PLASTOPANG

Product: 1090

CMP21

Section 1 : PRODUCT AND COMPANY IDENTIFICATION

Manufacturer: Truflex/Pang Rubber Products Company, Inc.
200 East Coshocton Street
P.O. Box 486
Johnstown, Ohio 43031.

Manufacturer emergency phone number: Chemtrec 800–424–9300.
International: 703–527–3887.

Supplier: Same as manufacturer.

Product name: Plastopang (MSDS #1090)

Product uses: Balancing compound.

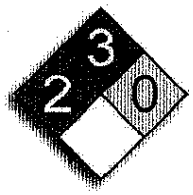
Catalog number(s): TL, TM, TP series

Effective date: 2007/03/09

Revision No.: 6

Last review: 2007/03/09

NFPA:



Section 2 : INGREDIENT INFORMATION

CAS	Concentration %	Product Name	OSHA PEL TWA	OSHA PEL STEL	ACGIH TLV TWA	ACGIH TLV STEL	NIOSH REL TWA	NIOSH REL STEL	NIOSH IDLH
67-64-1	<50	ACETONE	750 PPM		500 PPM	1000 PPM	250 PPM		
78-93-3	<40	METHYL ETHYL KETONE (MEK)	200 PPM/8H	300 PPM	200 PPM	300 PPM	200 PPM	300 PPM	

Section 2A: ADDITIONAL INGREDIENT INFORMATION

Note: (supplier).
CAS # 67–64–1: LD50 20,000 mg/m3 rabbit dermal.

Section 3 : HAZARD IDENTIFICATION

Route of entry: Skin contact, eye contact, inhalation and ingestion.

Effects of acute exposure

Eye contact: May cause irritation.
May cause redness and tearing.
May cause stinging.
May cause swelling.

Skin contact: May cause skin burns.
May cause mild irritation.
May cause drying and cracking.
May cause redness or burning sensation.

Inhalation: May cause metallic taste.
May cause weakness and fatigue.
May cause respiratory irritation.
May cause loss of coordination.
May cause drowsiness.
May cause unconsciousness.
May cause confusion.
May cause coma and death.
May cause headache, dizziness and nausea.
Breathing large amounts may be harmful.
May cause light headedness.
May cause nose and throat irritation.
May cause central nervous system depression.

Ingestion: May cause nausea, vomiting and diarrhea.
May cause gastro–intestinal irritation.
No hazard known for ingestion of small quantities.
Aspiration hazard if swallowed.
May cause central nervous system depression.

Effects of chronic exposure: May cause kidney effects.
May cause liver effects.

Section 4 : FIRST AID MEASURES

Skin contact: Remove contaminated clothing.
Wash with mild soap and water.
Consult a physician if irritation persists.

Eye contact: Flush eyes with clear, running water for 20 minutes while holding eyelids open. If irritation persists, consult a physician.

Inhalation: Keep person warm and at rest.
Remove victim to fresh air. If breathing is difficult administer oxygen. If not breathing, have qualified person give artificial respiration. Obtain medical attention.

Ingestion: If victim is drowsy or unconscious, place on left side with head down. Do not leave individual unattended.
Never give anything by mouth to an unconscious person.
Do not induce vomiting, seek immediate medical attention.

Additional 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. This company shall not be held liable for any inaccuracies.

Section 5 : FIRE FIGHTING MEASURES

Flammability: Extremely flammable.

Conditions of flammability: Vapours are heavier than air and may travel along the ground and be ignited by flames, sparks or other ignition sources at locations distant from the material handling point.
Heat, sparks and open flames.

Extinguishing media: Carbon dioxide, dry chemical, foam.

Special procedures: Self–contained breathing apparatus required.
Firefighters should wear the usual protective gear.

Auto-ignition temperature: Not available.

Flash point (°C), method: −9 (16°F)

Lower flammability limit (% vol): 1.8

Upper flammability limit (% vol): 13.0

Explosion Data

Sensitivity to static discharge: Take precautionary measures against static discharge.

Sensitivity to mechanical impact: Not available.

Hazardous combustion products: Oxides of carbon (CO, CO2).
Various hydrocarbons.

Rate of burning: Not available.

Explosive power: Product (even just residue) can ignite explosively.

Section 6 : ACCIDENTAL RELEASE MEASURES

Leak/Spill: Recover using a pump.
Eliminate all sources of ignition.
Dike area to prevent spreading.
Evacuate all non-essential personnel.
Prevent entry into drains, sewers, and other waterways.
Absorb residual material with sand or other absorbent material.
Stop leak if without risk.
Wear appropriate protective equipment.
Ground handling equipment.
Transfer to an approved container for disposal.
Notify the appropriate authorities as required.

Section 7 : HANDLING AND STORAGE

Handling procedures and equipment: Maintain a good personal hygiene.
Keep away from heat, sparks, and open flame.
Use adequate ventilation.
Wash thoroughly after using, particularly before eating or smoking.
Wear personal protective equipment appropriate to task.
Empty containers containing residue may cause a hazard.
Do not cut, grind, weld or drill empty container.
Use proper grounding procedures.
Avoid contact with skin, eyes and clothing.
Avoid breathing vapor, fumes or mist.
Launder contaminated clothing prior to reuse.
Do not ingest.

Storage requirements: Store away from all sources of ignition.
Store at ambient temperature.
Store away from strong acids or oxidizers.
Average shelf life: 2 years.
Store at 50°C (122°F).

Section 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

Precautionary Measures

Gloves/Type:

Chemical resistant gloves.

Respiratory/Type:

NIOSH approved respirator, if necessary.
(negative pressure type).

Eye/Type:

Splash proof chemical goggles.

Footwear/Type:

Impervious boots.

Clothing/Type: Impervious clothing.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Explosion proof ventilation equipment.
Local exhaust and/or general ventilation.
Provide sufficient mechanical ventilation to maintain exposure below TLV.

Section 9 : PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid.

Appearance & odor: White
High viscosity liquid.
Strong solvent, ketonic odor.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): 124 @ 37.7°C (100°F)

Vapour density (air=1): Heavier than air.

Volatiles (%)

By volume: 40%

Evaporation rate (butyl acetate = 1): Not available.

Boiling point (°C): @ 760 mm Hg.
56 (133F)

Freezing point (°C): Not available.

pH: Not available.

Specific gravity @ 20 °C: 0.86 @ 15.5°C (60°F)

Solubility in water (%): Not available.

Coefficient of water\oil dist.: Not available.

VOC: 2.64 lbs/gal (316.7 g/l)

Section 10 : STABILITY AND REACTIVITY

Chemical stability: Product is stable.

Conditions of instability: None known.

Hazardous polymerization: Will not occur.

Incompatible substances: Strong acids.
Strong oxidizing agents.

Hazardous decomposition products: See hazardous combustion products.

Section 11 : TOXICOLOGICAL INFORMATION

LD50 of product, species & route: Not available for mixture, see the ingredients section.

LC50 of product, species & route: Not available for mixture, see the ingredients section.

Exposure limit of material: Not available for mixture, see the ingredients section.

Sensitization to product: Not available.

Reproductive effects: Methyl ethyl ketone has caused reproductive effects.

Teratogenicity: Not available.

Mutagenicity: Contains potential mutagen.

Synergistic materials: Not available.

Section 12 : ECOLOGICAL INFORMATION

Environmental toxicity: No data at this time.

Environmental fate: No data at this time.

Section 13 : DISPOSAL CONSIDERATIONS

Waste disposal: In accordance with municipal, provincial and federal regulations.

Section 14 : TRANSPORT INFORMATION

DOT: ADHESIVES
UN1133
Class 3
PG II.

Labels required: Flammable liquid.

Emergency response guidebook number: 128

EmS number: 3–05

Reportable Quantity (DOT): 100 lbs (45.4kg)

Additional shipping information: As packaged for distribution (<1L containers), this product may ship as a Consumer Commodity, (ORM–D Domestic US).
IMDG – (<1L containers) Dangerous goods in limited quantities of Class 3.
IATA – (<1L containers) consumer commodity, 9, ID 8000.

Special shipping information: See transportation information.

Section 15 : REGULATORY INFORMATION

USA Regulatory Information

SARA hazard catagories sections 311/312: Not available.

SARA Section 313: Acetone (67–64–1).
Methyl ethyl ketone (78–93–3).

CERCLA reportable quantity: Not available.

TSCA inventory: All ingredients are listed on the TSCA inventory.

Section 16 : OTHER INFORMATION

Data prepared by: Global Safety Management
3340 Peachtree Road, #1800
Atlanta, GA 30326

Phone: 877–683–7460
Fax: (877) 683–7462

Web: www.globalsafetynet.com
Email: info@globalsafetynet.com.

See www.techtirerepairs.com for the latest MSDSs.

Bayer

MATERIAL SAFETY DATA SHEET

BAYER
PRODUCT REGULATORY AFFAIRS
100 Bayer
Pittsburg 9741

TRANSPORTATION EMERGENCY
CALL CHEMTREC: 800-424-9300
DISTRICT OF COLUMBIA: 202-483-7616

NON-TRANSPORT
BAYER EMERG (412) 923-1800
BAYER INFO (800) 662-2927

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Desmodur RF-E
PRODUCT CODE.....: R7510002
CHEMICAL FAMILY.....: Isocyanate
CHEMICAL NAME.....: Tris(4-Isocyanatophenyl)Thiophosphate
PRODUCT USE.....: Thermoplastic Polyurethane Applic

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	
***** HAZARDOUS INGREDIENTS *****		
Tris(4-Isocyanatophenyl) Thiophosphate 4151-51-3	OSHA : Not Established ACGIH: Not Established	27 %
An exposure guideline of 0.005 ppm TWA, 0.02 ppm STEL is suggested based on established exposure limits for Toluene Diisocyanate.		
Ethyl Acetate (EA) 141-78-6	OSHA : 400.00 ppm TWA ACGIH: 400.00 ppm TWA	70-72.5 %
Monochlorobenzene (MCB) 108-90-7	OSHA : 75.00 ppm TWA ACGIH: 10.00 ppm TWA	0.5-3.0 %

Continued on next page

3. HAZARDS IDENTIFICATION:

****
* EMERGENCY OVERVIEW *
*
* WARNING! Flammable; Color: Yellowish to brownish; Form: *
* Liquid; Liquid; Odor: Of solvents; May cause eye, skin, and *
* respiratory tract irritation; May cause allergic respiratory *
* reaction; Harmful if inhaled; May cause allergic skin *
* reaction; May cause lung damage; Vapors may spread long *
* distances and ignite; Closed container may explode under *
* extreme heat or when contaminated with water; Toxic *
* gases/fumes are given off during burning or thermal *
* decomposition.
****

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Inhalation from product aerosols or vapors formed during heating or spraying; skin and eye contact with liquid and aerosols.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:
ACUTE INHALATION.....: Isocyanate vapors or mist at concentrations above the exposure guideline can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits with similar symptoms as well as asthma attack. Exposure well above the exposure guideline may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure. Solvent vapors are irritating to the eyes, nose, throat and respiratory tract resulting in red, itchy eyes, dryness of the throat and tightness in the chest. Other possible symptoms of overexposure include headache, nausea, narcosis, fatigue and loss of appetite. Ethyl Acetate (EA) odor may be objectionable at 200 ppm and is mildly irritating to the eyes, nose and throat at 400 ppm. At concentrations in excess of 13,000 ppm EA is only mildly narcotic. Monochlorobenzene vapors can cause eye and nasal irritation at 200 ppm at which the odor is both unpleasant and pronuonced.
CHRONIC INHALATION.....: As a result of previous repeated overexposures or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the exposure limits. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours

Continued on next page

3. HAZARDS IDENTIFICATION (Continued)

after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent. Chronic exposure to organic solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include loss of memory, loss of intellectual ability and loss of coordination. Based on animal data, overexposure to monochlorobenzene vapors may cause liver and kidney effects (see Animal Toxicity Section).

ACUTE SKIN CONTACT.....: Product may react with skin protein and moisture and may cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

CHRONIC SKIN CONTACT.....: Prolonged contact may cause reddening, swelling, rash, scaling, blistering, and in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor. Repeated or prolonged skin contact with the solvents can result in dry, defatted and cracked skin causing increased susceptibility to infection. In addition, dermatitis and skin rash and redness may occur from skin contact. EA does not readily penetrate the skin to cause systemic toxic effects.

ACUTE EYE CONTACT.....: Product liquid, aerosols or vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible. See First Aid Section for treatment.

CHRONIC EYE CONTACT.....: May cause conjunctivitis.

ACUTE INGESTION.....: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. If aspirated (liquid enters the lung) Monochlorobenzene may be rapidly absorbed through the lungs and result in effects similar to those described above for inhalation.

CHRONIC INGESTION.....: None Found

CARCINOGENICITY.....: The components of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Liver and kidney disorders, asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

EXPOSURE LIMITS.....: No exposure limits have been established for product as a whole. See Section 2 for exposure limits and/or exposure guidelines of the hazardous ingredients.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Refer individual to physician or ophthalmologist for immediate follow-up.
FIRST AID FOR SKIN.....: Remove contaminated clothing. Wash affected skin thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists after the area is washed.
FIRST AID FOR INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult physician should this occur.
FIRST AID FOR INGESTION.: DO NOT INDUCE VOMITING. Give 1 to 2 cups of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Consult physician.
NOTE TO PHYSICIAN.....: Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace isocyanate vapors have produced reversible corneal epithelial edema impairing vision. Skin: Isocyanates are known skin sensitizers. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. Ingestion: Treat symptomatically. There is no specific antidote for isocyanates. For Monochlorobenzene, administration of adrenaline is not recommended. Respiratory: Isocyanates are known pulmonary sensitizers. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

5. FIRE FIGHTING MEASURES:

FLASH POINT.....: 23.0 F (-5.0 C)
FLAMMABLE LIMITS:
  UPPER EXPLOSIVE LIMIT (UEL)(%): 11% Ethyl acetate
  LOWER EXPLOSIVE LIMIT (LEL)(%): 2.2% Ethyl acetate
  UPPER EXPLOSIVE LIMIT (UEL)(%): 7.1% Monochlorobenzene
  LOWER EXPLOSIVE LIMIT (LEL)(%): 1.3% Monochlorobenzene
AUTO-IGNITION TEMPERATURE.....: 860 F (460 C)
EXTINGUISHING MEDIA.....: Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.
SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by fire fighters. During a fire, HDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion (see Reactivity Section).

5. FIRE FIGHTING MEASURES (Continued)

UNUSUAL FIRE / EXPLOSION HAZARDS: Closed container may explode when exposed to extreme heat or burst when contaminated with water (CO2 evolved). Solvent vapors may be heavier than air. Stagnant air may cause vapors to build up and travel along the ground to an ignition source which may result in a flash back to the source of the vapors. Isolate from heat, electrical equipment, sparks and open flame.

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. (See Protective Equipment Section). Major Spill: Call Bayer Corporation at 412/923-1800. If transportation spill, call CHEMTREC 800/424-9300. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be placed over the spill. Large quantities may be pumped into closed, but not sealed, container for disposal. Minor Spill: Absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%), or; water (90%), concentrated ammonia (3-8%) and detergent (2%). Add about 10 parts of neutralizer per part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let CO2 escape. Clean-up: Decontaminate floor with decontamination solution letting stand for at least 15 minutes.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE(MIN/MAX): Ambient/122F (50C)
SHELF LIFE.....: 6 months
SPECIAL SENSITIVITY.....: If container is exposed to high heat it can be pressurized and possibly rupture. Isocyanates react slowly with water to form CO2 gas. This gas can cause sealed containers to expand and possibly rupture.
HANDLING/STORAGE PRECAUTIONS: Keep away from heat, sparks or open flame. Ground container during storage and transfer operation. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Avoid contact with skin and eyes. Do not breathe aerosols or vapors. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. Isocyanates can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Exposure to vapors of heated isocyanates can be extremely dangerous. Employee education and training in the safe use and handling of this compound are

required under the OSHA Hazard Communication Standard.

8. PERSONAL PROTECTION:

EYE PROTECTION REQUIREMENTS.....: Liquid chemical goggles or full-face shield. Contact lenses should not be worn.

SKIN PROTECTION REQUIREMENTS.....: Chemical resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered by the cream to a minimum.

HAND PROTECTION REQUIREMENTS.....: See Skin Protection.

VENTILATION REQUIREMENTS.....: Local exhaust should be used to maintain levels below the exposure limits or guidelines. For spray applications, an air-supplied respirator must be worn. Standard reference sources regarding industrial ventilation (ie., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation.

RESPIRATOR REQUIREMENTS.....: Concentrations greater than the exposure guideline can occur when isocyanates are sprayed, heated or used in a poorly ventilated area. In such cases, or whenever concentrations of isocyanates and solvents exceed the exposure guideline or limits, respiratory protection must be worn. A supplied-air respirator or a self-contained breathing apparatus is recommended. In situations where isocyanates are not sprayed or heated and a supplied-air or self-contained apparatus is unavailable or its use impractical, at least an air-purifying respirator equipped with a particulate filter must be worn. HOWEVER, THIS SHOULD BE PERMITTED ONLY FOR SHORT PERIODS OF TIME (LESS THAN ONE HOUR) AT RELATIVELY LOW CONCENTRATIONS (AT OR NEAR THE EXPOSURE GUIDELINE OR LIMITS). However, due to the poor warning properties of isocyanates, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respirator use (29 CFR 1910.134).

MONITORING.....: Isocyanate exposure levels must be monitored by accepted monitoring techniques to ensure that the exposure limits are not exceeded. (Contact Bayer Corporation for guidance) See Volume 1 (Chapter 17) and Volume 3 (Chapter 3) in Patty's Industrial Hygiene and Toxicology for sampling strategy.

MEDICAL SURVEILLANCE.....: Medical supervision of all employees who handle or come in contact with isocyanates are recommended. These should include preemployment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to isocyanates, no further exposure can be permitted.

ADDITIONAL PROTECTIVE MEASURES.....: Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Liquid
APPEARANCE.....: Liquid
COLOR.....: Yellowish to brownish
ODOR.....: Of solvents
ODOR THRESHOLD.....: Not established
BOILING POINT.....: 171 F (77 C) at 760 mmHg
MELTING/FREEZING POINT....: Not established
VISCOSITY.....: Approx. 10 sec flow time at 68 F (20 C)
SOLUBILITY IN WATER .....: Reacts slowly with water to liberate CO2 gas.
SOLUBILITY (NON AQUEOUS)..: Acetone, methylene chloride
SPECIFIC GRAVITY .....: 1.0 at 68 F (20 C)
BULK DENSITY.....: Not established
% VOLATILE BY VOLUME.....: Approx. 73
VAPOR PRESSURE .....: 0.00003 mmHg for Tris(4-Isocyanatophenyl) Thiophosphate; 75 mmHg at 68F for EA; 8.8 mmHg at 68F for MCB

10. STABILITY AND REACTIVITY:

STABILITY.....: Stable under normal conditions.
HAZARDOUS POLYMERIZATION...: May occur; May occur if in contact with moisture or other materials which react with isocyanates.
INCOMPATIBILITIES.....: Water, amines, alcohols, acids and alkali. Avoid heat, sparks, flames.
INSTABILITY CONDITIONS.....: Excessive heat
DECOMPOSITION TEMPERATURE..: Above 171F (77C)
DECOMPOSITION PRODUCTS.....: By high heat and fire: carbon monoxide, NOx, POx SOx, HCl, isocyanate vapors, and small amounts of phosgene, chlorine, and HCN.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: A similar product
ACUTE TOXICITY
ORAL LD50.....: Above 2000 mg/kg (rat)*
EYE EFFECTS.....: Slightly irritating to rabbit eyes*
SKIN EFFECTS.....: Non-irritating to rabbit skin*

*Testing conducted at the Institute for Toxicology, Bayer AG.

TOXICITY DATA FOR: Ethyl Acetate

Continued on next page

11. TOXICOLOGICAL INFORMATION (Continued)

ACUTE TOXICITY
ORAL LD50.....: 5,600 mg/kg (Rat). *
INHALATION LC50....: 16,000 ppm (Rat). **
MUTAGENICITY.....: Mutations were noted in hampster oral feeding studies and in yeasts exposed to high vapor concentrations. *

* NIOSH - Registry of Toxic Effects of Chemcial Substances (RTECS) - 07/1992.
** Patty's Industrial Hygiene and Toxicology, Vol. 2A (1981).

TOXICITY DATA FOR: Monochlorobenzene
ACUTE TOXICITY
ORAL LD50.....: 2910 mg/kg (rat)***
CHRONIC TOXICITY.....: Daily oral administration of Monochlorobenzene to mice and rats is reported to have caused reduced body weights and/or decreased survival in a NTP study. Dose related liver abnormalities were also observed.***
REPRODUCTION.....: A two-generation inhalation exposure study in rats exposed to monochlorobenzene reported liver abnormalities and adverse testicular effects. However, other studies have found monochlorobenzene to be without teratogenic or mutagenic effects.***

***Supplier Material Safety Data Sheet.

12. ECOLOGICAL INFORMATION:

NO ECOLOGICAL INFORMATION AVAILABLE

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Incineration is the preferred method. Empty containers must be handled with care due to product residue. Decontaminate containers prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH. (See Fire and Reactivity Sections) Vapors and gases may be highly toxic.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: Thiophosphate in Ethyl Acetate and Chlorobenzene
FREIGHT CLASS BULK.....: Chemicals, NOI

Continued on next page

14. TRANSPORTATION INFORMATION (Continued)

FREIGHT CLASS PACKAGE.....: Chemicals, NOI, (NMFC 60000)
PRODUCT LABEL.....: Desmodur RF-E

DOT (DOMESTIC SURFACE)

PROPER SHIPPING NAME.....: Flammable Liquids, N.O.S.
HAZARD CLASS OR DIVISION .....: 3
UN/NA NUMBER.....: UN1993
PACKAGING GROUP .....: PG II
DOT PRODUCT RQ lbs (kgs).....: 3333 lbs (1511.8 kgs)
HAZARD LABEL(s).....: Flammable Liquid
HAZARD PLACARD(s).....: Flammable

IMO / IMDG CODE (OCEAN)

PROPER SHIPPING NAME.....: Flammable Liquids, N.O.S.
HAZARD CLASS DIVISION NUMBER...: 3.2
UN NUMBER.....: UN1993
PACKAGING GROUP.....: II
HAZARD LABEL(s).....: Flammable Liquid
HAZARD PLACARD(s).....: Flammable Liquid

ICAO / IATA (AIR)

PROPER SHIPPING NAME.....: Flammable Liquids, N.O.S.
HAZARD CLASS DIVISION NUMBER...: 3
UN NUMBER.....: UN1993
SUBSIDIARY RISK.....: None
PACKING GROUP.....: II
HAZARD LABEL(s).....: Flammable Liquid
RADIOACTIVE?.....: Non-Radioactive
PASSENGER AIR - MAX. QTY. .....: 5 L
PASSENGER PACKING INSTRUCTION..: 305
CARGO AIR - MAX. QTY. .....: 60 L
CARGO AIR PACKING INSTRUCTION..: 307

15. REGULATORY INFORMATION:

OSHA STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
TSCA STATUS.....: On TSCA Inventory
CERCLA REPORTABLE QUANTITY..: Ethyl Acetate - 5000 lbs.; Monochlorobenzene - 100 lbs.

15. REGULATORY INFORMATION (Continued)

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES..: None

SECTION 311/312 HAZARD CATEGORIES.....: Immediate Health Hazard; Delayed Health Hazard; Fire Hazard; Reactive Hazard; Sudden Pressure Release Hazard

SECTION 313 TOXIC CHEMICALS.....: Monochlorobenzene (CAS# 108-90-7) 0.5-3.0 %

RCRA STATUS.....: When discarded in its purchased form, this product meets the criteria of ignitability, and should be managed as a hazardous waste (EPA Hazardous Waste Number D001). (40 CFR 261.20-24)

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
Tris(4-Isocyanatophenyl) Thiophosphate 4151-51-3	27 %	PA3, NJ4
Ethyl Acetate (EA) 141-78-6	70-72.5 %	PA1, MA, NJ1, CN1
Monochlorobenzene (MCB) 108-90-7	0.5-3.0 %	PA1, MA, NJ1, CN1

MA = Massachusetts Hazardous Substance List
NJ1 = New Jersey Hazardous Substance List
NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
PA1 = Pennsylvania Hazardous Substance List
PA3 = Pennsylvania Non-hazardous present at 3% or greater.
CN1 = Canada WHMIS Ingredient Disclosure List over 1%.

CALIFORNIA PROPOSITION 65

To the best of our knowledge, this product contains no levels of listed substances, which the state of California has found to cause cancer, birth defects or other reproductive effects.

16. OTHER INFORMATION:

HMIS RATINGS:	Health	Flammability	Reactivity
	3*	3	1

Continued on next page

16. OTHER INFORMATION (Continued)

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
*=Chronic Health Hazard

Bayer's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS ratings are provided by Bayer as a customer service.

REASON FOR ISSUE.....: Revision - Section XIV
PREPARED BY.....: H. E. Campbell
APPROVED BY.....: J. H. Chapman
APPROVAL DATE.....: 05/13/96
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