

SAFETY DATA SHEET



1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: BioFlex Shelter
CHEMICAL FAMILY: Asphaltic Emulsion
SUPPLIER: BioFlex Roof Products
Canada (Head Office)
209 - 3380 South Service Road
Burlington, Ontario
L7N 3J5
EMERGENCY CONTACT: (833) 425 2441

2. HAZARDS IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015)
Classification
Acute toxicity (Inhalation) - Category 4; Skin irritation - Category 3; Eye irritation - Category 2B;
Carcinogenicity - Category 2
Label Elements



Warning

Harmful if swallowed, in contact with skin or if inhaled.

IF exposed or concerned: Get medical advice/attention.

Other Hazards

Dark Black-Brown. characteristic asphaltic odour or "rotten egg" odour if H₂S present, but odour is an unreliable warning, since it may deaden the sense of smell. Prolonged or repeated skin contact can cause drying of the skin which may produce irritation or dermatitis.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Asphalt (Bitumen) fume	8052-42-4	40-60		
Mineral oil, petroleum extracts, heavy paraffinic distillate solvent	6742-04-7	5-15		
Mineral Filler (Limestone)	1317-65-3	0-30		
Vulcanized Rubber Compound -	N/A	0-20		

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Fume				
Styrene-butadiene copolymers	9003-55-8	0.10		

NOTE: During storage or transit of hot asphalt, hydrogen sulphide may be generated.

4. FIRST AID MEASURES

Inhalation

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Move exposed person to fresh air. Seek Medical Help.

Skin Contact

Or hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt removal of asphalt but split longitudinally if circumferential to avoid tourniquets effect. No attempt should be made to remove firmly adhering bitumen from the skin. Once the bitumen has cooled, it will do no further harm and in fact provide a sterile covering over a burnt area. As healing takes place, the bitumen plaque, will detach itself, usually after a few days. For skin soiling without underlying burn, cleanse with mineral oil followed by soap and water. Use olive oil in vicinity of eyes.

Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor. Specific treatment is required.

Ingestion

Rinse mouth with water. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

First-aid Comments

If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS)

Depression, symptoms of which may include weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe over exposure; coma and death. At higher concentrations (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause respiratory-tract irritation and respiratory failure, coma and death. Pulmonary edema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not sufficient as a warning property for exposure to this substance, as it may deaden the sense of smell quickly.

If on skin: repeated or prolonged exposure can irritate or burn the skin.

If swallowed: symptoms may include nausea, vomiting, stomach cramps and diarrhea.

If in eyes: causes moderate to severe irritation. Symptoms include sore, red eyes, and tearing.

Immediate Medical Attention and Special Treatment

Target Organs

Skin: can cause irritation, dermatitis. Skin defatting with chronic exposure.

Special Instructions

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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5. FIRE FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable Extinguishing Media

Do not spray water onto burning product as this may cause spattering and spreading of the flame. Do not spray water onto tank, vessel containing liquid asphalt as water reacts violently with product at elevated temperatures;

risk of steam explosion!

Specific Hazards Arising from the Product

Not flammable

Heating increases the release of toxic vapour, non combustible material but under fire conditions this product may emit toxic and/or irritating fumes and gases including carbon monoxide and carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece. A full-body encapsulating chemical protective suit with positive pressure SCBA may be necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean up. Ventilate close spaces before entering them. Do not touch or walk through a spilled material.

Environmental Precautions

Prevent further leakage or spillage if safe to do so. Protect bodies of water, sewer or ground.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Ventilate the area to prevent the gas from accumulating, especially in confined spaces. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Dike spilled product to prevent runoff. Remove or recover liquid using pumps or vacuum equipment. Contact emergency services and manufacturer/supplier for advice.

7. HANDLING AND STORAGE

Precautions for Safe Handling

This product is non-combustible. If heated, irritating vapours may be formed. Do not use in areas without adequate ventilation. Wash hands thoroughly after handling.

Conditions for Safe Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials(see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Asphalt (Bitumen) fume	0.5 mg/m ³ (I) A4 BEI		Not established			
Mineral Filler (Limestone)	10 mg/m ³ (R)		5 mg/m ³ (R)			
Styrene-butadiene copolymers	3 mg/m ³ (R)					

Appropriate Engineering Controls

If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin Protection

Prevent skin contact. Wear chemical protective clothing e.g. gloves, aprons, boots. Wear a chemical splash suit and respiratory protection.

Respiratory Protection

Do not breathe in this product. Use a proper fitted, air-purifying or air-fed respirator with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Dark brown - black.

Partition Coefficient, n-Octanol/Water (Log Kow): Not available

Odour: Characteristic asphaltic odour or "rotten egg" odour if H₂S present, but odour is an unreliable warning, since it may deaden the sense of smell.

Vapour Pressure: Not available

Odour Threshold: Not available

pH: Not available

Vapour Density (air = 1): Not available

Initial Boiling Point/Range: Not available

Evaporation Rate: Not available

Flammability (solid, gas): Not available

Flash Point: > 200 °C (392 °F)

Melting Point/Freezing Point : Not available (melting); Not available (freezing)

Relative Density (water = 1): Not available

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Upper/Lower Flammability or Explosive Limit: Not available (upper); Not available (lower)
Solubility: Not available in water; Not available (in other liquids)
Auto-ignition Temperature: > 400 °C
Decomposition Temperature: Not available
Viscosity: Not available (kinematic); Not available (dynamic)
Physical State: Solid

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Avoid static charge accumulation and discharge. Strong oxidizing agents.

Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

Incompatible Materials

Oxidizing agents (e.g. peroxides).

Hazardous Decomposition Products

Thermal decomposition:-Oxides of carbon. Sulphur compounds.Nitrogen compounds.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Asphalt (Bitumen) fume		> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)

Skin Corrosion/Irritation

Irritating to skin. Signs/symptoms may include localized redness, swelling, and itching. Hot liquid product may cause serious thermal burns on direct contact. Asphalt fumes can increase susceptibility to sunburn. Slightly irritating to the skin. Contact with hot material can cause thermal burns.

Serious Eye Damage/Irritation

Irritant to eyes.

Exposure to product vapours or liquid may cause irritation. Symptoms may include intolerance to light, redness, swelling, and tearing. Direct contact with hot material will cause burns.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause irritation to the respiratory system.

A single exposure to a high concentration can cause a long-lasting condition like asthma. If this occurs, many things like other chemicals or cold temperatures can easily irritate the airways. Symptoms may include shortness of breath, tightness in the chest and wheezing.

Skin Absorption

Can cause skin to be sensitive to sunlight. Symptoms may include redness, rash, swelling and itching.

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Ingestion

Can burn the lips, tongue, throat and stomach. At ambient temperature there is no significant adverse effect expected. Irritation of mouth, throat, or gastrointestinal tract may occur.

Aspiration Hazard

Not known to be an aspiration hazard

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Not available.

Respiratory and/or Skin Sensitization

Skin irritation, the symptoms may include redness and itching and swelling.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Asphalt (Bitumen) fume	Group 2B	A4		

Group 2B - Possibly carcinogenic to humans: occupational exposures to straight-run asphalt cement and its emissions during road paving a Group 2B ("possibly carcinogenic to humans") classification. This Group 2B classification puts road paving in the same category as numerous exposures, including cell phones and coffee. IARC: The International Agency for Research on Cancer (IARC) has determined that occupational exposures to oxide asphalt and their emissions during roofing operations are "probably carcinogenic to humans" (Group A). IARC concluded that occupational exposures to hard asphalt and their emissions during mastic asphalt work are "possibly carcinogenic to humans" (Group 2B). IARC concluded that occupational exposure to straight-run asphalt and their emissions during paving operations are "possibly carcinogenic to humans" (Group 2B).

IARC: The International Agency for Research on Cancer (IARC) has determined that occupational exposures to oxide asphalt and their emissions during roofing operations are "probably carcinogenic to humans" (Group A). IARC concluded that occupational exposures to hard asphalt and their emissions during mastic asphalt work are "possibly carcinogenic to humans" (Group 2B). IARC concluded that occupational exposure to straight-run asphalt and their emissions during paving operations are "possibly carcinogenic to humans" (Group 2B).

Reproductive Toxicity

Development of Offspring

Not available. The material in general is not expected to have toxic reproductive effects.

Sexual Function and Fertility

Not available.

No known significant effects or critical hazards

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

Not available.

The material in general is not expected to produce mutagenic effects.

Interactive Effects

Not available.

12. ECOLOGICAL INFORMATION

Environmental affects: No known significant effects or critical hazards. Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable under Federal and Provincial regulations.

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Ecotoxicity: Not available
Persistence and Degradability: Not available
Bioaccumulative Potential: No information was located
Mobility in Soil: Studies are not available
Other Adverse Effects: There is no information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

The generation of waste should be avoided or minimized where ever possible. Significant quantities of waste product residue should not be disposed of via the foul sewer but processed in a suitable effluent treatment plan. Dispose of surplus and non-recyclable and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and sections *: EXPOSURE CONTROL/PERSONAL PROTECTION for additional handling information and protection of employees.

14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.
Special Precautions: Not applicable
Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

15. REGULATORY INFORMATION

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL. The components of this product are in compliance with the chemical notification requirements of the NSN Regulation under CEPA, 1999.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

The components of this product are in compliance with the chemical notification requirements of TSCA.

16. OTHER INFORMATION

NFPA Rating

Health	2
Flammability	0
Instability	0

BioFlex Roof Products

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PREPARED BY: BioFlex Roof Products

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