

MANUFACTURER:

BondPro Corporation
650 Brakke Drive
Hudson, WI 54016
Phone: 715-386-6206
Fax: 715-386-1462
ISSUED: March 10, 2003

Transportation Emergency
Chemtrec: 800-424-9300

TRADE NAME:

BondPak 4104 Adhesive

This product is a kit which contains both the Part A and Part B independently packaged in a duel cartridge syringe. An MSDS for each of these components is included. Please do not separate the component MSDSs from this cover page.

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OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the BondPro Corporation product is fit for a particular purpose and suitable for user's methods of use or application. Given the variety of factors that can affect the use and application of a BondPro Corporation product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the BondPro Corporation product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

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SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

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MANUFACTURER:

BondPro Corporation
650 Brakke Drive
Hudson, WI 54016
Phone: 715-386-6206
Fax: 715-386-1462
ISSUED: May 24, 2001

Transportation Emergency
Chemtrec: 800-424-9300

TRADE NAME:

BondPak 4104 Adhesive part A Urethane

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	CAS#	PERCENT
URETHANE PREPOLYMER - N.J. Trade Secret Registry No.04499600-5770P	TradeSecret	25.0 - 35.0
TALC	14807-96-6	20.0 - 30.0
DIPHENYLMETHANE DIISOCYANATE	26447-40-5	15.0 - 25.0
HIGHER OLIGOMERS OF MDI	9016-87-9	15.0 - 25.0
ZEOLITE	68989-22-0	1.0 - 10.0

The components of this product are in compliance with the chemical notification requirements of TSCA. All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

This product contains the following toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR Part 372:

HIGHER OLIGOMERS OF MDI

SECTION 3. PHYSICAL DATA

VAPOR DENSITY:	N/A
EVAPORATION RATE:	N/A
SOLUBILITY IN WATER:	slight
SPECIFIC GRAVITY:	1.340 Water=1
PERCENT VOLATILE:	0.00 % by wt
pH:	N/A
VISCOSITY:	15000 - 40000 centipoise
MELTING POINT:	N/D

APPEARANCE AND ODOR:
paste, brown, slight odor.

SECTION 4. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A
FLAMMABLE LIMITS - LEL: N/A
FLAMMABLE LIMITS - UEL: N/A
AUTOIGNITION TEMPERATURE: N/D

EXTINGUISHING MEDIA:

Water spray, Carbon dioxide, Dry chemical, Foam

SPECIAL FIRE FIGHTING PROCEDURES:

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None known.

NFPA HAZARD CODES: HEALTH: 2 FIRE: 0 REACTIVITY: 1

UNUSUAL REACTION HAZARD: none

SECTION 5. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:

Amines, Alcohols, Water. Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature reaction (exotherm) with production of intense heat and smoke. Reaction with water, alcohols and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

SECTION 6. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Contain spill. Evacuate unprotected personnel from hazard area. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Alternatively, pour water on spill and allow to react for more than 30 minutes. Cover with absorbent. Place in an approved drum, but do not seal the drum for 48 hours to avoid possible pressure buildup. Neutralize spill residue with decontaminant solution.

RECOMMENDED DISPOSAL:

Cure product according to product instructions. Incinerate in an industrial or commercial facility in the presence of a combustible material. Dispose of completely cured (or polymerized) material in a

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sanitary landfill. Dispose of waste product in a facility permitted to accept chemical waste.

ENVIRONMENTAL DATA:

Not determined.

REGULATORY INFORMATION:

Volatile Organic Compounds: 0 gms/liter.

VOC Less H2O & Exempt Solvents: 0 gms/liter.

Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste Number = None (Not U.S. EPA Hazardous).

EPCRA HAZARD CLASS:

FIRE HAZARD: No PRESSURE: No REACTIVITY: No ACUTE: Yes CHRONIC: Yes

SECTION 7. SUGGESTED FIRST AID

EYE CONTACT:

Immediately flush eyes with large amounts of water. Get immediate medical attention

SKIN CONTACT:

Immediately wash skin with soap and large amounts of water. Remove contaminated clothing. If signs/symptoms occur, call a physician. Wash contaminated clothing before reuse and dispose of contaminated shoes.

INHALATION:

Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

IF SWALLOWED:

Do not induce vomiting. Drink two glasses of water. Call a physician.

SECTION 8. PRECAUTIONARY INFORMATION

EYE PROTECTION:

Avoid eye contact. Wear vented goggles. Wear safety glasses with side shields.

SKIN PROTECTION:

Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended: polyethylene/ethylene vinyl alcohol, polyvinyl alcohol, polytetrafluoroethylene (Teflon), fluoroelastomer (Viton). Use one or more of the following personal protection items as necessary to prevent skin contact: apron, coveralls.

RECOMMENDED VENTILATION:

Use in a well-ventilated area. Provide sufficient ventilation to maintain emissions below recommended exposure limits. If exhaust ventilation is not adequate, use appropriate respiratory protection.

BondPak 4104 Adhesive part A Page 4 of 5

RESPIRATORY PROTECTION:

Avoid breathing of vapors. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: half-mask supplied air respirator.

PREVENTION OF ACCIDENTAL INGESTION:

Do not ingest.

RECOMMENDED STORAGE:

Store at temperatures below 120 degrees F (49 degrees C). Keep container closed when not in use. Keep out of the reach of children.

FIRE AND EXPLOSION AVOIDANCE:

Keep container tightly closed.

OTHER PRECAUTIONARY INFORMATION:

When grinding or sanding the cured material follow precautions for dusts given in the PART B (No. 4104) Material Safety Data Sheet.

EXPOSURE LIMITS

<u>INGREDIENT</u>	<u>VALUE</u>	<u>UNIT</u>	<u>TYPE</u>	<u>AUTH</u>	<u>SKIN*</u>
URETHANE PREPOLYMER - N.J. Trade Secret Registry No.04499600-5770P	NONE	NONE	NONE	NONE	
TALC	2	MG/M3	TWA	OSHA	
			RESPIRABLE		
TALC	2	MG/M3	TWA	ACGIH	
			RESPIRABLE		
TALC	0.5	MG/M3	TWA	CMRG	
			AS RESPIRABLE DUST		
DIPHENYLMETHANE DIISOCYANATE	0.005	PPM	TWA	ACGIH	
DIPHENYLMETHANE DIISOCYANATE	0.02	PPM	CEIL	OSHA	
HIGHER OLIGOMERS OF MDI	NONE	NONE	NONE	NONE	
ZEOLITE	NONE	NONE	NONE	NONE	

* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- CMRG: Chemical Manufacturer Recommended Exposure Guidelines
- OSHA: Occupational Safety and Health Administration
- NONE: None Established

SECTION 9. HEALTH HAZARD DATA

EYE CONTACT:

Moderate Eye Irritation: signs/symptoms can include redness, swelling, pain, tearing, and hazy vision.

SKIN CONTACT:

Allergic Skin Reaction: signs/symptoms can include redness, swelling, blistering, and itching.

Mild Skin Irritation: signs/symptoms can include redness, swelling, and itching.

INHALATION:

Allergic Respiratory Reaction: signs/symptoms can include difficulty breathing, wheezing, tightness of chest, and respiratory failure.

Irritation (upper respiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

Vapors of the uncured product may cause irritation of the respiratory system.

IF SWALLOWED:

Ingestion may cause:

Irritation of Gastrointestinal Tissues: signs/symptoms can include pain, vomiting, abdominal tenderness, nausea, blood in vomitus, and blood in feces.

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

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BondPro Corporation
650 Brakke Drive
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Phone: 715-386-6206
Fax: 715-386-1462
ISSUED: May 24, 2001

Transportation Emergency
Chemtrec: 800-424-9300

TRADE NAME:

BondPak 4104 Adhesive part B Urethane

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE DESCRIPTION	CAS#	PERCENT
POLYESTER RESIN - N.J. TRADE SECRET (T.S.) REGISTRY NO. 3176530002-5392P	TradeSecret	40.0 - 50.0
TALC	14807-96-6	15.0 - 25.0
POLYPROPYLENE GLYCOL	25322-69-4	15.0 - 25.0
TITANIUM DIOXIDE	13463-67-7	5.0 - 15.0
POLYOXYPROPYLENE TRIOL	25723-16-4	1.0 - 10.0
ZEOLITES	68989-22-0	1.0 - 10.0
O-DIETHYLBISANILINE	13680-35-8	1.0 - 10.0
BETA-(3,4- EPOXYCYCLOHEXYL)ETHYLTRIMETHOXYSILANE	3388-04-3	0.1 - 0.5

The components of this product are in compliance with the chemical notification requirements of TSCA. All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

SECTION 3. PHYSICAL DATA

BOILING POINT:	N/A
VAPOR PRESSURE:	N/A
VAPOR DENSITY:	N/A
EVAPORATION RATE:	N/A
SOLUBILITY IN WATER:	Very slight
SPECIFIC GRAVITY:	1.310 Water=1
PERCENT VOLATILE:	0.00 % by wt
pH:	N/A
VISCOSITY:	5000 - 40000 centipoise
MELTING POINT:	N/D

APPEARANCE AND ODOR:

viscous liquid, white, resinous odor

SECTION 4. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A
FLAMMABLE LIMITS - LEL: N/A
FLAMMABLE LIMITS - UEL: N/A
AUTOIGNITION TEMPERATURE: N/D

EXTINGUISHING MEDIA:

Water spray, Carbon dioxide, Dry chemical, Foam

SPECIAL FIRE FIGHTING PROCEDURES:

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None known.

NFPA HAZARD CODES: HEALTH: 1 FIRE: 0 REACTIVITY: 1

UNUSUAL REACTION HAZARD: none

SECTION 5. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:

Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature reaction (exotherm) with production of intense heat and smoke.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon Monoxide and Carbon Dioxide, Oxides of Nitrogen, Toxic Vapors, Gases or Particulates.

SECTION 6. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Cover with absorbent material. Collect spilled material. Place in a U.S. DOT-approved container.

RECOMMENDED DISPOSAL:

Cure product according to product instructions. Incinerate in an industrial or commercial facility in the presence of a combustible material. Dispose of completely cured (or polymerized) material in a sanitary landfill. Dispose of waste product in a facility permitted to accept chemical waste.

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ENVIRONMENTAL DATA:

Not applicable.

REGULATORY INFORMATION:

Volatile Organic Compounds: 0 gms/liter.

VOC Less H2O & Exempt Solvents: 0 gms/liter.

Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste Number = None (Not U.S. EPA Hazardous).

EPCRA HAZARD CLASS:

FIRE HAZARD: No PRESSURE: No REACTIVITY: No ACUTE: Yes CHRONIC: Yes
Yes

SECTION 7. SUGGESTED FIRST AIDEYE CONTACT:

Immediately flush eyes with large amounts of water. Get immediate medical attention.

SKIN CONTACT:

Flush skin with large amounts of water. If irritation persists, get medical attention.

INHALATION:

If signs/symptoms occur, remove person to fresh air. If signs/symptoms continue, call a physician.

IF SWALLOWED:

Do not induce vomiting. Drink two glasses of water. Call a physician.

SECTION 8. PRECAUTIONARY INFORMATIONEYE PROTECTION:

Avoid eye contact. Wear vented goggles. Wear safety glasses with side shields.

SKIN PROTECTION:

Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended: polyethylene/ethylene vinyl alcohol, polyvinyl alcohol, polytetrafluoroethylene (Teflon), fluoroelastomer (Viton).

RECOMMENDED VENTILATION:

Use in a well-ventilated area. Provide sufficient ventilation to maintain emissions below recommended exposure limits. If exhaust ventilation is not adequate, use appropriate respiratory protection.

RESPIRATORY PROTECTION:

Avoid breathing of vapors created during the cure cycle. Avoid breathing of dust created by cutting, sanding or grinding. Select one of the following NIOSH approved respirators based on airborne

BondPak 4104 Adhesive part B Page 4 of 6

concentration of contaminants and in accordance with OSHA regulations: half-mask dust respirator.

PREVENTION OF ACCIDENTAL INGESTION:

Do not ingest.

RECOMMENDED STORAGE:

Store at temperatures below 120 degrees F (49 degrees C). Keep container closed when not in use. Keep out of the reach of children.

FIRE AND EXPLOSION AVOIDANCE:

Keep container tightly closed.

OTHER PRECAUTIONARY INFORMATION:

When this PART B is used in combination with PART A (No. 4104) follow the precautions outlined in the PART A (No. 4104) Material Safety Data Sheet. When grinding or sanding the cured material follow the recommended precautions for ventilation and respiratory protection for dusts given above.

EXPOSURE LIMITS

<u>INGREDIENT</u>	<u>VALUE</u>	<u>UNIT</u>	<u>TYPE</u>	<u>AUTH</u>	<u>SKIN*</u>
POLYESTER RESIN - N.J. TRADE SECRET (T.S.) REGISTRY NO. 3176530002-5392P	NONE	NONE	NONE	NONE	
TALC	2	MG/M3	TWA	OSHA	
			RESPIRABLE		
TALC	2	MG/M3	TWA	ACGIH	
			RESPIRABLE		
TALC	0.5	MG/M3	TWA	CMRG	
			AS RESPIRABLE DUST		
POLYPROPYLENE GLYCOL	10	MG/M3	TWA	AIHA	
			AS PARTICULATE		
TITANIUM DIOXIDE	10	MG/M3	TWA	ACGIH	
TITANIUM DIOXIDE	10	MG/M3	TWA	OSHAV	
			AS DUST OSHA VACATED PEL		
TITANIUM DIOXIDE	15	MG/M3	TWA	OSHA	
			AS TOTAL DUST		
TITANIUM DIOXIDE	5	MG/M3	TWA	CMRG	
			AS RESPIRABLE DUST		
POLYOXYPROPYLENE TRIOL	NONE	NONE	NONE	NONE	
ZEOLITES	NONE	NONE	NONE	NONE	
O-DIETHYLBISANILINE	NONE	NONE	NONE	NONE	
BETA-(3,4-EPOXYCYCLOHEXYL)ETHYLTRIMET					
NE	NONE	NONE	NONE	NONE	

* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

BondPak 4104 Adhesive part B Page 5 of 6

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- AIHA: American Industrial Hygiene Assoc. Workplace Environmental

Exposure Level Guideline

- CMRG: Chemical Manufacturer Recommended Exposure Guidelines
 - OSHA: Occupational Safety and Health Administration
 - OSHAV: Occupational Safety and Health Administration Vacated PEL.
- Vacated Permissible Exposure Limits (PEL) are enforced as the OSHA PEL in some states. Check with your local regulatory authority.
- NONE: None Established

SECTION 9. HEALTH HAZARD DATA

EYE CONTACT:

Moderate Eye Irritation: signs/symptoms can include redness, swelling, pain, tearing, and hazy vision.

SKIN CONTACT:

Mild Skin Irritation (after prolonged or repeated contact): signs/symptoms can include redness, swelling, and itching.

INHALATION:

Irritation (upper respiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.
Vapors of heated material may cause respiratory system irritation.
Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system.

IF SWALLOWED:

Ingestion may cause:

Irritation of Gastrointestinal Tissues: signs/symptoms can include pain, vomiting, abdominal tenderness, nausea, blood in vomitus, and blood in feces.

OTHER HEALTH HAZARD INFORMATION:

beta-(3,4-epoxycyclohexyl)ethyltrimethoxysilane, (present at a level below 0.5%) has been shown to be weakly tumorigenic in mice by chronic recurrent application to the skin. The relevance of these findings to man is unknown.

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

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