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**PRO-CAST  
 MATERIAL SAFETY DATA SHEET  
 " A " COMPONENT**

**SECTION I**

**TRADE NAME:** MPFX Pro-Cast

**COMPANY:** Motion Picture F/X Company  
**ADDRESS:** 2923 Thornton Ave Burbank, CA 91504  
**EMERGENCY TELEPHONE:** INFOTRAC 1-800-535-5053 or +1-352-323-3500 (outside USA)

**CHEMICAL NAME:** POLYMERIC : 4,4 - DIPHENYLMETHANE DIISOCYANATE  
**CHEMICAL FAMILY:** POLYMERIC ISOCYANATE  
**HMS RATING:** HEALTH- 3, FLAMMABILITY- 1, REACTIVITY- 1, PERSONAL HEALTH- C

**SECTION II HAZARDOUS INGREDIENTS**

<b>COMPONENTS:</b>	<b>COMPONENT %</b>
Diphenylmethane Diisocyanate CAS 101-68-8	30-50
Modified MDI CAS 25686-28-6	30-50
Diisodecyl Phthalate CAS 26761-40-0	10-40

**SECTION III PHYSICAL DATA**

**BOILING POINT (F):** @5MM HG 350-410 F; DECOMPOSES >646F  
**SPECIFIC GRAVITY:** 1.20  
**VAPOR PRESSURE (mm Hg):** @25C 3MM  
**PERCENT VOLATILE BY VOLUME (%):** 40  
**VAPOR DENSITY (AIR=1):** APPROX 8.6  
**SOLUBILITY IN WATER:** Reacts  
**VOC %:** 0  
**APPEARANCE AND ODOR:** NO ODOR; VISCOUS LIQUID WITH AMBER TO CLEAR PEACH COLOR.

**SECTION IV  
 FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT (METHOD USED):** 262F ASTM D56 TAG CLOSED CUP  
**FLAMMABLE LIMITS:** ETHANOL LeI - N/A, UeI - N/A  
**EXTINGUISHING MEDIA:** WATER FOG, ALCOHOL FOAM, FOAM CO<sub>2</sub> DRY CHEMICAL  
**SPECIAL FIRE FIGHTING PROCEDURES:** USE APPROVED RESPIRATOR & PROTECTIVE CLOTHING. USE LARGE AMOUNTS OF WATER, AS THE REACTION BETWEEN HOT ISOCYANATES AND WATER CAN BE VIGOROUS. USE SELF CONTAINED BREATHING APPARATUS AND BODY COVERING PROTECTIVE CLOTHING.  
**UNUSUAL FIRE AND EXPLOSION HAZARDS:** WATER CONTAMINATION WILL PRODUCE CARBON DIOXIDE. DO NOT RE SEAL CANTAMINATED CONTAINERS ASPRESSURE BUILDU P MAY RUPTURE THEM.

**SECTION V HEALTH HAZARD DATA**

**ANIMAL TOXICITY:**  
 ORAL, LD 50 (INGESTION).....:N.E.  
 DERMAL, LD (SKIN CONTACT).....:N.E.

INHALATION, LC 50 (4 HOUR).....:N.E.  
AQUATIC, LC 50 (24 HOUR).....:N.E.  
EYES.....:N.E.  
SKIN.....:N.E.  
OTHER.....:NONE

NO CONCLUSIVE EVIDENCE HAS BEEN DEVELOPED TO INDICATE THAT MDI IS A CARCINOGENIC, TERATOGENIC, OR THAT IT CAUSES REPRODUCTIVE DEFECTS IN ANIMALS AND HUMANS; HOWEVER, MDI HAS BEEN REPORTED BY NIOSH TO BE MUTAGENIC TO SALMONELLA TYPHIMURIUM BACTERIA. THERE IS NOT FULL AGREEMENT IN THE SCIENTIFIC COMMUNITY AS TO THE SAFETY OF HUMAN CANCER RISKS.

#### **HUMAN EFFECTS OF OVEREXPOSURE**

**INHALATION:** MAY CAUSE BREATHLESSNESS, SEVERE COUGHING, CHEST DISCOMFORT, IRRITATION OF MUCOUS MEMBRANE AND REDUCED PULMONARY FUNCTION (REACTION MAY BE DELAYED 4-8 HOURS). SOME INDIVIDUALS MAY DEVELOP SENSITIVITY LEADING TO ASTHMA-LIKE SYMPTOMS ON SUBSEQUENT EXPOSURES BELOW THE TLV. THIS PRODUCT CONTAINS PETROLEUM SOLVENTS. INHALATION OF THESE VAPORS MAY ALSO CAUSE HEADACHES, DIZZINESS, AND HAVE OTHER EFFECTS ON THE CENTRAL NERVOUS SYSTEM.

**SKIN:** MINOR IRRITATION MAY RESULT FROM ISOCYANATE REACTION WITH SKIN MOISTURE AND PROTEIN. TEMPORARY STAINS OF THE SKIN MAY RESULT. ALLERGIC SENSITIVITY MAY OCCUR FOR SOME INDIVIDUALS. REPEATED CONTACT WITH THE SOLVENT IN THIS PRODUCT MAY LEAD TO DERMATITIS.

**EYES:** MAY LEAD TO IRRITATION WITH TEARING. MDI MAY REACT WITH MOISTURE IN THE EYES.

**INGESTION:** IRRITATION AND POSSIBLE CORROSIVE ACTION IN THE MOUTH, THROAT, AND STOMACH TISSUES. VOMITING MAY OCCUR.

**THRESHOLD LIMIT VALUE (ACGIH):** 0.02 PPM (0.2 MG/M3) FOR THE MDI 100 PPM (563 MG/M3) PER 8 HOUR WORK DAY; RECOMMENDED BY EXXON PERMISSIBLE EXPOSURE LIMIT (OSHA): SAME.

#### **EMERGENCY AND FIRST AID PROCEDURES**

**EYE CONTACT:** FLUSH WITH CLEAN, WARM WATER AT LOW PRESSURE FOR AS LEAST 15 MINUTES, OCCASIONALLY LIFTING THE EYELIDS. CONSULT A PHYSICIAN IMMEDIATELY.

**SKIN CONTACT:** WASH EXPOSED SKIN WITH WARM, SOAPY WATER THOROUGHLY, ALCOHOL MAY BE HELPFUL. CONSULT A PHYSICIAN IF SWELLING OR REDNESS APPEARS.

**INHALATION:** MOVE PERSONNEL OUT OF EXPOSURE AREA IMMEDIATELY. IF BREATHING IS LABORED OR DIFFICULT, OXYGEN SHOULD BE ADMINISTERED BY TRAINED PERSONNEL. IF BREATHING HAS STOPPED, APPLY ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN IMMEDIATELY. RESPIRATORY RESPONSE MAY BE DELAYED 4-8 HOURS AFTER EXPOSURE.

**INGESTION:** DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN IMMEDIATELY. ASPIRATION OF THE PETROLEUM SOLVENT CAN CAUSE SEVERE PULMONARY DAMAGE OR DEATH.

**NOTE TO PHYSICIAN:** TREAT SYMPTOMATICALLY: BRONCHODIALATORS; OXYGEN.

#### **SECTION VI REACTIVITY DATA**

**STABILITY:** STABLE

**CONDITIONS TO AVOID:** AVOID TEMPERATURES GREATER THAN 100 F

**INCOMPATIBILITY (MATERIALS TO AVOID):** WATER, STRONG BASES, ALCOHOLS, METAL COMPOUNDS AND SURFACE ACTIVE AGENTS. WILL CAUSE SOME CORROSION TO COPPER ALLOYS AND ALUMINUM. STRONG OXIDENTS AND IGNITION SOURCES DUE TO PETROLEUM SOLVENT.

**HAZARDOUS DECOMPOSITION PRODUCTS:** @ >400F: CARBON MONOXIDE, OXIDES OR NITROGEN AND TRACES OF HYDROGEN CYANIDE AS WELL AS CO AND ALDEHYDES.

**HAZARDOUS POLYMERIZATION:** MAY OCCUR; CONTAMINATION BY MOISTURE OR OTHER MATERIALS, WHICH REACT WITH ISOCYANATES SHOULD BE AVOIDED; CONTAMINATED CONTAINERS SHOULD BE LEFT VENTED AND MOVED TO A SAFE AREA FOR NEUTRALIZATION AND PROPER DISPOSAL.

## **SECTION VII SPILL OR LEAK PROCEDURES**

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**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** ONLY PROPERLY PROTECTED PERSONNEL SHOULD REMAIN IN THE AREA. CONTAIN THE SPILL, COVER LIQUID WITH ABSORBENT MATERIAL (SAW DUST, OIL ABSORBENT, ETC.) PLACE IN OPEN TOP CONTAINERS AND TREAT WITH DECONTAMINATION SOLUTION (90% WATER, 6% AMMONIA, 4% DETERGENT). REMOVE CONTAINERS TO A SAFE AREA AND LET STAND 24-48 HOURS. VENTILATE AREA TO REMOVE VAPORS. ALL SOURCES OF IGNITION SHOULD BE REMOVED.

**WASTE DISPOSAL METHOD:** IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

## **SECTION VIII SPECIAL PROTECTION INFORMATION**

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**EYE PROTECTION:** LIQUID CHEMICAL GOGGLES OR FULL FACE SHIELD. NO CONTACT LENSES SHOULD BE WORN.

**SKIN PROTECTION:** CHEMICAL RESISTANT GLOVES SUCH AS NATURAL RUBBER OR POLYVINYL ALCOHOL. COVER AS MUCH OF THE EXPOSED SKIN AS POSSIBLE WITH APPROPRIATE CLOTHING. IF SKIN CREAMS ARE USED, KEEP AREA COVERED BY CREAM TO MINIMUM.

**RESPIRATORY PROTECTION:** FOR SHORT TERM EXPOSURES, USE AN ORGANIC FILTER RESPIRATOR MASK OF A TYPE APPROVED BY NIOSH OR U.S. MINING ENFORCEMENT AND SAFETY ADMINISTRATION. SUPPLIED AIR OR SELF- CONTAINED BREATHING APPARATUS IS PREFERRED. MDI HAS A LOW VAPOR PRESSURE AND IS MANDATORY. NO SMOKING OR OPEN LIGHTS ARE PERMITTED.

**VENTILATION:** GENERAL MECHANICAL OR LOCAL EXHAUST TO MAINTAIN LEVELS BELOW TLV.

**OTHER:** SAFETY SHOWERS AND EYE WASH STATIONS SHOULD BE ACCESSIBLE IN ALL WORK AREAS. ALL EMPLOYEES SHOULD BE PROPERLY TRAINED.

## **SECTION IX SPECIAL PRECAUTIONS**

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**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** KEEP CONTAINER CLOSED. STORE IN A COOL PLACE.

**OTHER PRECAUTIONS:** KEEP AWAY FROM HEAT, SPARKS AND FLAME. USE ONLY WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

## **SECTION X SHIPPING INFORMATION**

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**HMIS RATING:** HEALTH- 3, FLAMMABILITY- 1, REACTIVITY- 1, PERSONAL HEALTH- C

**SARA 313:** DIPHENYLMETHANE DIISOCYANATE CAS 101-68-8 30-50%

**DOT(HM-181) Domestic Surface) : NOT REGULATED UNDER 5,000#**

**MATERIAL SAFETY DATA SHEET**  
**" B " COMPONENT**

**SECTION I**

**TRADE NAME:** MPFX Pro-Cast

**COMPANY:** Motion Picture F/X Company

**ADDRESS:** 2923 Thornton Ave Burbank, CA 91504

**EMERGENCY TELEPHONE:** INFOTRAC 1-800-535-5053 or +1-352-323-3500 (outside USA)

**CHEMICAL NAME:** POLYMERIC ALCOHOL

**CHEMICAL FAMILY:** POLYETHER POLYOL

**FORMULA:** POLYOL, URETHANE RESIN

**HMIS RATING :** HEALTH- 1, FLAMMABILITY- 1, RACTIVITY- 0, PROTECTIVE EQUIPMENT- D

**SECTION II HAZARDOUS INGREDIENTS**

**COMPONENTS:**

COMPONENT	%
HYDROXYL TERMINATED POLY(OXYALKYLENE) POLYETHER CAS 9082-00-2	50
AMINE BEARING HYDROXYL TERMINATED POLY (OXYALKYLENE): POLYETHER- CAS 25214-63-5	50

**SECTION III PHYSICAL DATA**

**BOILING POINT (F):** DECOMPOSES      **SPECIFIC GRAVITY:** 1.02

**VAPOR PRESSURE** (mm Hg.): N.E.

**PERCENT VOLATILE BY VOLUME:** N/A

**SOLUBILITY IN WATER:** SLIGHTLY SOLUBLE

**VAPOR DENSITY (AIR=):** N.E.      **EVAPORATION RATE:** N/A

**APPEARANCE & ODOR:** VISCOUS LIQUID, AMBER TO CLEAR IN COLOR, SLIGHT PUNGENT  
ODOR. SILWHITE B- WHITE IN COLOR

**SECTION IV**

**FIRE AND EXPLOSION HAZARD DATA**

**FLASH POINT (METHOD USED):** 262F ASTM D56 TAG CLOSED CUP

**FLAMMABLE LIMITS:** NOT MEASURED

**EXTINGUISHING MEDIA:** DRY CHEMICAL SUCH AS MONOAMMONIUM PHOSPHATE, POTASSIUM SULFATE, POTASSIUM CHLORIDE; CARBON DIOXIDE, HIGH EXPANSION (PROTEINIC) CHEMICAL FOAM, WATER SPRAY FOR LARGE FIRES.

**SPECIAL FIRE FIGHTING PROCEDURES:** DO NOT DIRECT SOLID WATER STREAM OR FOAM INTO HOT, BURNING POOLS; THIS MAY CAUSE FROTHING AND INCREASE FIRE INTENSITY. USE SELF-CONTAINED APPARATUS AND BODY COVERING PROTECTIVE CLOTHING; BURNING CAN PRODUCE OXIDE OF CARBON AND NITROGEN.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** NONE

## **SECTION V HEALTH HAZARD DATA**

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### **ANIMAL TOXICITY**

ORAL, LD 50 (INGESTION).....N.E.  
DERMAL, LD 50 (SKIN CONTACT).....N.E.  
INHALATION, LC 50 (4 HOURS).....N.E.  
AQUATIC, LC 50 (24 HOURS).....N.E.  
EYES.....N.E.  
SKIN.....N.E.

### **EMERGENCY AND FIRST AID PROCEDURES**

**THRESHOLD LIMIT VALUE:** NO TLV HAS BEEN REQUIRED- N/A

**EFFECTS OF OVEREXPOSURE:** N/A

**EYE CONTACT:** MAY CAUSE SLIGHT IRRITATION; FLUSH WITH WATER 15 MINUTES

**INGESTION:** INDUCE VOMITING, NO EVIDENCE OF ADVERSE EFFECTS TO DATE.

**INHALATION:** REMOVE TO FRESH AIR, NO ADVERSE EFFECT TO DATE

**SKIN:** WASH WITH WARM WATER AND SOAP, REMOVE CLOTHING WASH BEFORE WEARING AGAIN.

## **SECTION VI REACTIVITY DATA**

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**STABILITY:** STABLE

**CONDITIONS TO AVOID:** N/A

**INCOMPATIBILITY:** (MATERIALS TO AVOID) CONTACT WITH ISOCYANATES OR SUBSTANCES WITH REACTIVE HYDROXYL GROUPS

**HAZARDOUS DECOMPOSITION PRODUCTS:** ALIPHATIC FRAGMENTS, CO, NH<sub>3</sub>, CO<sub>2</sub>

**HAZARDOUS POLYMERIZATION:** WILL NOT OCCUR

## **SECTION VII SPILL OR LEAK PROCEDURES**

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**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** ONLY PROPERLY PROTECTED PERSONNEL SHOULD REMAIN IN THE AREA. CONTAIN THE SPILL, COVER LIQUID WITH ABSORBENT MATERIAL (SAW DUST, OIL ABSORBENT, ETC.) PLACE IN OPEN TOP CONTAINERS AND TREAT WITH DECONTAMINATION SOLUTION (90% WATER, 6% AMMONIA, 4% DETERGENT). REMOVE CONTAINERS TO A SAFE AREA AND LET STAND 24-48 HOURS. VENTILATE AREA TO REMOVE VAPORS. ALL SOURCES OF IGNITION SHOULD BE REMOVED.

**WASTE DISPOSAL METHOD:** IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

## **SECTION VIII SPECIAL PRECAUTIONS & STORAGE DATA**

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**STORAGE TEMPERATURE (MIN./MAX):** 64F (18C) TO 86F (30C)

**STORAGE SHELF LIFE:** 6 MONTHS

**SPECIAL SENSITIVITY (HEAT, LIGHT, MOISTURE):** MATERIAL HYGROSCOPIC, KEEP CONTAINER TIGHTLY SEALED DO NOT EXPOSE TO HIGH TEMPERATURES FOR ANY LENGTH OF TIME AS ALDEHYDES MAY BE FORMED.

**PRECAUTIONS IN HANDLING AND STORAGE:** STORE IN TIGHTLY SEALED CONTAINERS TO PREVENT MOISTURE CONTAMINATION

## **SECTION IX SPECIAL PROTECTION INFORMATION**

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**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** KEEP CONTAINER CLOSED. STORE IN A COOL PLACE AND KEEP AWAY FROM HEAT OR FLAME. DON'T LAY CONTAINER ON ITS SIDE.

**OTHER PRECAUTION:** AVOID PROLONGED CONTACT WITH EYES AND REPEATED CONTACT WITH SKIN.

#### **SECTION X SHIPPING DATA**

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**HMIS RATING :** HEALTH- 1, FLAMMABILITY- 1, RACTIVITY- 0, PROTECTIVE EQUIPMENT- D

**TECHNICAL SHIPPING NAME:** POLYMERIC POLYOL

**DOT HAZARD CLASSIFICATION:** NON-REGULATED

**SARA 313:** NOT LISTED

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** CONTAIN THE SPILL OR LEAK, SCRAPE UP WITH CARDBOARD OR A BAG AND PLACE IN A CONTAINER.

**WASTE DISPOSAL METHOD:** DISPOSED WITH LOCAL REGULATIONS.

**H.S. CODE:** 390950