

World Headquarters Middlebury, CT 06749

Uniroyal Chemical Company, Inc. UNIROYAL Emergency Phone: (203) 723-3670 CHEMTREC Transportation Emergency Phone: 1-800-424-9300 SAFETY DATA Information (203) 573-3303

MSDS No.... V766009

Date Issued: \_\_\_ 10/25/85

IDENTIFICATION

Date Revised: 5/5/92; Supercedes: 12/9/91

B-3

Trade Name: VIBRATHANE® 6012

CAS Number: NA

Chemical Name: Reaction product of a polyester

Chemical Family: Polyurethane

with diphenylmethane disocyanate (MDI)

#### SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

OSHA (1910.1200)

Sensitizer

EEC"

MDI

101-68-8

0.02 ppm, ceiling (OSHA)

0.005 ppm, TWA

Sensitizer

(ACGIH)

Hazard assessment based on available data.

Transportation: NA

#### PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in

THF, DMF, or methylene chloride

Meiting Point: ND Boiling Point: ND

Other Data: Solidification Point: 60°F (22°C)
Reactive Isocyanate (NCO): 2.4 - 9.3

Specific Gravity (H2O = 1): 1.15 - 1.22

Vapor Pressure @ 20°C. ND

Vapor Density (Air = 1): ND

Voiatility @ 70°F: Low

#### FIRE AND EXPLOSION HAZARD DATA

Flash Point: 400°F (204°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Fiammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

#### REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

Decomposition Products: High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

\*European Economic Community

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PAGE, 004

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FROM ADI-VIB TECH SERV

OCT 28 '93 Ø9:59

#### PECIAL PROTECTION INFORMATION Engineering Controls: Local exhaust ventilation strongly recommended. Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors, Ir the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended. TORAGE, SPILLS AND DISPOSAL INFORMATION Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keed closed when not in use. Moisture contamination will evolve CO2 and create pressure in closed systems. Soills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal. Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. WARNING! Burning this material can produce toxic fumes. Environmental Information: Enviro Environmental effects have not been determined. **IFALTH RELATED DATA** Specific Hazard(s): Contact with eyes and skin may cause initation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause imitation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma. Individuals with respiratory problems should avoid exposure to this material. Primary Route(s) of Entry: Inhalation, skin absorption. First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention. Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated. Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation. Texicology Information: Sensitization: Respiratory and dermal sensitizer based upon human experience (MDI) Mutagenicity: Ames Salmonella - positive (MDI)

SARA TITLE III (40CFR 372) SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL	
Diphenylmethane disocyanate	

CAS #

% (BY WT.)

101-68-8

9.36

Carcinogenic per NTP IARC OSHA None \_



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MSDS No\_\_\_\_\_V766020

Date Issued: \_\_\_ 10/25/85

IDENTIFICATION

Date Revised: 5/5/92; Supercadas: 12/9/91

R-3

Trade Name: VIBRATHANE® 8007

CAS Number: NA

Chemical Name: Reaction product of a polyester

Chemical Family: Polyurethane

with diphenylmethane disocyanate (MDI)

SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

OSHA (1910.1200)

EEC.

MDI

101-68-8

0.02 ppm, ceiling (OSHA)

Sensitizer

Sensitizer

0.005 ppm, TWA (ACGIH)

Hazard assessment based on available data.

Transportation: NA

PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in

THF, DMF, or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: Solidification Point: 60°F (22°C)
Reactive Isocyanate (NCO): 2.4 - 9.3

Specific Gravity (H2O = 1): 1.15 - 1.22

Vapor Pressure @ 20°C. ND

Vapor Density (Air = 1): ND

Volatility @ 70°F; Low

FIRE AND EXPLOSION HAZARD DATA

Flash Point: 400°F (204°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and Decomposition Products:

ND = Not Determined NA = Not Applicable European Economic Communit. Uniroyal makes no representation or warranty with respect to the information in this Material Safety Data Sheet. The information is however, as of this date provided, true and accurate to the best of Uniroyal's knowledge. This first of information is not it tended to be all inclusive. Actual conditions of use and handling may require considerations of information other than, or in addition to that which is provided herein

PAGE, BB2

TD 93095942432

small amount of HCN under burning conditions.

FROM ADI-UIB TECH SERV

OCT 28 '93 Ø9:58

Engineering Controls: Local exfiaust ventilation strongly recommended.

Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO2 and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammoria hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.

Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. WARNING! Burning this material can produce toxic fumes.

Environmental information: Environmental effects have not been determined.

#### HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma. Individuals with respiratory problems should avoid exposure to this material.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and

water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory imitation.

Toxicology Information:

Sensitization: Respiratory and dermal sensitizer based upon human experience (MDI)

Mutagenicity: Ames Salmonella - positive (MDI)

SARA TITLE III (40CFR 372) SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL

CAS#

% (BY WT.)

Diphenylmethane diisocyanate

101-68-8

21.8

Carcinogenic per NTP\_\_\_\_\_IARC \_\_\_\_OSHA\_\_\_\_None \_\_X \_\_\_.



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MSDS No.\_\_\_\_V766046

Date Issued: \_

10/25/85

IDENTIFICATION

Trade Name: VIBRATHANE® 8090

CAS Number: NA

Chemical Name:

Reaction product of a polyester with toluene diisocyanate (TDI)

Chemical Family: Polyurethane

SPECIAL REGULATORY HAZARDS

Ingredient TDI

CAS No. 584-84-9 Exposure Limit

.005 ppm (ACGIH) OSHA (1910.1200)

Irritant Sensitizer Carcinogen (NTP)

EEC\* Irritant Sensitizer Irreversible

effects

R-1

Hazard assessment based on available data.

Transportation: NA

PHYSICAL DATA

Appearance and Odor: Viscous liquid to a white, waxy solid; slight odor

Solubility: Reacts in water, soluble in THF, DMF or methylene chloride

Melting Point: ND

Boiling Point:

Solidification Point: < 90°F (22°C) Other Data:

Reactive Isocyanate (NCO): 2.4 - 9.3

Specific Gravity (H2O = 1): 1.15 - 1.22

Vapor Pressure @ 20°C. ND Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

FIRE AND EXPLOSION HAZARD DATA

Flash Point: > 400°F (204°C) CC

Autoignition Temp: ND

Extinquishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, Decomposition Products of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

\*European Economic Community

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Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Impervious gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO2 and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal. Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state, or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

#### **HEALTH RELATED DATA**

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and

water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

#### Toxicology Information:

There is no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

Chronic: Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.





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MSDS No. V762003

10/25/85 Date Issued: \_\_

Date Revised: 5/5/92; Supercedes: 12/9/91

R-3

IDENTIFICATION

Trade Name: VIBRATHANE® B-602

CAS Number: NA

Chemical Name: Reaction product of a polyether with toluene diisocyanate (TDI)

Chemical Family: Polyurethane

#### SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

Irritant Sensitizer

OSHA (1910.1200)

Irritant

EEC\*

TDI

584-84-9

.005 ppm, TWA 0.02 ppm, STEL (OSHA, ACGIH)

Carcinogen (NTP, IARC 2b)

Sensitizer Irreversible effects

Hazard assessment based on available data.

Transportation: NA

#### PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in

THF, DMF, or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: Solidification Point: <60°F (16°C) Reactive Isocyanate (NCO): 2.8 - 12.45

Specific Gravity (H2O = 1): 1.02 - 1.11

Vapor Pressure @ 20°C. ND Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

#### FIRE AND EXPLOSION HAZARD DATA

Flash Point: >400°F (204°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

#### REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and Decomposition Products: small amount of HCN under burning conditions.

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Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

#### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO2 and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal. Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

#### HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

Toxicology Information:

There are no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

Chronic: Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

#### SARA TITLE III (40CFR 372) SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL CAS # % (BY WT.) 2,4-toluene diisocyanate 584-84-9 0.83

2,6-toluene diisocyanate 91-08-7 0.10

Carcinogenic per IARC 2b OSHA None \_ (TDI)

VIBRATHANE® B-602



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MSDS No. V762010

IDENTIFICATION

Date Revised: 12/9/91: Supercedes: 9/11/87

Trade Name: VIBRATHANE® B-625

CAS Number: Mixture

Chemical Name: Reaction product of a polyether

Chemical Family: Polyurethane

with diphenylmethane diisocyanate (MDI)

#### SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

OSHA (1910.1200)

Sensitizer

EEC\*

MDI

101-68-8

0.02 ppm, ceiling

(OSHA)

Sensitizer

0.005 ppm, TWA (ACGIH)

Hazard assessment based on available data.

Transportation: NA

#### PHYSICAL DATA

Appearance and Odor: Viscous liquid: slight odor

Solubility: Reacts in water, soluble in

THF, DMF, or methylene chloride

Melting Point: ND Boiling Point: ND

Other Data: Solidification Point: 72°F (22°C) Reactive Isocyanate (NCO): 3.0 - 10.6 Specific Gravity (H2O = 1): 1.02 - 1.09

Vapor Pressure @ 20°C. ND Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

#### FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350°F (177°C) CC

Autoignition Temp: ND

Extinguishing Media: Water spray, dry chemical

Flammable Limits: ND

Special Fire Fighting Procedures: Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

#### REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and Decomposition Products: small amount of HCN under burning conditions.

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Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

#### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO2 and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.

Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. WARNING! Burning this material can produce toxic fumes.

Environmental Information: Environmental effects have not been determined.

#### **HEALTH RELATED DATA**

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma. Individuals with respiratory problems should avoid exposure to this material.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and

water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

Toxicology Information:

Sensitization: Respiratory and dermal sensitizer based upon human experience (MDI)

Mutagenicity: Ames Salmonella - positive (MDI)

### SARA TITLE III (40CFR 372) SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL
Diphenylmethane diisocyanate

CAS#

% (BY WT.)

101-68-8

11.6

Carcinogenic per NTP \_\_\_\_\_ IARC \_\_\_\_\_OSHA \_\_\_\_ None X



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Uniroyal Chemical Company, Inc. UNIROYAL Emergency Phone: (203) 723-3670 CHEMTREC Transportation Emergency Phone: 1-800-424-9300 SAFETY DATA Information (203) 573-3303

MSDS No. V762021

Date Issued: \_\_\_10/25/85

**IDENTIFICATION** 

Date Revised: 12/9/91; Supercedes: 9/11/87

R-2

Trade Name: VIBRATHANE® B-670

CAS Number: Mixture

Chemical Name:

Reaction product of a polyether

Chemical Family: Polyurethane

with diphenylmethane diisocyanate (MDI)

#### SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

OSHA (1910.1200)

EEC\*

MDI

101-68-8

0.02 ppm, ceiling

Sensitizer

Sensitizer

(OSHA) 0.005 ppm, TWA

(ACGIH)

Hazard assessment based on available data.

Transportation: NA

#### PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in

THF, DMF, or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data:

Solidification Point: 72°F (22°C)

Reactive Isocyanate (NCO): 3.0 - 10.6

Specific Gravity (H2O = 1): 1.02 - 1.09

Vapor Pressure @ 20°C. ND

Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

#### FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350°F (177°C) CC

Autoignition Temp: ND

Extinquishing Media: Water spray, dry chemical

ND Flammable Limits:

Special Fire Fighting Procedures:

Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

#### REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and Decomposition Products: High temperatures small amount of HCN under burning conditions.

NA = Not Applicable ND = Not Determined \*European Economic Community Uniroyal makes no representation or warranty with respect to the information in this Material Safety Data Sheet. The information is however, as of this date provided, true and accurate to the best of Uniroyal's knowledge. This list of information is not intended to be all inclusive. Actual conditions of use and handling may require considerations of information other than, or in addition to, that which is provided herein.

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

#### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO2 and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.

Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. WARNING! Burning this material can produce toxic fumes.

Environmental Information: Environmental effects have not been determined.

HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma. Individuals with respiratory problems should avoid exposure to this material.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess, Wash with rubbing alcohol, if available, followed by soap and water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

Toxicology Information:

Sensitization: Respiratory and dermal sensitizer based upon human experience (MDI)

Mutagenicity: Ames Salmonella - positive (MDI)

SARA TITLE III (40CFR 372) SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL Diphenylmethane diisocyanate CAS#

% (BY WT.)

101-68-8

22.1

Carcinogenic per

NTP IARC OSHA

None



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Uniroyal Chemical Company, Inc. UNIROYAL Emergency Phone: (203) 723-3670 CHEMTREC Transportation Emergency Phone: 1-800-424-9300 SAFETY DATA Information (203) 573-3303

MSDS No. V762034

Date Issued: \_\_\_ 10/25/85

IDENTIFICATION

Date Revised: 12/9/91; Supercedes: 9/11/87

R-2

Trade Name: VIBRATHANE® B-821

CAS Number: Mixture

Chemical Name:

Reaction product of a polyether

with diphenylmethane diisocyanate (MDI)

Chemical Family: Polyurethane

SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

OSHA (1910.1200)

Sensitizer

EEC\*

MDI

101-68-8

0.02 ppm, ceiling (OSHA)

(ACGIH)

0.005 ppm, TWA

Sensitizer

Hazard assessment based on available data.

Transportation: NA

PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in

THF, DMF, or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: Solidification Point: 72°F (22°C)
Reactive Isocyanate (NCO): 3.0 - 10.6

Specific Gravity (H2O = 1): 1.02 - 1.09

Vapor Pressure @ 20°C. ND Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350°F (177°C) CC

Autoignition Temp: ND

Extinquishing Media: Water spray, dry chemical

Flammable Limits:

Special Fire Fighting Procedures:

Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and Decomposition Products: High temperatures small amount of HCN under burning conditions.

NA = Not Applicable ND = Not Determined \*European Economic Community Uniroyal makes no representation or warranty with respect to the information in this Material Safety Data Sheet. The information is however, as of this date provided, true and accurate to the best of Uniroyal's knowledge. This list of information is not intended to be all inclusive. Actual conditions of use and handling may require considerations of information other than, or in addition to, that which is provided herein.

Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

#### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO<sub>2</sub> and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.

Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. WARNING! Burning this material can produce toxic fumes. Environmental Information: Environmental effects have not been determined.

#### **HEALTH RELATED DATA**

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma. Individuals with respiratory problems should avoid exposure to this material.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and

water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

Toxicology Information:

Sensitization: Respiratory and dermal sensitizer based upon human experience (MDI)

Mutagenicity: Ames Salmonella - positive (MDI)

SARA TITLE III (40CFR 372)
SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL
Diphenylmethane diisocyanate

CAS#

% (BY WT.)

101-68-8

14.3

UNIROYAL

Carcinogenic per NTP \_\_\_\_\_ IARC \_\_\_\_\_OSHA \_\_\_\_\_None \_\_X



World Headquarters Middlebury, CT 06749

Uniroyal Chemical Company, Inc. UNIROYAL Emergency Phone: (203) 723-3670 CHEMTREC Transportation Emergency Phone: 1-800-424-9300 SAFETY DATA Information (203) 573-3303

V762042 MSDS No..

Date Issued: \_

10/25/85

Date Revised: 12/9/91; Supercedes: 9/11/87

R-2

IDENTIFICATION

Trade Name: VIBRATHANE® B-836

CAS Number: Mixture

Chemical Name:

Reaction product of a polyether

with diphenylmethane diisocyanate (MDI) Chemical Family: Polyurethane

SPECIAL REGULATORY HAZARDS

Ingredient

Exposure Limit

OSHA (1910.1200) Sensitizer

MDI

101-68-8

0.02 ppm, ceiling (OSHA)

0.005 ppm, TWA (ACGIH)

Sensitizer

Hazard assessment based on available data.

Transportation: NA

PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in THF, DMF, or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data: Solidification Point: 72°F (22°C)
Reactive Isocyanate (NCO): 3.0 - 10.6

Specific Gravity (H<sub>2</sub>O = 1): 1.02 - 1.09

Vapor Pressure @ 20°C.

Vapor Density (Air = 1): ND

Volatility @ 70°F: Low

FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350°F (177°C) CC

Autoignition Temp: ND

Extinquishing Media: Water spray, dry chemical

Flammable Limits:

Special Fire Fighting Procedures:

Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and Decomposition Products: High temperatures small amount of HCN under burning conditions.

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Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

#### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO<sub>2</sub> and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.

Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. WARNING! Burning this material can produce toxic fumes.

Environmental information: Environmental effects have not been determined.

#### **HEALTH RELATED DATA**

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma. Individuals with respiratory problems should avoid exposure to this material.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and

water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

Toxicology Information:

Sensitization: Respiratory and dermal sensitizer based upon human experience (MDI)

Mutagenicity: Ames Salmonella - positive (MDI)

### SARA TITLE III (40CFR 372) SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL Diphenylmethane diisocyanate CAS#

% (BY WT.)

101-68-8

21.3

Carcinogenic per NTP \_\_\_\_\_ IARC \_\_\_\_\_OSHA \_\_\_\_ None \_\_X



World Headquarters Middlebury, CT 06749

Uniroyal Chemical Company, Inc. UNIROYAL Emergency Phone: (203) 723-3670 CHEMTREC Transportation Emergency Phone: 1-800-424-9300 SAFETY DATA Information (203) 573-3303

MSDS No. V762096

10/25/85 Date Issued: \_

Date Revised: 12/9/91

R-1

IDENTIFICATION

Trade Name: VIBRATHANE® B-895

CAS Number: Mixture

Chemical Name:

with diphenylmethane diisocyanate (MDI)

Polyurethane

#### SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

OSHA (1910.1200)

EEC\*

MDI

101-68-8

0.02 ppm, ceiling (OSHA) 0.005 ppm, TWA (ACGIH)

Sensitizer

Sensitizer

Hazard assessment based on available data.

Transportation: NA

#### PHYSICAL DATA

Appearance and Odor: Viscous liquid; slight odor

Solubility: Reacts in water, soluble in

THF, DMF, or methylene chloride

Melting Point: ND

Boiling Point: ND

Other Data:

Solidification Point: 72°F (22°C) Reactive Isocyanate (NCO): 3.0 - 10.6 Specific Gravity (H<sub>2</sub>O = 1): 1.02 - 1.09

Vapor Pressure @ 20° C.

ND Vapor Density (Air = 1):

Volatility @ 70°F: Low

#### FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350°F (177°C) CC

Autoignition Temp:

ND

Extinquishing Media: Water spray, dry chemical

Flammable Limits:

ND

Special Fire Fighting Procedures:

Protect against inhalation of cyanate vapors and other decomposition/combustion products.

None identified. Unusual Hazards:

#### REACTIVITY DATA

Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, solvents and any foreign matter.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and Decomposition Products: Hightemperatures small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

\*European Economic Community

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Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

#### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO2 and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal.

Disposal: In a well ventilated area, fill drums with a couple of inches of water. Leave bung off and slowly shake and roll drum to allow water contact. Leave open to air for sufficient time to cure. Cured polyurethane is not a RCRA hazardous waste. Dispose of in accordance with local, state or federal regulations regarding polymeric waste. WARNING! Burning this material can produce toxic fumes.
Environmental Information: Environmental effects have not been determined.

#### HEALTH RELATED DATA

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma. Individuals with respiratory problems should avoid exposure to this material.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and

water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

Toxicology Information:

Sensitization: Respiratory and dermal sensitizer based upon human experience (MDI)

Mutagenicity: Ames Salmonella - positive (MDI)

#### SARA TITLE III (40CFR 372) SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL Diphenylmethane diisocyanate CAS#

% (BY WT.)

101-68-8

16.2

Carcinogenic per

NTP \_\_\_\_\_ IARC \_\_\_\_\_OSHA \_\_\_\_ None \_\_



World Headquarters Middlebury, CT 06749

Uniroyal Chemical Company, Inc. UNIROYAL Emergency Phone: (203) 723-3670 CHEMTREC Transportation Emergency Phone: 1-800-424-9300 SAFETY DATA Information (203) 573-3303

MSDS No. V752006

Date Issued: \_\_\_\_10/25/85

IDENTIFICATION

Date Revised: 5/5/92; Supercedes: 12/9/91

R-3

Trade Name: ADIPRENE® L-167

CAS Number: NA

Chemical Name:

Reaction product of a polyether

with toluene diisocyanate (TDI)

Chemical Family: Polyurethane

SPECIAL REGULATORY HAZARDS

Ingredient

CAS No.

Exposure Limit

OSHA (1910.1200)

EEC\*

TDI

584-84-9

.005 ppm, TWA 0.02 ppm, STEL

Irritant Sensitizer Carcinogen

(NTP, IARC 2b)

Irritant Sensitizer Irreversible

effects

(OSHA, ACGIH)

Hazard assessment based on available data.

Transportation: NA

PHYSICAL DATA

Appearance and Odor: Honey-colored liquid; slight odor

Solubility: Reacts in water, soluble in

THF, DMF or methylene chloride

Melting Point: ND Boiling Point: ND

Other Data: NA

Specific Gravity (H2O = 1): 1.03 - 1.15

Vapor Pressure @ 20°C. ND

Vapor Density (Air = 1):

Volatility @ 70°F: Low

FIRE AND EXPLOSION HAZARD DATA

Flash Point: 350°F (177°C) CC

ND Autoignition Temp:

Extinguishing Media: Water spray, dry chemical

ND Flammable Limits:

Special Fire Fighting Procedures:

Protect against inhalation of cyanate vapors and other decomposition/combustion products.

Unusual Hazards: None identified.

REACTIVITY DATA

Stability: Stable at ambient temperatures and pressures.

Incompatibility: Avoid contamination with water, strong oxidizers or alcohol.

High temperatures will release cyanates and hydrocarbons. Oxides of carbon, nitrogen and Decomposition Products: small amount of HCN under burning conditions.

NA = Not Applicable

ND = Not Determined

\*European Economic Community

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Engineering Controls: Local exhaust ventilation strongly recommended.

Personal Protection Equipment: Chemical resistant gloves and goggles should be worn. Avoid breathing vapors. In the absence of good ventilation, under emergency situations or for high concentrations, self-contained or air-supplied respiratory protection is recommended.

#### STORAGE, SPILLS AND DISPOSAL INFORMATION

Storage: Store away from sources of direct heat and moisture. Seal containers with a dry nitrogen blanket and keep closed when not in use. Moisture contamination will evolve CO<sub>2</sub> and create pressure in closed systems.

Spills: Absorb on inert carrier. Transfer to open containers outside or in well-ventilated area. Soak with dilute ammonia hydroxide or water alcohol mixture. Allow time for reaction to be complete before disposal. Reportable Quantity - 100 lbs. (TDI)

Disposal: In accordance with any applicable local, state or federal regulation regarding polymeric waste.

Environmental Information: Environmental effects have not been determined.

#### **HEALTH RELATED DATA**

Specific Hazard(s): Contact with eyes and skin may cause irritation. Repeated, minimal contact with skin may cause sensitization. Exposure to vapor can cause irritation to eyes, lungs and mucous membranes. Repeated inhalation of minimal amounts of vapor can cause respiratory sensitization and asthma.

Primary Route(s) of Entry: Inhalation, skin absorption.

First Aid Procedures: Eye contact: Flush with water for 15 minutes. Get medical attention.

Skin contact: Wipe excess. Wash with rubbing alcohol, if available, followed by soap and

water. Discard shoes if contaminated.

Inhalation: Remove to fresh air. Physician - treat for potential respiratory irritation.

#### Toxicology Information:

There are no acute toxicology data on this material, however, residual TDI (0.02 - 4.0%) does possess irritancy and sensitization potential.

Chronic: Oral gavage administration of TDI in corn oil to rats and mice for 2 years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm TDI for 2 years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of TDI to humans has not been established.

### SARA TITLE III (40CFR 372) SECTION 313 TOXIC CHEMICALS NOTIFICATION

TOXIC CHEMICAL CAS # % (BY WT.)
2,4-toluene diisocyanate 584-84-9 2.1
2,6-toluene diisocyanate 91-08-7 0.3

UNIFOYAL CHEMICAL

Carcinogenic per NTP X IARC 2b OSHA None (TDI)