



MATERIAL SAFETY DATA SHEET

Bitumen 200/300

Document Type: Safety Data Sheet

Product: Penetration Grade Bitumen 200/300

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Important: This is a general SDS template for conventional petroleum Bitumen 200/300. The supplier's legal name, emergency telephone number, exact composition, test data, transport temperature and country-specific regulatory information must be verified before official issuance.

1. Identification of the Substance and Supplier

Product Name: Bitumen 200/300

Other Names: Paving Bitumen 200/300, Asphalt Cement, Petroleum Asphalt, Penetration Grade Bitumen

CAS Number: 8052-42-4

EC Number: 232-490-9

Recommended Uses:

- Road construction and asphalt production
- Pavement maintenance
- Waterproofing applications
- Industrial bituminous compounds
- Roofing and protective coatings

Uses Advised Against:

Any use not covered by the supplier's technical documentation or involving uncontrolled overheating.

Supplier:

BASEKIM CHEMICAL PRODUCTION CO.

Address:

To be completed by supplier.

Emergency Telephone:

To be completed according to the destination country.

2. Hazards Identification

GHS Classification

At ambient temperature, conventional paving-grade bitumen is generally not classified as hazardous under standard GHS criteria. However, significant hazards arise when the product is heated, melted or handled at elevated temperatures.

Main Hazards

- Hot molten bitumen can cause severe thermal burns.
- Heated bitumen may release fumes that irritate the eyes and respiratory tract.
- Contact between hot bitumen and water may cause violent splashing, foaming or boil-over.



- Hydrogen sulfide may accumulate in heated tanks, enclosed spaces and storage-vessel headspaces.
- The product is not readily flammable but can burn when strongly heated.
- Walking on spilled material may create a slipping hazard.

Signal Word

Warning — Hot Product

Hazard Statements

- Contact with molten material causes severe thermal burns.
- Heated vapours and fumes may irritate the respiratory system and eyes.
- May release toxic hydrogen sulfide gas under certain storage or heating conditions.
- Combustion may generate hazardous smoke and gases.

Precautionary Statements

- Avoid breathing fumes, vapours or mists.
- Use only with adequate ventilation.
- Wear heat-resistant gloves, protective clothing, face shield and safety footwear.
- Do not introduce water into hot or molten bitumen.
- Keep away from excessive heat, sparks and open flames.
- Test enclosed spaces for oxygen deficiency and hydrogen sulfide before entry.

The principal occupational risk from bitumen is contact with the product while it is hot; industry guidance also identifies irritation from emissions generated during hot handling.

3. Composition / Information on Ingredients

Component	CAS Number	EC Number	Concentration
Petroleum Bitumen	8052-42-4	232-490-9	Approximately 100%

Bitumen is a complex combination of high-molecular-weight hydrocarbons produced from petroleum refining.

Trace amounts of sulfur compounds, including hydrogen sulfide, may be present or generated during heating.

4. First-Aid Measures

Inhalation

Move the affected person to fresh air immediately.

Keep the person at rest and under observation. Seek medical attention if coughing, dizziness, headache, nausea or breathing difficulty develops.

Where hydrogen sulfide exposure is suspected:

- Do not enter the contaminated area without respiratory protection.
- Move the casualty to fresh air only when it is safe to do so.
- Administer oxygen or cardiopulmonary resuscitation by trained personnel if necessary.
- Obtain urgent medical assistance.

Skin Contact — Cold Product

Wash thoroughly with soap and water. Remove contaminated clothing.

Skin Contact — Hot or Molten Product

Immediately cool the affected area with clean, cool running water for at least 20 minutes.

**Do not:**

- Attempt to remove bitumen adhering to the skin.
- Apply ice directly to the burn.
- Use solvents, gasoline, kerosene or other chemicals to remove the material.
- Break blisters.

Cover the burn loosely with a clean, sterile dressing and obtain immediate medical attention. Adhering bitumen should normally be removed only under medical supervision.

Eye Contact

For exposure to fumes, rinse cautiously with clean water for several minutes.

For contact with hot bitumen:

- Cool the eye area immediately with clean water.
- Do not attempt to remove solidified bitumen.
- Obtain urgent specialist medical treatment.

Ingestion

Ingestion is unlikely under normal conditions.

Rinse the mouth. Do not induce vomiting. Seek medical advice if a significant quantity has been swallowed or symptoms occur.

5. Fire-Fighting Measures**Suitable Extinguishing Media**

- Dry chemical powder
- Carbon dioxide
- Fire-fighting foam
- Water fog for cooling nearby equipment

Unsuitable Extinguishing Media

Do not apply a direct water jet to hot or burning bitumen.

Water contacting molten bitumen may cause violent steam generation, splashing and boil-over.

Specific Fire Hazards

The product is not classified as readily flammable, but it will burn when sufficiently heated.

Hazardous combustion products may include:

- Carbon monoxide
- Carbon dioxide
- Sulfur oxides
- Hydrogen sulfide
- Hydrocarbon smoke
- Irritating or toxic fumes

Protective Equipment for Firefighters

Wear:

- Full protective clothing
- Positive-pressure self-contained breathing apparatus
- Heat-resistant gloves and footwear

Cool exposed tanks and equipment with water fog from a protected position.



6. Accidental Release Measures

Personal Precautions

- Restrict access to the affected area.
- Eliminate ignition sources.
- Avoid contact with hot material.
- Avoid inhalation of fumes.
- Provide adequate ventilation.
- Wear suitable heat-resistant PPE.

Environmental Precautions

Prevent the product from entering:

- Drains
- Sewers
- Surface water
- Soil
- Confined spaces

Containment and Cleanup

Molten Product

Allow the material to cool and solidify where safe.

Contain the flow using dry sand, earth or another non-combustible barrier. Do not use water on molten material.

Solid Product

Collect mechanically using suitable tools. Transfer into labelled containers for recycling or disposal.

Small residues may be absorbed with sand, earth or an approved inert absorbent.

7. Handling and Storage

Safe Handling

- Avoid skin and eye contact.
- Avoid inhaling fumes generated during heating.
- Use temperature-controlled heating systems.
- Do not overheat the product.
- Avoid splashing during loading, unloading and transfer.
- Never add water to hot bitumen.
- Confirm that tanks, hoses and vessels are dry before transfer.
- Use closed transfer systems where practicable.
- Electrically bond and ground transfer equipment where required.
- Do not eat, drink or smoke in handling areas.

Storage Conditions

Store in properly designed bitumen tanks or suitable closed packaging.

Storage areas should be:

- Dry
- Well ventilated
- Protected from water ingress



- Away from ignition sources and incompatible materials
- Equipped with temperature monitoring and overfill protection

Do not enter tanks or enclosed vessels without:

- A confined-space entry permit
- Atmospheric testing
- Continuous ventilation
- Appropriate respiratory protection
- A trained standby person and rescue arrangement

Hydrogen sulfide may accumulate above heated bitumen even when the liquid itself contains only low concentrations.

8. Exposure Controls / Personal Protection

Occupational Exposure

Observe applicable national workplace exposure limits for:

- Bitumen or asphalt fumes
- Hydrogen sulfide
- Oil mist, where relevant

Exposure limits vary by jurisdiction and must be checked for the destination country.

Engineering Controls

- Local exhaust ventilation at emission points
- Closed loading and transfer systems
- Temperature control
- Hydrogen sulfide monitoring around tanks and enclosed spaces
- Emergency eyewash and safety shower facilities

Personal Protective Equipment

Eye and Face Protection

- Chemical splash goggles
- Full face shield when handling molten material

Hand Protection

- Heat-resistant, impervious gauntlet gloves
- Gloves with cuffs positioned to prevent molten bitumen from entering

Body Protection

- Heat-resistant, long-sleeved protective clothing
- Full-length trousers worn over safety boots
- Protective apron where splashing is possible
- Clothing without open pockets or cuffs that could retain hot material

Foot Protection

Heat-resistant safety boots with non-slip soles.

Respiratory Protection

Normally unnecessary where effective ventilation controls exposure.

Use an approved respirator when:

- Fume concentrations may exceed workplace limits.
- Ventilation is inadequate.



- Hydrogen sulfide may be present.

A supplied-air respirator or self-contained breathing apparatus may be required for confined spaces or emergency conditions.

9. Physical and Chemical Properties

Property	Typical Information
Appearance	Black or dark-brown semi-solid/solid material
Odour	Characteristic petroleum odour
Penetration at 25°C	200–300 dmm
pH	Not applicable
Water Solubility	Insoluble
Relative Density	Typically approximately 1.00–1.05 at ambient temperature
Softening Point	Product-specific; confirm by certificate of analysis
Flash Point	Typically above 220°C; verify by batch test method
Auto-Ignition Temperature	Generally above 300°C; product dependent
Vapour Pressure	Very low at ambient temperature
Evaporation Rate	Negligible at ambient temperature
Explosive Properties	Not normally explosive
Oxidising Properties	Not oxidising
Viscosity	Highly temperature dependent

Values are indicative and do not replace the product's Certificate of Analysis or Technical Data Sheet.

10. Stability and Reactivity

Reactivity

Not expected to be reactive under normal storage and handling conditions.

Chemical Stability

Stable under recommended conditions.

Conditions to Avoid

- Excessive heating
- Prolonged overheating
- Open flames
- Sparks and ignition sources
- Contact between hot product and water
- Poorly ventilated enclosed spaces

Incompatible Materials

- Strong oxidising agents
- Water when the bitumen is hot or molten
- Reactive chemicals capable of causing decomposition

Hazardous Decomposition Products



Thermal decomposition or combustion may produce:

- Carbon monoxide
- Carbon dioxide
- Sulfur oxides
- Hydrogen sulfide
- Irritating hydrocarbon fumes and smoke

11. Toxicological Information

Likely Routes of Exposure

- Inhalation of fumes from heated product
- Skin contact
- Eye contact

Acute Effects

Inhalation

Fumes from heated bitumen may cause:

- Eye, nose and throat irritation
- Coughing
- Headache
- Nausea
- Dizziness

Skin Contact

Cold product may cause mild mechanical irritation. Hot product causes severe thermal burns.

Eye Contact

Fumes may cause temporary irritation. Hot product may cause serious thermal injury.

Ingestion

Low acute toxicity is expected, but ingestion may cause gastrointestinal discomfort.

Chronic Effects

Prolonged or repeated exposure to high concentrations of bitumen fumes should be minimised through engineering controls and appropriate work practices.

This general SDS does not establish a final carcinogenicity classification for a specific supplier's product. Classification depends on product composition, processing history, exposure conditions and applicable jurisdiction.

12. Ecological Information

Ecotoxicity

The solid product has low mobility and low water solubility. Acute environmental toxicity is expected to be limited under normal conditions.

Persistence and Degradability

Bitumen is expected to degrade slowly in the environment.

Bioaccumulative Potential

Reliable product-specific data are not available.

Mobility in Soil

Low mobility due to high viscosity and extremely low water solubility.



Other Adverse Effects

Large releases may physically contaminate soil, waterways, shorelines and drainage systems. Do not release the product into the environment.

13. Disposal Considerations

Recover or recycle unused material where practicable.

Dispose of waste through an authorised waste-management contractor in accordance with local and national regulations.

Do not:

- Discharge into drains or waterways.
- Burn in uncontrolled conditions.
- Mix with incompatible waste.
- Reuse contaminated packaging without inspection and cleaning.

Empty containers may retain hot material, fumes or hazardous residues and must be handled carefully.

14. Transport Information

Product Transported at Ambient Temperature

Solid or non-heated bitumen is generally not regulated as dangerous goods under many transport codes, provided it does not meet another hazard classification.

Product Transported Hot or Molten

When transported at or above the applicable elevated-temperature threshold, the product may be regulated as:

UN Number: UN 3257

Proper Shipping Name: Elevated Temperature Liquid, N.O.S. (Bitumen)

Transport Hazard Class: 9

Packing Group: III, where applicable

Marine Pollutant: Generally no

Transport classification depends on:

- Actual loading and transport temperature
- Physical state
- Packaging or tanker configuration
- Mode of transport
- National implementation of ADR, RID, IMDG or other regulations

The carrier and shipper must confirm the final classification before dispatch.

15. Regulatory Information

The product must be assessed and labelled according to the regulations applicable in the country where it is manufactured, supplied and used.

Potentially applicable frameworks include:

- Globally Harmonized System of Classification and Labelling of Chemicals
- REACH and CLP requirements in the European Economic Area
- Local occupational exposure regulations



- ADR, RID, IMDG and relevant national transport regulations
- Local environmental and waste-management laws

An SDS provides product-specific hazard and safe-handling information; manufacturers and suppliers should issue the authoritative version for their own material.

16. Other Information

Abbreviations

- **ADR:** European Agreement concerning the International Carriage of Dangerous Goods by Road
- **CAS:** Chemical Abstracts Service
- **CLP:** Classification, Labelling and Packaging Regulation
- **GHS:** Globally Harmonized System
- **IMDG:** International Maritime Dangerous Goods Code
- **PPE:** Personal Protective Equipment
- **REACH:** Registration, Evaluation, Authorisation and Restriction of Chemicals
- **SDS:** Safety Data Sheet

Disclaimer

The information in this document is based on generally available safety information for petroleum paving bitumen and is intended as guidance for safe handling.

The supplier must review and approve this SDS using:

- Actual product composition
- Batch-specific physical data
- Manufacturing process information
- Intended market
- Applicable national regulations
- Current transport requirements

This document is not a product specification, warranty or Certificate of Analysis.