



Material Safety Data Sheet (MSDS)

Polymer Modified Bitumen (PMB)

Prepared in accordance with ISO 11014-1 and GHS standards

Section 1 – Identification of the Substance and Company

Product Name: Polymer Modified Bitumen (PMB)

Chemical Family: Bituminous binder modified with thermoplastic polymers

Intended Use: Asphalt paving for heavy-traffic roads, bridge decks, airport runways, industrial yards, and waterproofing membranes

Grades Available: PMB 40, PMB 55, PMB 60, PMB 70, PMB 76, PMB 82

Manufacturer / Supplier:

Basekim Kimyasal Ürünler LTD

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Section 2 – Composition / Information on Ingredients

Substance / Ingredient	CAS Number	Concentration Range
Petroleum Bitumen	8052-42-4	70–95%
Polymer Modifier (SBS, EVA)	9003-55-8 / others	3–15%
Additives, Fillers, Stabilizers	Various	0–10%

No hazardous impurities above disclosure limits are present.

Section 3 – Hazard Identification

Physical State: Black, solid/semi-solid material; becomes viscous when heated

Odor: Mild hydrocarbon

Primary Hazards:

- Contact with heated PMB can cause **severe thermal burns**.
- Inhalation of hot application fumes may irritate eyes, respiratory tract, and skin.
- Contains trace polycyclic aromatic hydrocarbons (PAHs); long-term exposure to fumes may present carcinogenic risk.
- Slippery surface hazard if spilled in solid form.

GHS Classification:

- Not classified as hazardous in cold/solid state
- *Acute Toxicity (Inhalation, Fumes)* – Category 4 (when heated)
- *Skin Burns (Thermal)* – Category 2



Section 4 – First Aid Measures

Exposure Route	Recommended Action
Eye Contact	Immediately flush with clean water for at least 15 minutes. If hot material contacts eyes, seek urgent specialist treatment.
Skin Contact	For burns from hot PMB, cool affected area with water. Do not attempt to remove solidified material; obtain medical attention. For cold product contact, wash with soap and water.
Inhalation	Remove to fresh air. If breathing is difficult, provide oxygen and seek medical assistance.
Ingestion	Rinse mouth. Do not induce vomiting. Seek medical advice if symptoms occur.

Note to Physician: Treat hot product injuries as thermal burns. Provide supportive care for respiratory irritation due to fumes.

Section 5 – Firefighting Measures

- **Flash Point:** > 250°C (482°F)
- **Autoignition Temperature:** ~ 450°C (842°F)
- **Flammable Limits:** LEL: 0.7% | UEL: 6%
- **Suitable Extinguishing Media:** Foam, dry chemical powder, carbon dioxide
- **Unsuitable Media:** Direct water jet on molten material (may cause splattering)
- **Special Hazards:** Combustion may release CO, CO₂, SO_x, and incomplete hydrocarbon byproducts
- **Firefighter Protection:** Full protective gear with self-contained breathing apparatus



Section 6 – Accidental Release Measures

- Wear appropriate PPE; avoid inhaling fumes.
- For molten spills, allow to cool and solidify before mechanical removal.
- Prevent product from entering drains or waterways.
- Collect and dispose of in accordance with local and international regulations.

Section 7 – Handling and Storage

Handling Recommendations:

- Avoid contact with hot product.
- Use local exhaust ventilation when heating or applying PMB.
- Do not heat above manufacturer's recommended temperatures.

Storage Conditions:

- Store in closed, labeled containers in a cool, dry, ventilated area.
- Keep away from ignition sources and incompatible materials such as strong oxidizers.
- Avoid long-term storage at elevated temperatures.

Section 8 – Exposure Controls / Personal Protection

Occupational Exposure Limits (Bitumen Fume):

- ACGIH TLV: 0.5 mg/m³ (inhalable fraction, benzene-soluble aerosol)

Engineering Controls:

- Provide mechanical ventilation or local exhaust at fume generation points.

**Personal Protective Equipment:**

- **Eyes/Face:** Safety goggles or face shield
- **Skin:** Heat-resistant gloves, long-sleeved protective clothing, safety boots
- **Respiratory:** Organic vapor respirator when ventilation is insufficient

Section 9 – Physical and Chemical Properties

Property	Value / Range
Appearance	Black, semi-solid
Odor	Mild petroleum
Softening Point	40–80°C (varies by grade)
Penetration (25°C)	Grade-specific
Density @ 25°C	1.00–1.05 g/cm ³
Solubility	Insoluble in water
Vapor Pressure	Negligible
Flash Point	> 250°C
Boiling Range	> 400°C

Section 10 – Stability and Reactivity

- **Stability:** Stable under recommended storage conditions
- **Hazardous Reactions:** None expected under normal use
- **Incompatible Materials:** Strong oxidizing agents
- **Decomposition Products:** CO, CO₂, SO_x, and hydrocarbons when burned



Section 11 – Toxicological Information

- **Acute Toxicity:** Fume inhalation may cause temporary irritation of respiratory tract
- **Chronic Exposure:** Long-term inhalation of fumes may result in respiratory discomfort; PAHs present in fumes are classified as possible human carcinogens (IARC Group 2B)
- **Skin Contact:** May cause irritation from prolonged contact with cold product; burns possible from hot product

Section 12 – Ecological Information

- Not biodegradable under standard conditions
- Floats on water and may cause physical fouling of aquatic environments
- Not acutely toxic to aquatic life at expected concentrations

Section 13 – Disposal Considerations

- Recover/reuse if feasible
- Dispose of via licensed waste contractor in accordance with regional and national legislation
- Avoid uncontrolled release into environment

Section 14 – Transport Information

- **UN Number:** Not regulated in solid/cold form
- **Proper Shipping Name:** Polymer Modified Bitumen
- **Transport Class:** Not classified as dangerous goods (DOT/IMDG/IATA)



Section 15 – Regulatory Information

- All ingredients are listed on TSCA, EINECS, and other major chemical inventories
- Not regulated as hazardous when in cold/solid state

Section 16 – Other Information

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Disclaimer:

This document has been prepared in good faith based on available information at the time of publication. It is intended to describe safety requirements for handling, storage, and use of the product, and does not constitute a guarantee of product performance or specifications.