

W. R. GRACE
MATERIAL SAFETY DATA SHEET

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part A
MSDS ID Number: M-85794

MSDS Date: 10/30/07

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Bituthene Deck Prep, Bituthene Liquid Membrane Part A
MSDS Number: M-85794
Cancelled MSDS Number: M-85735
MSDS Date: 10/30/07
Chemical Family Name: Rubberized Asphalt/Aromatic Isocyanate Polyol Liquid Waterproofing Membrane
Product Use: Waterproofing Products
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

| Ingredient | CAS# | Percent (max) |
|------------------------------------------------|-------------|----------------------|
| 1,3-Butadiene, homopolymer, hydroxy-terminated | 069102-90-5 | 10-25 |
| Calcium oxide | 001305-78-8 | 1-10 |
| Carbon | 007440-44-0 | 1-10 |
| Castor oil, hydrogenated | 008001-78-3 | 1-10 |
| Fumes, silica | 069012-64-2 | 25-50 |
| Heavy Paraffinic Distillate Solvent Extract | 064742-04-7 | 10-25 |
| Petroleum Asphalt | 008052-42-4 | 10-25 |
| Poly(oxypropylene) triol | 025791-96-2 | 1-10 |

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SECTION 3 - HAZARDS IDENTIFICATION

Emergency Overview:

Warning!

Causes severe eye irritation.
Causes skin irritation.
May cause severe respiratory tract irritation.
Causes digestive tract irritation if ingested.
May be harmful if absorbed through skin.
May cause liver damage and blood effects, based on animal studies.
May cause teratogenic effects.
May produce local skin tumors.
Mixed A and B components contain MDI which is a respiratory and skin sensitizer.

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 can cause severe irritation.
Prolonged eye contact can result in redness and itching.

Skin Contact:

Skin contact causes irritation.
Prolonged skin contact can result in irritation causing redness and itching.
Petroleum oils in this product, have caused 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:

Product can be absorbed through the skin upon prolonged contact resulting in systemic effects such as nausea, headache, and general discomfort.

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Ingestion:

Single dose oral toxicity is believed to be low.

If ingested, causes irritation to the linings of the mouth, esophagus and stomach.

Effects include: Nausea, vomiting, diarrhea, sneezing, coughing, labored breathing and burns.

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.

Get immediate medical attention.

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

Flash Point: 200C/392F (Estimated)

Flash Point Method: Cleveland Open Cup

Lower Explosion Limit: Not Available

Upper Explosion Limit: Not Available

Auto-Ignition Temperature: Not Available

NFPA Rating:

Health: 2

Flammability: 1

Reactivity: 1

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

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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. 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.

Oil spills released directly to waterways may be subject to National Response Center (1-800-424-8802) reporting. Immediately contact your company's environmental coordinator or the Grace Environmental Health and Safety Department.

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.

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SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT

EXPOSURE GUIDELINES (US)

| Ingredient | ACGIH TLV | | | OSHA PEL | | | Other |
|------------------------------------------------|-----------------------------------------------------------------------------------|------|---------|----------------------------------------------------------------------------|------|---------|-------|
| | TWA | STEL | Ceiling | TWA | STEL | Ceiling | |
| 1,3-Butadiene, homopolymer, hydroxy-terminated | - | - | - | - | - | - | - |
| Calcium oxide | 2 mg/m3 TWA | - | - | 5 mg/m3 TWA (not in effect as a result of reconsidera tion) | - | - | - |
| Carbon | - | - | - | - | - | - | - |
| Castor oil, hydrogenated | - | - | - | - | - | - | - |
| Fumes, silica | 2 mg/m3 TWA (respirable fraction) | - | - | - | - | - | - |
| Heavy Paraffinic Distillate Solvent Extract | - | - | - | - | - | - | - |
| Petroleum Asphalt | 0.5 mg/m3 TWA (inhalable fraction, as benzene- soluble aerosol) | - | - | - | - | - | - |
| Poly(oxypropylene) triol | - | - | - | - | - | - | - |

EXPOSURE GUIDELINES (CANADA)

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

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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 components.

Eye Protection: At minimum, safety glasses with side shields should be worn where exposure to 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.

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------------------------|-------------------------------------------------------|
| Physical State: | Liquid |
| Appearance/Odor: | Thick, dark mixture with odor of rubber or petroleum. |
| Odor Threshold: (ppm) | Methylene Bisphenyl Isocyanate (MDI) = well above PEL |
| pH: | Unknown |
| Vapor Pressure: (Mm Hg) | .05 |
| Vapor Density: (Air = 1) | Unknown |
| Solubility In Water: | Not Applicable |
| Specific Gravity: (Water = 1) | ~1.1 |
| Evaporation Rate: (Butyl Acetate = 1) | Unknown |
| Boiling Point: | 150°C/302°F (Estimated) |
| Viscosity: | Unknown |
| Bulk Density: (Pounds/Cubic Foot)(Pcf) | Not Applicable |
| % Volatiles (gr/L): (70°F) (21°C) | Negligible |

SECTION 10 - STABILITY AND REACTIVITY

| | |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chemical Stability: | Stable |
| Conditions To Avoid: | Heat, Oxidizing materials, Strong oxidizers, Strong acids, Organic materials, Water, isocyanates, phosphorous pentoxide, hydrogen flouride and boric acid. |
| Hazardous Polymerization: | Will not polymerize. |
| Hazardous Decomposition Products: | Carbon dioxide, Carbon monoxide, Sulfur oxides and Low molecular weight hydrocarbons. |

SECTION 11 - TOXICOLOGICAL INFORMATION

| <u>Ingredient(No data unless listed.)</u> | <u>CAS Number</u> | <u>LD50 and LC50</u> |
|-------------------------------------------|-------------------|------------------------------------------------------------|
| Castor oil, hydrogenated | 008001-78-3 | Oral LD50 Rat: >10 g/kg |
| Poly(oxypropylene) triol | 025791-96-2 | Oral LD50 Rat: >64 mL/kg; Dermal LD50 Rabbit: >20 mL/kg |

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Carcinogenicity:

| Ingredient | IARC Group 1 | IARC Group 2A | IARC Group 2B | NTP Known | NTP Suspect | OSHA |
|------------------------------------------------|--------------|---------------|---------------|-----------|-------------|------|
| 1,3-Butadiene, homopolymer, hydroxy-terminated | No | No | No | No | No | No |
| Calcium oxide | No | No | No | No | No | No |
| Carbon | No | No | No | No | No | No |
| Castor oil, hydrogenated | No | No | No | No | No | No |
| Fumes, silica | No | No | No | No | No | No |
| Heavy Paraffinic Distillate Solvent Extract | No | No | No | No | No | No |
| Petroleum Asphalt | No | No | Yes | No | No | No |
| Poly(oxypropylene) triol | No | No | No | No | No | No |

Animal tests indicate that prolonged and repeated skin contact with the asphalt in this product may produce local skin tumors.

Mutagenicity: Not applicable.
Teratogenicity: Petroleum oils in this product 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

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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> |
|----------------------|--------------|-------------|------------------|
|----------------------|--------------|-------------|------------------|

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</u> <u>TPQ</u> |
|----------------------|--------------|-------------|-------------------------------|
|----------------------|--------------|-------------|-------------------------------|

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

| <u>Chemical Name</u> | <u>CAS #</u> | <u>Wt %</u> |
|----------------------|--------------|-------------|
| 1,3-Butadiene | 000106-99-0 | .00011 |

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.

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State Regulatory Information:

California Proposition 65:

WARNING! This product contains 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)):

| <u>Chemical Name</u> | <u>CAS #</u> | <u>Wt %</u> |
|---------------------------------------------|--------------|-------------|
| 1,3-Butadiene | 000106-99-0 | .00011 |
| Aromatic Oil | 064742-10-5 | .6265 |
| Heavy Paraffinic Distillate Solvent Extract | 064742-04-7 | 12.53 |

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

| <u>Chemical Name</u> | <u>CAS #</u> | <u>Wt %</u> |
|----------------------|--------------|-------------|
|----------------------|--------------|-------------|

Pennsylvania Hazardous Substance List(Identification threshold 0.01%):

| <u>Chemical Name</u> | <u>CAS #</u> | <u>Wt %</u> |
|----------------------|--------------|-------------|
|----------------------|--------------|-------------|

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 | No | 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:

"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."