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MATERIAL SAFETY DATA SHEET

PRODUCT NAME: **RAPID PATCH - PART A**

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER Duramix* 4042, 4052, 4058, 4062, 4063 & 4758, Part A		HMS RATING: Health 3	
PRODUCT USE Urethane Elastomer		Flammability 1	
MANUFACTURER'S/SUPPLIER'S NAME Polymer Engineering Corp.		Reactivity 1	
STREET ADDRESS 1630 Fiske Place	CITY Oxnard	PPI RATING: Personal Protective Index (See section 7) M	
PROVINCE/STATE California, USA	POSTAL CODE: 93033	HMS CODES: 0 = Minimal 2 = Moderate 4 = Severe	PPI CODES H = High M = Medium L = Low
NAME AND PHONE NUMBER OF PREPARER Polymer Engineering, (805) 483-2043	DATE July 11, 2000	EMERGENCY TELEPHONE NO.: Call CHEMTREC (800) 424-9300 (U.S. & Canada) (703) 527-3887 (Outside U.S. & Canada)	
CHANGE/UPDATE INFORMATION: MSDS updated in accordance with OSHA and Canada's WHMIS.			

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS	LD50 OF INGREDIENT (SPECIFY SPECIES & ROUTE)	LC50 OF INGREDIENT (SPECIFY SPECIES)
Diphenylmethane diisocyanate (MDI)	40 - 70	101-68-8	>2000 mg/kg, rabbit, dermal >5000 mg/kg, rat, oral	490 mg/m ³ , rabbit, inhalation
Diphenylmethanediisocyanate prepolymer	10 - 30	68424-09-9	N/A	N/A

SECTION 3 - PHYSICAL DATA

PHYSICAL STATE Medium viscosity liquid.	ODOR AND APPEARANCE: Low or no detectable odor, weakly aromatic. Black color.		ODOR THRESHOLD (ppm) N/A
VAPOR PRESSURE (mmHg) <0.0003@ 77°F (25°C)	VAPOR DENSITY: >1 (air=1)	EVAPORATION RATE: <1 (air=1) Very low vapor pressure; gels with exposure to humidity.	BOILING & FREEZING POINT (°C) BP > 400°F (204°C)
Ph N/A	SPECIFIC GRAVITY: 1.0 - 1.2	COEFF WATER/OIL DIST. N/A	

SECTION 4 - FIRE AND EXPLOSION DATA


FLAMMABILITY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IF YES, UNDER WHICH CONDITIONS		
MEANS OF EXTINCTION Carbon dioxide, dry chemical, or foam is preferred. Water may be used as a blanket for fire extinguishment. If water is used, it should be used in very large quantities, and if possible contain water run-off.		
FLASHPOINT (°C) AND METHOD >280°F (138°C) Cleveland Open Cup	UPPER FLAMMABLE LIMIT (% BY VOLUME) N/A	LOWER FLAMMABLE LIMIT (% BY VOLUME) N/A
AUTO-IGNITION TEMPERATURE (°C) N/A	HAZARDOUS COMBUSTION PRODUCTS Oxides of nitrogen and carbon, traces of HCN, MDI vapors and aerosols.	
EXPLOSION DATA Moisture contamination will react to form excessive carbon dioxide gas pressure in closed containers.	SENSITIVITY TO SHOCK/IMPACT None	SENSITIVITY TO STATIC DISCHARGE None

SECTION 5 - REACTIVITY DATA

CHEMICAL STABILITY IF NO, UNDER WHICH CONDITIONS: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Stable.
INCOMPATIBILITY WITH OTHER SUBSTANCES YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> IF SO WHICH ONES? Strong mineral acids, bases, oxidizers, metals, and/or water.
REACTIVITY, AND UNDER WHAT CONDITIONS Hazardous polymerization may occur with high temperatures associated with fires and/or contact with incompatible materials. Highly exothermic reactions may occur when mixed in large quantities with incompatible materials.
HAZARDOUS DECOMPOSITION PRODUCTS By high heat and fire: oxides of nitrogen and carbon, traces of HCN, MDI vapors and aerosols.

N/A = Not Available

Prepared By: 
 Linda Antaya



Distributed By -
FREEMAN Mfg. & Supply Co.
 1101 MOORE ROAD
 AVON, OHIO 44011-1011 (800) 321-8511

CURR MS970026.008
 PREV MS970026.007

These data are offered in good faith as typical values and not as a product specification. NO WARRANTY, EITHER EXPRESSED OR IMPLIED, IS HEREBY MADE. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

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MATERIAL SAFETY DATA SHEET

PRODUCT NAME: RAPID PATCH - PART A

PRODUCT IDENTIFIER

Duramix[®] 4042, 4052, 4058, 4062, 4063 & 4758, Part A

SECTION 6 - TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY
SKIN CONTACT ■ SKIN ABSORPTION ■ EYE CONTACT ■ INHALATION AND INGESTION ■

EFFECTS OF ACUTE EXPOSURE TO PRODUCT
Exposure may result in sensitization. Prolonged or repeated exposure may cause skin irritation (chemical dermatitis).

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT
Exposure above the TLV can cause irritation of the mucous membranes. Chest pain and/or shortness of breath may occur in rare instances.

EXPOSURE LIMITS TLV=0.005 ppm TWA (MDI) PEL=0.02 ppm (MDI)	IRRITANCY OF PRODUCT Skin and eyes.	SENSITIZATION TO PRODUCT Skin	CARCINOGENICITY No indication.
TERATOGENICITY N/A	REPRODUCTIVE TOXICITY N/A	MUTAGENICITY N/A	SYNERGISTIC PRODUCTS N/A

SECTION 7 - PREVENTATIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT TO BE USED
Use product in a well-ventilated area with proper eye, skin and respiratory protection as specified below.

GLOVES (SPECIFY) Butyl rubber, nitrile rubber, or polyvinyl alcohol gloves are recommended.	RESPIRATOR (SPECIFY) Use respirator approved by NIOSH/MSHA for organic vapors (TC-23C-860 or equivalent) when working with the product in poorly ventilated areas, or when large quantities of unreacted product are involved. Use of this respirator is also recommended to avoid breathing the dust created from the grinding or sanding of the cured polymer.	EYE (SPECIFY) Always wear eye goggles when dispensing manually or pneumatically. Full eye protection is also required when grinding or sanding cured polymer.
FOOTWEAR (SPECIFY) Shoe material composition should be resistant to solvent/chemical absorption. Leather material once contaminated, cannot be decontaminated.	CLOTHING (SPECIFY) Normal work clothing providing complete covering of arms and legs when working with small quantities. Any clothing contaminated with product should be washed thoroughly before reuse. When working with large quantities of product, complete coverage with an impermeable material is desirable.	OTHER (SPECIFY) Wash hands after use. Avoid contact with skin and clothing.

SPECIFIC ENGINEERING CONTROLS TO BE USED
General exhaust (dilution ventilation) is required. Local exhaust (capture and exhausting of air contaminants) is highly recommended. When dispensing product pneumatically, the proper shielding is to be affixed to dispenser.

PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL:
Absorb excess material in sawdust or other commercially available absorbent. Remove residue with detergent and water. In event of a large spill, persons without proper protective equipment should be excluded from area.

WASTE DISPOSAL:
Waste or material contaminated with waste must be disposed of in accordance with federal, state and local regulations. Incineration in accordance with applicable regulations is preferred.

STORAGE REQUIREMENTS:
Store in a cool, dry place with adequate ventilation. For maximum product stability maintain temperature range of 65°-85° F.

SECTION 8 - FIRST AID MEASURES

SPECIFIC MEASURES

EYE CONTACT:
Flush with copious amounts of water, preferably lukewarm for at least 15 min. holding eyelids open all the time. Refer individual to physician or ophthalmologist for immediate follow-up.

SKIN CONTACT
Remove contaminated clothing immediately. Wash skin promptly and thoroughly with soap and water. If a severe exposure occurs remove clothing while showering in a safety shower. Seek medical attention if irritation or allergic reaction develops, or if gross exposure occurs.

EXCESSIVE INHALATION:
Remove to fresh air immediately. Oxygen or artificial respiration may be administered by qualified personnel as needed. Obtain medical attention. Monitor for delayed (2-3 hr) asthmatic-type symptoms and consult physician if this occurs.


INGESTION:
DO NOT INDUCE VOMITING. Rinse mouth with water and administer 1-2 glasses of milk or water. Never give fluids to an unconscious or convulsing victim. Obtain medical attention immediately

SECTION 9 - SHIPPING INFORMATION

SPECIAL SHIPPING INFORMATION
D.O.T. Proper Chemical Name: Autobody Repair Materials, Non Regulated

N/A = Not Available

Prepared By:
Ms4042, SI-1000


Linda Antaya

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PRODUCT NAME: RAPID PATCH PART B

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER Duramix [®] 4042, 4052, 4058, 4062, 4063 & 4758, Part B		HMIS RATING: Health		3
PRODUCT USE Urethane Elastomer		Flammability		1
MANUFACTURER'S/SUPPLIER'S NAME Polymer Engineering Corp.		Reactivity		1
STREET ADDRESS 1630 Fiske Place	CITY Oxnard	PPI RATING: Personal Protective Index (See section 7)		
PROVINCE/STATE California, USA	POSTAL CODE 93033	HMIS CODES: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe		PPI CODES: H = High M = Medium L = Low
NAME AND PHONE NUMBER OF PREPARER Polymer Engineering, (805) 483-2043		DATE July 11, 2000		M
CHANGE/UPDATE INFORMATION MSDS updated in accordance with OSHA and Canada's WHMIS.		EMERGENCY TELEPHONE NO.: CHEMTREC (800) 424-9300 (U.S. & Canada) (703) 527-3887 (Outside U.S. & Canada)		

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS	LD50 OF INGREDIENT (SPECIFY SPECIES & ROUTE)	LC50 OF INGREDIENT (SPECIFY SPECIES)
Tetrakis (2-hydroxypropyl) ethylenediamine	15 - 40	102-60-3	3900 mg/kg, rat, oral	N/A
Silicon dioxide	1 - 5	7631-86-9	N/A	N/A
Aluminum oxide	1 - 5	1344-28-1	N/A	N/A

SECTION 3 - PHYSICAL DATA

PHYSICAL STATE Medium viscosity liquid.	ODOR AND APPEARANCE: Slight ammonia like odor. Brownish white.		ODOR THRESHOLD (ppm) N/A
VAPOR PRESSURE (mmHg) N/A	VAPOR DENSITY: >1 (air = 1)	EVAPORATION RATE: <1 (water = 1)	BOILING & FREEZING POINT (°C) N/A
Ph N/A	SPECIFIC GRAVITY: 1.0 - 1.2	COEFF. WATER/OIL DIST. N/A	

SECTION 4 - FIRE AND EXPLOSION DATA

FLAMMABILITY YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IF YES, UNDER WHICH CONDITIONS		
MEANS OF EXTINGUISHION Carbon dioxide, dry chemical, or foam is preferred. Water may be used as a blanket for fire extinguishment. If water is used, it should be used in very large quantities, and if possible contain water run-off.		
FLASHPOINT (°C) AND METHOD >275°F (135°C)	UPPER FLAMMABLE LIMIT (% BY VOLUME) N/A	LOWER FLAMMABLE LIMIT (% BY VOLUME) N/A
AUTO-IGNITION TEMPERATURE (°C) N/A	HAZARDOUS COMBUSTION PRODUCTS Hydrocarbon vapors and oxides of carbon and nitrogen plus undetermined aliphatic fragments.	
EXPLOSION DATA: No hazards.	SENSITIVITY TO SHOCK/IMPACT None	SENSITIVITY TO STATIC DISCHARGE None

SECTION 5 - REACTIVITY DATA

CHEMICAL STABILITY IF NO, UNDER WHICH CONDITIONS YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Stable.
INCOMPATIBILITY WITH OTHER SUBSTANCES YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> IF SO WHICH ONES? Strong mineral acids, oxidizing agents and isocyanates.
REACTIVITY, AND UNDER WHAT CONDITIONS Hazardous polymerization may occur with high temperatures and contact with isocyanates. Highly exothermic reactions may occur when mixed in large quantities with incompatible materials.
HAZARDOUS DECOMPOSITION PRODUCTS By high heat and fire: hydrocarbon vapors and oxides of carbon and nitrogen plus undetermined aliphatic fragments.

N/A = Not Available

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MATERIAL SAFETY DATA SHEET

PRODUCT NAME: RAPID PATCH - PART B

PRODUCT IDENTIFIER Duramix [®] 4042, 4052, 4058, 4062, 4063 & 4758, Part B			
SECTION 6 - TOXICOLOGICAL PROPERTIES			
ROUTE OF ENTRY SKIN CONTACT ■ SKIN ABSORPTION ■ EYE CONTACT ■ INHALATION AND INGESTION ■			
EFFECTS OF ACUTE EXPOSURE TO PRODUCT Prolonged or repeated exposure may cause skin irritation (chemical dermatitis).			
EFFECTS OF CHRONIC EXPOSURE TO PRODUCT Animal studies have shown increased tumor formation in liver, thyroids and possible mammary glands through ingestion.			
EXPOSURE LIMITS N/A	IRRITANCY OF PRODUCT Skin and eyes.	SENSITIZATION TO PRODUCT Skin.	CARCINOGENICITY No indication
TERATOGENICITY N/A	REPRODUCTIVE TOXICITY N/A	MUTAGENICITY N/A	SYNERGISTIC PRODUCTS N/A

SECTION 7 - PREVENTATIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT TO BE USED Use product in a well-ventilated area with proper eye, skin, and respiratory protection as specified below.		
GLOVES (SPECIFY) Butyl rubber, nitrile rubber, or polyvinyl alcohol gloves are recommended.	RESPIRATOR (SPECIFY) Use respirator approved by NIOSH/MSHA for organic vapors (TC-23C-860 or equivalent) when working with the product in poorly ventilated areas, or when large quantities of unreacted product are involved. Use of this respirator is also recommended to avoid breathing the dust created from the grinding or sanding of the cured polymer.	EYE (SPECIFY) Always wear eye goggles when dispensing manually or pneumatically. Full eye protection is also required when grinding or sanding cured polymer.
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STORAGE REQUIREMENTS:
Store in a cool, dry place with adequate ventilation. For maximum product stability maintain temperature range of 65°-85° F.

SECTION 8 - FIRST AID MEASURES

SPECIFIC MEASURES:

EYE CONTACT:
Flush with copious amounts of water, preferably lukewarm for at least 15 min. holding eyelids open all the time. Refer individual to physician or ophthalmologist for immediate follow-up.

SKIN CONTACT:
Remove contaminated clothing immediately. Wash skin promptly and thoroughly with soap and water. If a severe exposure occur remove clothing while showering in a safety shower. Seek medical attention if irritation or allergic reaction develops, or if gross exposure occurs.


EXCESSIVE INHALATION:
Remove to fresh air immediately. Oxygen or artificial respiration may be administered by qualified personnel as needed. Obtain medical attention.

INGESTION:
Administer 2 glasses of water and **INDUCE VOMITING**. Never give fluids to an unconscious or convulsing victim. Obtain medical attention immediately.

SECTION 9 - SHIPPING INFORMATION

SPECIAL SHIPPING INFORMATION
D.O.T. Proper Chemical Name: Autobody Repair Materials, Non Regulated

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