

# W. R. GRACE

## MATERIAL SAFETY DATA SHEET

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B

MSDS ID Number: M-85795

MSDS Date: 10/30/07

### **SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** Bituthene Deck Prep, Bituthene Liquid Membrane Part B  
**MSDS Number:** M-85795  
**Cancelled MSDS Number:** M-85736  
**MSDS Date:** 10/30/07  
**Chemical Family Name:** Aromatic Isocyanate  
**Product Use:** Curative for Waterproof Sealing Compound  
**Chemical Formula:** Mixture-NA  
**CAS # (Chemical Abstracts Service Number):** Mixture-NA

**Manufactured by:**

W.R.Grace & Co.-Conn.  
62 Whittemore Avenue  
Cambridge, MA 02140

Grace Canada, Inc.  
294 Clements Road West  
Ajax, Ontario L1S 3C6

**In Case of Emergency Call:**

In USA: (617) 876-1400 In Canada: (905) 683-8561

### **SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Ingredient</b>	<b>CAS#</b>	<b>Percent (max)</b>
1,1'-Methylenebis (isocyanato-) benzene	026447-40-5	50-100
Benzene, 1,1'-methylenebis[isocyanato-, homopolymer	039310-05-9	10-25
Hydrogenated terphenyls	061788-32-7	25-50
Methylene bisphenol isocyanate (MDI)	000101-68-8	25-50
Polyphenyls, quater- and higher, partially hydrogenated	068956-74-1	1-10
Terphenyls	026140-60-3	1-10
Triethyl phosphate	000078-40-0	1-10

# W. R. GRACE

## MATERIAL SAFETY DATA SHEET

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B

MSDS ID Number: M-85795

MSDS Date: 10/30/07

---

### **SECTION 3 - HAZARDS IDENTIFICATION**

#### **Emergency Overview:**

##### **Caution!**

Causes eye irritation.

Causes skin irritation.

May cause respiratory tract irritation.

Causes digestive tract irritation if ingested.

Mixed components are harmful if absorbed through the skin.

May cause skin and respiratory sensitization.

Mixed components contain petroleum oils, which have caused serious toxic effects including skin cancer, liver damage, blood effects and effects on the unborn based on tests with laboratory animals.

#### **HMIS Rating:**

Health:	2*
Flammability:	1
Reactivity:	1
Personal Protective Equipment:	B (See Section 8)

#### **Potential Health Effects:**

##### **Inhalation:**

May cause respiratory tract irritation.

Prolonged inhalation may cause sensitization.

Effects include: Nausea, headache, dizziness, irritation, bronchitis, pulmonary edema (fluid in the lungs) and reduced lung function.

##### **Eye Contact:**

Eye contact causes severe irritation.

Prolonged eye contact can result in tissue damage.

##### **Skin Contact:**

Skin contact causes irritation.

Prolonged skin contact can result in irritation causing redness and itching.

May cause sensitization.

Petroleum oils present when A and B components are mixed, have been associated with serious toxic effects including skin cancer, liver damage, blood effects and effects on the unborn, based on tests with laboratory animals. These effects are not likely to occur in humans if good personal hygiene practices are used.

Effects include: Redness, swelling, rash, scaling or blistering.

##### **Skin Absorption:**

Isocyanate absorbed through the skin can lead to symptoms similar to those caused by inhalation.

# W. R. GRACE

## MATERIAL SAFETY DATA SHEET

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B  
MSDS ID Number: M-85795

10/30/07

### **Ingestion:**

Due to the physical nature of this product, ingestion is not likely.  
If ingested, causes irritation to the linings of the mouth, esophagus and stomach.  
Effects include: Coughing and sore throat.

---

### **SECTION 4 - FIRST AID MEASURES:**

#### **Skin Contact:**

In case of skin contact, clean fingernails and wash skin with soap and water. If residue remains, clean with waterless handcream or abrasive soap. Never use solvents.  
If discomfort or irritation persists, consult a physician.  
Remove contaminated clothing and wash before reuse.

#### **Eye Contact:**

Flush eyes with water for at least 15 minutes while holding eyelids open.  
If discomfort or irritation persists, consult a physician.

#### **Ingestion:**

Do not induce vomiting.  
Never give anything by mouth to an unconscious person.  
If discomfort or irritation persists, consult a physician.

#### **Inhalation:**

If symptoms develop, get fresh air. If symptoms persist, consult a physician.  
If breathing has stopped, give artificial respiration then oxygen if needed.

---

### **SECTION 5 - FIRE AND EXPLOSION HAZARD DATA**

<b>Flash Point:</b>	200C/392F (Estimated)
<b>Flash Point Method:</b>	Cleveland Open Cup
<b>Lower Explosion Limit:</b>	Not Available
<b>Upper Explosion Limit:</b>	Not Available
<b>Auto-Ignition Temperature:</b>	Not Available

### **NFPA Rating:**

<b>Health:</b>	2
<b>Flammability:</b>	1
<b>Reactivity:</b>	1

**Extinguishing Media:** In case of fire, use water spray, dry chemical, Carbon dioxide or foam.

#### **Special Fire Fighting Procedures:**

Wear self-contained breathing apparatus and complete personal protective equipment when potential for exposure to vapors or products of combustion exist. Water may be used to cool containers to prevent pressure build-up and possible auto-ignition or explosion. Avoid breathing hazardous vapors or products of combustion, keep upwind.

**W. R. GRACE**  
**MATERIAL SAFETY DATA SHEET**

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B  
 MSDS ID Number: M-85795

MSDS Date: 10/30/07

Isolate area and keep unnecessary people away. Prevent run-off from fire control or dilution from entering streams or drinking water supplies.

**Unusual Fire and Explosion Hazards:**

None unless noted below.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES:**

**Spills/Leaks:**

Use proper personal protective equipment. Do not flush to sewer or allow to enter waterways. Keep unnecessary people away.

**SECTION 7 - HANDLING AND STORAGE**

**Precautionary Measures:**

- Avoid contact with eyes, skin and clothing.
- Do not take internally.
- Practice good personal hygiene to avoid ingestion.
- Use only with adequate ventilation.
- Wash clothing before reuse.
- Do not apply where odors may penetrate living areas.
- To avoid skin contact, use gloves or barrier creams.
- Wear work clothes with long sleeves if skin contact is possible.
- Promptly cleanse hands with waterless hand cleaner, clean fingernails and wash with soap and water after handling.
- Do not use solvents to clean skin.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF CHILDREN'S REACH.

**SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT**

**EXPOSURE GUIDELINES (US)**

Ingredient	ACGIH TLV			OSHA PEL			Other
	TWA	STEL	Ceiling	TWA	STEL	Ceiling	
1,1'-Methylenebis (isocyanato-) benzene	-	-	-	-	-	-	-
Benzene, 1,1'-methylenebis[isocyanato-, homopolymer	-	-	-	-	-	-	-
Hydrogenated terphenyls	0.5 ppm TWA (non-irradiated)	-	-	0.5 ppm TWA; 5 mg/m3 TWA	-	-	-
Methylene bisphenol isocyanate (MDI)	0.005 ppm TWA	-	-	-	-	-	-
Polyphenyls, quater- and higher, partially hydrogenated	-	-	-	-	-	-	-
Terphenyls	-	-	5 mg/m3 Ceiling	-	-	-	-

# W. R. GRACE

## MATERIAL SAFETY DATA SHEET

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B

MSDS ID Number: M-85736

MSDS Date: 11/02/2004

Triethyl phosphate	-	-	-	-	-	-
--------------------	---	---	---	---	---	---

### **EXPOSURE GUIDELINES (CANADA)**

Employers should consult local Provincial regulatory limits for exposure guidelines which may vary locally.

#### **Engineering Controls:**

Portable ventilation should be used to prevent vapor build up during application in enclosed or depressed areas where natural ventilation may not be adequate. Portable equipment such as a Coppus Vano] portable blower/exhauster should be used in accordance with the manufacturer's instructions.

#### **Personal Protective Equipment:**

**Respiratory Protection:** MDI contained in mixed A and B components, has a very low vapor pressure and is not likely to exceed the permissible exposure limit (PEL) in unconfined spaces. Therefore, respiratory protection is not normally required in well ventilated areas except for individuals who are hypersensitive to isocyanates. It should also be noted that although chemical cartridge respirators may provide protection against isocyanate exposure, they are not approved for such use by NIOSH. This is because MDI has poor warning properties. (The level at which it can be detected by odor is significantly above the PEL.) In confined areas, indoors or where there is inadequate ventilation, supplied air (NIOSH Type TC-19C-XXX) or self-contained breathing apparatus (NIOSH Type TC-13F-XXX) may be required.

**Skin Protection:** The following glove materials are acceptable: Nitrile or Butyl rubber gloves should be worn to protect against MDI and oils contained in the mixed A and B component.

**Eye Protection:** At minimum, safety glasses with side shields should be worn where splashing and high vapor concentrations are likely.

**Work/Hygienic Practices:** Use good personal hygiene practices.

Avoid rubbing eyes while handling. Incidental ingestion of residue on hands can be avoided by using good personal hygiene practices.

To avoid skin contact, wear recommended gloves (see skin protection recommendation) and wash with soap and water after handling. Intermittent or occasional skin contact with petroleum asphalt is not expected to have serious health effects as long as good personal hygiene measures are taken. Promptly cleanse with waterless hand cleaner, clean fingernails and wash with soap and water after handling. All employees working with this product must exercise good and prudent personal hygiene practices.

# W. R. GRACE

## MATERIAL SAFETY DATA SHEET

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B

MSDS ID Number: M-85795

MSDS Date: 10/30/07

### SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid
<b>Appearance/Odor:</b>	Clear yellow Liquid with a faint aromatic odor.
<b>Odor Threshold: (ppm)</b>	Methylene Bisphenyl Isocyanate (MDI) = well above PEL
<b>pH:</b>	Unknown
<b>Vapor Pressure: (Mm Hg)</b>	0.05
<b>Vapor Density: (Air = 1)</b>	8.5 (Estimated)
<b>Solubility In Water:</b>	Reacts
<b>Specific Gravity: (Water = 1)</b>	~1.0
<b>Evaporation Rate: (Butyl Acetate = 1)</b>	Unknown
<b>Boiling Point:</b>	150°C/302°F (Estimated)
<b>Viscosity:</b>	Unknown
<b>Bulk Density: (Pounds/Cubic Foot)(Pcf)</b>	Not Applicable
<b>% Volatiles (gr/L): (70°F) (21°C)</b>	Negligible

### SECTION 10 - STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable
<b>Conditions To Avoid:</b>	Sparks and Open flames.
<b>Hazardous Polymerization:</b>	Will not polymerize.
<b>Hazardous Decomposition Products:</b>	Acrid smoke.

### SECTION 11 - TOXICOLOGICAL INFORMATION

<u>Ingredient(No data unless listed.)</u>	<u>CAS Number</u>	<u>LD50 and LC50</u>
Hydrogenated terphenyls	061788-32-7	Oral LD50 Rat: 17500 mg/kg; Oral LD50 Mouse: 12500 mg/kg
Methylene bisphenol isocyanate (MDI)	000101-68-8	Oral LD50 Rat: 9200 mg/kg; Oral LD50 Mouse: 2200 mg/kg
Terphenyls	026140-60-3	Oral LD50 Mouse: 13200 mg/kg
Triethyl phosphate	000078-40-0	Oral LD50 Rat: 1311 mg/kg; Oral LD50 Mouse: 1500 mg/kg

**W. R. GRACE**  
**MATERIAL SAFETY DATA SHEET**

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B  
MSDS ID Number: M-85795

MSDS Date: 10/30/07

**Carcinogenicity:**

Ingredient	IARC Group 1	IARC Group 2A	IARC Group 2B	NTP Known	NTP Suspect	OSHA
1,1'-Methylenebis (isocyanato-) benzene	No	No	No	No	No	No
Benzene, 1,1'-methylenebis[isocyanato-, homopolymer	No	No	No	No	No	No
Hydrogenated terphenyls	No	No	No	No	No	No
Methylene bisphenol isocyanate (MDI)	No	No	No	No	No	No
Polyphenyls, quater- and higher, partially hydrogenated	No	No	No	No	No	No
Terphenyls	No	No	No	No	No	No
Triethyl phosphate	No	No	No	No	No	No

**Mutagenicity:** Not applicable.  
**Teratogenicity:** Petroleum oils contained in the mixed A and B components have caused effects on the unborn based on tests with laboratory animals.  
**Reproductive Toxicity:** Not applicable.

---

**SECTION 12 - ECOLOGICAL INFORMATION**

**Environmental Fate:** No data available for product.  
**Ecotoxicity:** No data available for product.

---

**SECTION 13 - DISPOSAL CONSIDERATIONS**

**Waste Disposal Procedures:**  
Consult all regulations (federal, state, provincial, local) or a qualified waste disposal firm when characterizing waste for disposal. According to EPA (40 CFR § 261), waste of this product is not defined as hazardous. Dispose of waste in accordance with all applicable regulations.

---

**SECTION 14 - TRANSPORTATION INFORMATION**

**Proper Shipping Name:** Not Applicable  
**UN/NA Number:** Not Applicable  
**Domestic Hazard Class:** Nonhazardous  
**Surface Freight Classification:** Adhesive Cements N.O.I.  
**Label/Placard Required:** Not Applicable

**W. R. GRACE**  
**MATERIAL SAFETY DATA SHEET**

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B  
MSDS ID Number: M-85795

MSDS Date: 10/30/07

---

**SECTION 15 - REGULATORY INFORMATION**

---

**REGULATORY CHEMICAL LISTS:**

**CERCLA (Comprehensive Response Compensation and Liability Act):**  
**(None present unless listed below)**

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	<u>CERCLA RQ</u>
Methylene bisphenol isocyanate (MDI)	000101-68-8	49.4	5000 lb final RQ; 2270 kg final RQ

**SARA Title III (Superfund Amendments and Reauthorization Act)**

**SARA Section 312/Tier I & II Hazard Categories:**

Health Immediate (acute)	Yes
Health Delayed (chronic)	Yes
Flammable	No
Reactive	No
Pressure	No

**302 Reportable Ingredients (Identification Threshold 1%.):**

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>	<u>SARA 302 TPQ</u>
----------------------	--------------	-------------	-------------------------

**313 Reportable Ingredients (Chemicals present below reporting threshold are exempt):**

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt %</u>
Methylene bisphenol isocyanate (MDI)	000101-68-8	49.4

**National Volatile Organic Compound Emission Standards For Architectural Coatings:**

**Volatile Organic Content:** (gr/L) 10 gr/L as applied

**WHMIS Classification(s):** D2 A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR). This MSDS contains all the information required by the CPR.



# W. R. GRACE

## MATERIAL SAFETY DATA SHEET

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B

MSDS ID Number: M-85795

MSDS Date: 10/30/07

### State Regulatory Information:

#### California Proposition 65:

This product does not contain substances known to the state of California to cause cancer, birth defects or other reproductive harm.

#### Massachusetts Hazardous Substance List(Identification threshold 0.001%(1ppm)):

##### Chemical Name

##### CAS #

##### Wt %

#### New Jersey Hazardous Substance List(Identification threshold (0.1%)):

##### Chemical Name

##### CAS #

##### Wt %

Methylene bisphenol isocyanate (MDI)

000101-68-8

49.4

#### Pennsylvania Hazardous Substance List(Identification threshold 0.01%):

##### Chemical Name

##### CAS #

##### Wt %

### CHEMICAL INVENTORY STATUS:

All chemicals in this product are listed or exempt from listing in the following countries:

US	CANADA		EUROPE	AUSTRALIA	JAPAN	KOREA	PHILIPPINES
TSCA	DSL	NDSL	EINECS/ELINCS	AICS	ENCS	ECL	PICCS
Yes	Yes	No	Yes	Yes	No	No	No

### SECTION 16 - OTHER INFORMATION

#### Non-Hazardous Ingredient Disclosure:

##### Chemical Name

##### CAS Number

Prepared by:

EH&S Department

Approved by:

EH&S Department

Approved Date:

11/02/2004

#### Disclaimer:

# W. R. GRACE

## MATERIAL SAFETY DATA SHEET

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part B  
MSDS ID Number: M-85795

MSDS Date: 10/30/07

---

"The data included herein are presented in accordance with various environment, health and safety regulations. It is the responsibility of a recipient of the data to remain currently informed on chemical hazard information, to design and update its own program and to comply with all national, federal, state and local laws and regulations applicable to safety, occupational health, right-to-know and environmental protection."