA) * P-XYLOL *
SECTION 3. - - - - - - - HAZARDS IDENTIFICATION - - - - -
 LABEL PRECAUTIONARY STATEMENTS
   FLAMMABLE
   HARMFUL
   HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
   IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
   READILY ABSORBED THROUGH SKIN.
   REPRODUCTIVE HAZARD.
   TARGET ORGAN(S):
   NERVES
   LIVER, KIDNEYS
   KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
   IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
   WATER AND SEEK MEDICAL ADVICE.
   WEAR SUITABLE PROTECTIVE CLOTHING.
SECTION 4. - - - - - - - FIRST-AID MEASURES- - - - - - - - -
   IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
   AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
   CLOTHING AND SHOES.
   IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
   RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
   IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
   CALL A PHYSICIAN.
   REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY.
SECTION 5. - - - - - - FIRE FIGHTING MEASURES - - - - - - -
  EXTINGUISHING MEDIA
    CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
   WATER MAY BE EFFECTIVE FOR COOLING, BUT MAY NOT EFFECT EXTINGUISHMENT.
  SPECIAL FIREFIGHTING PROCEDURES
    WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
    PREVENT CONTACT WITH SKIN AND EYES.
    FLAMMABLE.
    USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.
  UNUSUAL FIRE AND EXPLOSIONS HAZARDS
    VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND
    CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.
    FORMS EXPLOSIVE MIXTURES IN AIR.
SECTION 6. - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - -
    EVACUATE AREA.
    SHUT OFF ALL SOURCES OF IGNITION.
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WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
    RUBBER GLOVES.
    COVER WITH AN ACTIVATED CARBON ADSORBENT, TAKE UP AND PLACE IN CLOSED
    CONTAINERS. TRANSPORT OUTDOORS.
    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 - - - - -
    WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT
    GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
    USE ONLY IN A CHEMICAL FUME HOOD.
    SAFETY SHOWER AND EYE BATH.
   USE NONSPARKING TOOLS.
   DO NOT BREATHE VAPOR.
   AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
   AVOID PROLONGED OR REPEATED EXPOSURE.
    READILY ABSORBED THROUGH SKIN.
   WASH THOROUGHLY AFTER HANDLING.
    IRRITANT.
    REPRODUCTIVE HAZARD.
    KEEP TIGHTLY CLOSED.
    KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
    STORE IN A COOL DRY PLACE.
SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - -
 APPEARANCE AND ODOR
    COLORLESS LIQUID
  PHYSICAL PROPERTIES
    BOILING POINT:
                        138 C
    MELTING POINT:
                       12 C TO 13 C
                                77 F
    FLASHPOINT
                                24C
    EXPLOSION LIMITS IN AIR:
                                               78
     UPPER
     LOWER
    AUTOIGNITION TEMPERATURE:
                                                     528C
                                     984 F
    VAPOR PRESSURE: 9MM 20 C
                                          16MM 37.7 C
                         0.866
    SPECIFIC GRAVITY:
    VAPOR DENSITY: 3.7
SECTION 10. - - - - - - - - - STABILITY AND REACTIVITY - - - -
  INCOMPATIBILITIES
    OXIDIZING AGENTS
  HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
    TOXIC FUMES OF:
    CARBON MONOXIDE, CARBON DIOXIDE
SECTION 11. - - - - - - TOXICOLOGICAL INFORMATION - - - -
  ACUTE EFFECTS
    HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
    VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER
    RESPIRATORY TRACT.
    EXPOSURE CAN CAUSE:
    NARCOTIC EFFECT
    LUNG IRRITATION, CHEST PAIN AND EDEMA WHICH MAY BE FATAL.
    CNS DEPRESSION
    DERMATITIS
    GASTROINTESTINAL DISTURBANCES
  CHRONIC EFFECTS
    DAMAGE TO THE LIVER
    DAMAGE TO THE KIDNEYS
    BLOOD EFFECTS
    MAY CAUSE REPRODUCTIVE DISORDERS.
    TARGET ORGAN(S):
    NERVES
    LIVER, KIDNEYS
  RTECS #: ZE2625000
    P-XYLENE
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TOXICITY DATA
                                                 YAKUD5 22,883,1980
   ORL-RAT LD50:5 GM/KG
                                                 36YFAG -,302,1977
   IHL-RAT LC50:4550 PPM/4H
                                                 36YFAG -,302,1977
    IPR-RAT LD50:3810 MG/KG
                                                 ARTODN 58, 106, 1985
   IPR-MUS LD50:2450 UL/KG
 TARGET ORGAN DATA
   BEHAVIORAL (GENERAL ANESTHETIC)
   CARDIAC (OTHER CHANGES)
   LUNGS, THORAX OR RESPIRATION (RESPIRATORY DEPRESSION)
   MATERNAL EFFECTS (OTHER EFFECTS ON FEMALE)
   EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
   EFFECTS ON FERTILITY (ABORTION)
   EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)
   SPECIFIC DEVELOPMENTAL ABNORMALITIES (CRANIOFACIAL)
   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 - - - - - -
    BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND
    SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY
   FLAMMABLE.
   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: 601-040-00-7
    FLAMMABLE
   HARMFUL
   R 10
   FLAMMABLE.
   R 20/21
   HARMFUL BY INHALATION AND IN CONTACT WITH SKIN.
   R 38
   IRRITATING TO SKIN.
   S 25
   AVOID CONTACT WITH EYES.
 REVIEWS, STANDARDS, AND REGULATIONS
   OEL=MAK
   ACGIH TLV-NOT CLASSIFIABLE AS A HUMAN CARCINOGEN DTLVS* TLV/BEI, 1997
                                       DTLVS* TLV/BEI,1997
   ACGIH TLV-STEL 651 MG/M3 (150 PPM)
                                                 DTLVS* TLV/BEI,1997
   ACGIH TLV-TWA 434 MG/M3 (100 PPM)
   MSHA STANDARD-AIR: TWA 100 PPM (440 MG/M3) (SKIN)
    DTLVS* 3,281,1971
    OSHA PEL (GEN INDU):8H TWA 100 PPM (435 MG/M3)
    CFRGBR 29,1910.1000,1994
    OSHA PEL (CONSTRUC):8H TWA 100 PPM (435 MG/M3)
    CFRGBR 29,1926.55,1994
    OSHA PEL (SHIPYARD):8H TWA 100 PPM (435 MG/M3)
    CFRGBR 29,1915.1000,1993
    OSHA PEL (FED CONT):8H TWA 100 PPM (435 MG/M3)
     CFRGBR 41,50-204.50,1994
    NIOSH REL TO P-XYLENE-AIR: 10H TWA 100 PPM; STEL 150 PPM
    NIOSH* DHHS #92-100,1992
    NOHS 1974: HZD M1028; NIS 4; TNF 62; NOS 10; TNE 1912
    NOES 1983: HZD M1028; NIS 22; TNF 1994; NOS 21; TNE 20366; TFE 6336
    EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
    EPA TSCA 8(A) PRELIMINARY ASSESSMENT INFORMATION, FINAL RULE
     FEREAC 47,26992,82
    EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
    EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, DECEMBER 1998
  U.S. INFORMATION
    THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.
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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 1998 SIGMA-ALDRICH CO. LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY