HOECHST CELANESE -- AZ 4620 PHOTORESIST MATERIAL SAFETY DATA SHEET NSN: 675000N014850 Manufacturer's CAGE: 2V751 Part No. Indicator: A Part Number/Trade Name: AZ 4620 PHOTORESIST _____ ==== General Information _____ ==== Company's Name: HOECHST CELANESE CORPORATION Company's Street: ROUTE 202-206 NORTH Company's City: SOMERVILLE Company's State: NJ Company's Country: US Company's Zip Code: 08876 Company's Emerg Ph #: 201-231-4944 Company's Info Ph #: 201-231-2566 Record No. For Safety Entry: 001 Tot Safety Entries This Stk#: 001 Status: SMJ Date MSDS Prepared: 05SEP89 Safety Data Review Date: 28JUN95 MSDS Serial Number: BKMBV Hazard Characteristic Code: F4 _____ ==== Ingredients/Identity Information _____ ==== Proprietary: NO Ingredient: 2-ETHOXYETHYL ACETATE (CELLOSOLVE ACETATE) (EGEEA) Ingredient Sequence Number: 01 Percent: 48 NIOSH (RTECS) Number: KK8225000 CAS Number: 111-15-9 OSHA PEL: S,100 PPM ACGIH TLV: S, 5 PPM; 9192 -----Proprietary: NO Ingredient: N-BUTYL ACETATE (SARA III) Ingredient Sequence Number: 02 Percent: 5 NIOSH (RTECS) Number: AF7350000 CAS Number: 123-86-4 OSHA PEL: 150 PPM/200 STEL ACGIH TLV: 150 PPM/200STEL;9192 _____ Proprietary: NO Ingredient: XYLENES (0-,M-,P- ISOMERS) (SARA III) Ingredient Sequence Number: 03 Percent: 5 NIOSH (RTECS) Number: ZE2100000 CAS Number: 1330-20-7 OSHA PEL: 100 PPM/150 STEL ACGIH TLV: 100 PPM/150STEL;9192

Proprietary: NO Ingredient: CRESOL NOVOLAK RESIN. Ingredient Sequence Number: 04 CAS Number: 9065-82-1 OSHA PEL: NOT APPLICABLE ACGIH TLV: NOT APPLICABLE Proprietary: NO Ingredient: 2,1,5-DIAZONAPHTHOQUINONE SULFONIC ACID (ESTERS WITH 2,3,4-TRIHYDROXYBENZOPHENONE). Ingredient Sequence Number: 05 CAS Number: 5610-94-6 OSHA PEL: NOT APPLICABLE ACGIH TLV: NOT APPLICABLE _____ Proprietary: NO Ingredient: SUPP DATA: N-BUTYL ACETATE: SKIN & EYE IRRIT; INHAL OF VAPS ΑТ HIGH CONC CAN CAUSE IRRIT OF EYES & RESP (SEE ING 7) Ingredient Sequence Number: 06 NIOSH (RTECS) Number: 9999992Z OSHA PEL: NOT APPLICABLE ACGIH TLV: NOT APPLICABLE ------Proprietary: NO Ingredient: ING 6: TRACT AS WELL AS NARCOSIS; SYSTEMIC EFFECTS HAVE NOT BEEN CONCLUSIVELY SHOWN A SINGLE STUDY REPORTS (SEE ING 8) Ingredient Sequence Number: 07 NIOSH (RTECS) Number: 9999992Z OSHA PEL: NOT APPLICABLE ACGIH TLV: NOT APPLICABLE -----Proprietary: NO Ingredient: ING 7: N-BUTYL ACETATE TO HAVE CAUSED TERATOGENIC AND REPRODUCTIVE EFFECTS IN RATS VIA INHAL; NO EVIDENCE (SEE ING 9) Ingredient Sequence Number: 08 NIOSH (RTECS) Number: 9999992Z OSHA PEL: NOT APPLICABLE ACGIH TLV: NOT APPLICABLE ------Proprietary: NO Ingredient: ING 8: FOR THE LATTER HAS BEEN SEEN IN HUMANS. Ingredient Sequence Number: 09 NIOSH (RTECS) Number: 9999992Z OSHA PEL: NOT APPLICABLE ACGIH TLV: NOT APPLICABLE _____ ==== Physical/Chemical Characteristics _____ ==== Appearance And Odor: AMBER-RED LIQUID, CHARACTERISTIC ODOR. Boiling Point: 124 Specific Gravity: 1.08 Evaporation Rate And Ref: < ETHER Solubility In Water: FORMS 2 LAYERS

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Percent Volatiles By Volume: 58
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                  Fire and Explosion Hazard Data
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Flash Point: 111F,44C
Flash Point Method: TCC
Extinguishing Media: CO*2, WATER, ALCOHOL FOAM OR DRY CHEMICAL.
Special Fire Fighting Proc: USE NIOSH/MSHA APPROVED SCBA AND FULL
PROTECTIVE EQUIPMENT (FP N). USE WATER SPRAY TO COOL DRUMS IN FIRE
AREA.
Unusual Fire And Expl Hazrds: SOLVENT VAPORS. EMITS TOXIC FUMES UNDER
FIRE
CONDITIONS.
______
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                         Reactivity Data
______
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Stability: YES
Cond To Avoid (Stability): NONE SPECIFIED BY MANUFACTURER.
Materials To Avoid: OXIDIZING AGENTS, ALKALINE MATERIALS & STRONG
ACIDS.
Hazardous Decomp Products: THERMAL DECOMPOSITION MAY GENERATE CO*2, CO,
NO*X AND SULFUR AS WELL AS VOLATILE ORGANIC RESIDUES.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT
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                       Health Hazard Data
_____
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LD50-LC50 Mixture: SEE INGREDIENTS
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: 2-ETHOXYETHYL ACETATE: LIQ & HIGH CONC OF
VAP ARE EYE & RESP TRACT IRRITANTS & MAY CAUSE KIDNEY DMG, NARCOSIS, &
PARALYSIS. IN STUDIES W/LAB ANIMALS, 2-ETHOXYETHYL ACETATE CAUSED BIRTH
DEFECTS, INCREASED FETAL DEATH, DELAYED FETAL DEVELOPMENT, BLOOD
EFFECTS,
TESTICULAR DMG & MALE INFERTILITY. THIS (SEE EFTS OF OVEREXP)
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NOT RELEVANT
Signs/Symptoms Of Overexp: HLTH HAZ: PROD CONTAINS XYLENE, WHICH IS A
SKIN, EYE & MUC MEMB IRRITANT. ON INGEST, XYLENE CAUSES SEVERE GI
DISTRESS;
WHEN INHALED, HIGH CONC OF XYLENE VAPS CAUSE DIZZ, EXCITEMENT,
DROWSINESS.
INCOORDINATION, STAG GAIT, EYE, NOSE & THROAT IRRIT, & DERMAT. XYLENE
CHRONIC EXPOS IS SIMILAR TO ACUTE BUT SYMP (SUPP DATA)
Med Cond Aggravated By Exp: NONE SPECIFIED BY MANUFACTURER.
Emergency/First Aid Proc: INHAL: MOVE VICTIM TO FRESH AIR. CONSULT MD
ΤF
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IRRIT OCCURS. EYE: FLUSH THORO W/WATER FOR AT LEAST 15 MIN. GET MD TMMED. SKIN: IMMED REMOVE CONTAM CLTHG & WASH AFFECTED AREA THORO W/SOAP & WATER. CONSULT MD IF EXPOS IS EXTENSIVE OR IRRIT OCCURS. INGEST: IF PERSON IS CONSCIOUS, GIVE WATER OR MILK TO DILUTE STOMACH CONTENTS. CALL MD. ADDTNL MEASURES: ADMINISTER OXYGEN IF THERE IS DFCLT IN BRTHG. ______ ==== Precautions for Safe Handling and Use _____ ==== Steps If Matl Released/Spill: REMOVE ALL SPARKING DEVICES OR IGNITION SOURCES. PROVIDE VENT, WEARING APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT, CONTAIN SPILL, COLLECT ONTO INERT ABSORBENT. PLACE IN SUITABLE CONTAINER. Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER. Waste Disposal Method: LISTED AS A HAZ SUBSTANCE, AS DEFINED IN THE COMPREHENSIVE ENVIRONMENT RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980. DISPOSE OF OR INCINERATE IN ACCORDANCE WITH REGULATIONS. Precautions-Handling/Storing: STORE AT 30-70F. STORE IN ORIGINAL CONTAINER. TRANSPORT AND STORE UNDER DRY CONDITIONS TIGHTLY CLOSED AND PROTECTED FROM LIGHT. Other Precautions: PRESSURE MAY BUILD UP SLOWLY IN CLOSED CONTAINERS DUE TO GRADUAL DECOMPOSITION. THIS IS ACCELERATED BY HEAT AND LIGHT WITH POSSIBLE LIBERATION OF COMBUSTIBLE SOLVENT VAPORS. KEEP AWAY FROM HEAT, SPARKS & FLAME. _____ ==== Control Measures _____ ==== Respiratory Protection: NIOSH/MSHA APPROVED CHEMICAL CARTRIDGE RESPIRATOR RECOMMENDED FOR EXPOSURES EXCEEDING TLV. SEE OTHER PRECAUTIONS. Ventilation: USE LOCAL EXHAUST VENTILATION. Protective Gloves: RUBBER GLOVES. Eye Protection: CHEM WORK GOGGLES, FACESHLD OPTL (FP N). Other Protective Equipment: CLOTHING SUITABLE TO PREVENT SKIN CONTACT. Work Hygienic Practices: CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH THIS MATERIAL. Suppl. Safety & Health Data: EFTS OF OVEREXP: ALSO INCLUDE HDCH, TMPATRED MEMORY & WEAKNESS. DIRECT CONT W/XYLENE (LIQ) CAN CAUSE DERMAT; XYLENE TS READILY ABSORBED INTO SKIN; IT IS RPTD TO CAUSE REPRODUCTIVE EFFECTS & BIRTH DEFECTS IN RATS & MICE BUT THERE IS NO EVIDENCE OF THIS IN HUMANS. XYLENE IS RPTD TO BE A MUTAGEN INVITRO. (SEE INGRED 6) ______ ==== Transportation Data ______ ====

Trans Data Review Date: 91240 DOT PSN Code: GJL DOT Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S. DOT Class: 3 DOT ID Number: UN1993 DOT Pack Group: III DOT Label: FLAMMABLE LIQUID IMO PSN Code: HIA IMO Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. o IMO Regulations Page Number: 3345 IMO UN Number: 1993 IMO UN Class: 3.3 IMO Subsidiary Risk Label: -IATA PSN Code: MCA IATA UN ID Number: 1993 IATA Proper Shipping Name: FLAMMABLE LIQUID, N.O.S. * IATA UN Class: 3 IATA Label: FLAMMABLE LIQUID AFI PSN Code: MCA AFI Prop. Shipping Name: FLAMMABLE LIQUIDS, N.O.S. AFI Class: 3 AFI ID Number: UN1993 AFI Pack Group: III AFI Basic Pac Ref: 7-7 _____ ==== Disposal Data _____ ____ _____ ==== Label Data ==== Label Required: YES Technical Review Date: 02JUL91 Label Status: G Common Name: PHOTORESIST Chronic Hazard: YES Signal Word: WARNING! Acute Health Hazard-Moderate: X Contact Hazard-Moderate: X Fire Hazard-Moderate: X Reactivity Hazard-None: X Special Hazard Precautions: ACUTE:HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. AVOID BREATHING VAPOR/MIST. AVOID CONTACT WITH EYES, SKIN AND CLOTHING. WASH THOROUGHLY AFTER HANDLING. CAUSES EYE AND SKIN IRRITATION. COMBUSTIBLE LIQUID. KEEP AWAY FROM HEAT AND FLAME. CHRONIC: POSSIBLE BIRTH DEFECT HAZARD. CONTAINS MATERIAL WHICH MAY CAUSE BIRTH DEFECTS/REPRODUCTIVE DISORDERS BASED ON ANIMAL DATA. Protect Eye: Y Protect Skin: Y Protect Respiratory: Y

Label Name: HOECHST CELANESE CORPORATION Label Street: ROUTE 202-206 NORTH Label City: SOMERVILLE Label State: NJ Label Zip Code: 08876 Label Country: US Label Emergency Number: 201-231-4944