



MATERIAL SAFETY DATA SHEET (MSDS / SDS)

Viscosity Grade Bitumen VG 20

Product Name: Viscosity Grade Bitumen VG 20

Product Grade: VG 20

Product Type: Petroleum Bitumen / Asphalt Binder

Recommended Use: Asphalt production, road paving, flexible pavements, road construction and maintenance

Physical Form: Semi-solid to solid at ambient temperature

Color: Black to dark brown

Important: This document provides general safety guidance for VG 20 paving bitumen. A supplier must prepare the final regulatory SDS for the specific product, composition, jurisdiction, and shipment.

1. Identification

Product Identifier: Viscosity Grade Bitumen VG 20

Alternative Names: VG 20 Bitumen, Bitumen VG 20, VG 20 Asphalt Binder, Paving Bitumen VG 20

Product Use: Road construction and asphalt manufacturing

Restrictions on Use: Use only for intended industrial applications and according to applicable regulations.

Supplier: Basekim

Emergency Contact: Refer to the supplier's official commercial and shipping documentation.

2. Hazard Identification

Bitumen normally presents its most significant hazards when workers heat, transfer, pump, or apply it at elevated temperatures.

Main Hazards

- Hot bitumen can cause severe thermal burns.
- Heated material may release fumes and vapors.



- Fumes may irritate the eyes and respiratory tract.
- Contact with molten material can cause serious skin injury.
- Hot product may ignite when exposed to sufficient heat or an ignition source.
- Water contacting hot bitumen may cause violent foaming, splashing, or boil-over.

Precautionary Measures

Avoid contact with hot material. Moreover, avoid breathing excessive fumes or vapors. Use suitable ventilation and appropriate personal protective equipment.

Keep water away from hot bitumen. Additionally, control heating carefully and keep ignition sources away from heated operations.

3. Composition / Information on Ingredients

Material: Petroleum bitumen / asphalt

CAS Number: 8052-42-4 commonly applies to asphalt/bitumen; the supplier should verify the identifier for the specific product.

Composition: Complex mixture of high-molecular-weight petroleum hydrocarbons

Appearance: Black or dark brown semi-solid/solid material

The exact composition can vary according to crude source and refinery process. Therefore, the final supplier SDS should identify any reportable hazardous constituents required under the applicable jurisdiction.

4. First-Aid Measures

Inhalation

Move the affected person to fresh air. Keep the person comfortable and at rest. If coughing, breathing difficulty, dizziness, or other symptoms continue, seek medical attention.

Skin Contact – Cold Product

Wash contaminated skin with soap and water. Remove contaminated clothing where this can occur safely.



Skin Contact – Hot Product

Immediately cool the affected area with plenty of cool running water for at least 20 minutes. **Do not attempt to remove solidified bitumen from the skin.**

Do not use solvents to remove bitumen. Instead, obtain prompt medical treatment for thermal burns.

Eye Contact

If fumes cause irritation, rinse the eyes carefully with clean water. Remove contact lenses when easy to do. Continue rinsing and seek medical advice if irritation persists.

If hot bitumen enters the eye, cool the area carefully with water and obtain **immediate specialist medical attention.**

Ingestion

Ingestion remains unlikely under normal industrial use. Do not induce vomiting. Rinse the mouth and seek medical advice if significant ingestion occurs or symptoms develop.

5. Fire-Fighting Measures

Suitable Extinguishing Media

Use an extinguishing medium appropriate for the surrounding fire and applicable industrial procedures, such as:

- Dry chemical powder
- Foam
- Carbon dioxide
- Water fog for cooling exposed equipment, where appropriate

Unsuitable Methods

Do not direct a solid water stream onto hot or burning bitumen. Water can cause dangerous splashing, foaming, or boil-over when it contacts hot product.



Specific Fire Hazards

Combustion may generate smoke and hazardous decomposition products, including carbon monoxide, carbon dioxide, and other hydrocarbon combustion products.

Firefighter Protection

Firefighters should wear suitable protective equipment. Additionally, use self-contained breathing apparatus when smoke, fumes, or oxygen-deficient conditions require it.

6. Accidental Release Measures

Personal Precautions

Restrict access to the affected area. Furthermore, keep unprotected personnel away from hot spilled material.

Remove ignition sources where safe. Wear suitable PPE and avoid contact with hot bitumen.

Environmental Precautions

Prevent material from entering drains, waterways, soil, or other sensitive areas where practical.

Cleanup

Allow hot spilled material to cool and solidify when conditions permit. Subsequently, recover the solid material using suitable mechanical equipment.

Do not use water directly on hot bitumen. Dispose of recovered material according to applicable local regulations.

7. Handling and Storage

Safe Handling

Use equipment suitable for heated bitumen. Additionally, control operating temperatures carefully and avoid unnecessary overheating.



Avoid breathing fumes. Therefore, provide adequate ventilation, especially around loading points, tanks, mixing equipment, and enclosed areas.

Never introduce water into hot bitumen systems. Moreover, follow established procedures before loading hot material into tanks or containers that may contain moisture.

Storage

Store the product in suitable tanks designed for bitumen service.

Keep storage systems:

- Properly maintained
- Protected from water entry
- Equipped with controlled heating
- Away from incompatible materials
- Operated within supplier-recommended temperature limits

Avoid prolonged storage at unnecessarily high temperatures because excessive heating can increase fumes and accelerate product aging.

8. Exposure Controls / Personal Protection

Engineering Controls

Provide suitable ventilation around heated operations. Additionally, use closed transfer systems where practical.

Employ local exhaust ventilation when operations can generate significant fumes.

Personal Protective Equipment

Eye/Face Protection: Safety goggles and face protection appropriate for hot-material handling.

Hand Protection: Heat-resistant gloves suitable for hot bitumen operations.

Skin Protection: Long-sleeved protective clothing, protective footwear, and other thermal protection appropriate to the task.



Respiratory Protection: Use appropriate respiratory protection when ventilation cannot adequately control fumes or when required by the workplace risk assessment.

Hygiene Measures

Wash hands after handling. Moreover, avoid eating, drinking, or smoking in work areas.

9. Physical and Chemical Properties

Property	General Information
Physical State	Semi-solid to solid at ambient temperature
Appearance	Black to dark brown
Odor	Characteristic petroleum odor
Absolute Viscosity at 60°C*	1,600–2,400 Poise
Kinematic Viscosity at 135°C*	Minimum 300 cSt
Penetration at 25°C*	Minimum 60 (0.1 mm)
Softening Point*	Minimum 45°C
Flash Point*	Minimum 220°C, Cleveland Open Cup
Solubility in Water	Practically insoluble
Solubility in Trichloroethylene*	Minimum 99.0%

Values shown correspond to VG 20 requirements under IS 73:2013. They serve as grade specification limits rather than guaranteed batch values. The supplier's current TDS and COA should provide applicable product data.

10. Stability and Reactivity

Reactivity

The product remains generally stable under normal recommended storage and handling conditions.

Chemical Stability

VG 20 Bitumen remains stable when workers store and handle it correctly.



Conditions to Avoid

Avoid:

- Excessive heating
- Open flames
- Strong ignition sources
- Uncontrolled high temperatures
- Contact between water and hot bitumen

Incompatible Materials

Avoid strong oxidizing agents. Additionally, prevent water from contacting hot bitumen because rapid vapor formation can cause dangerous splashing or boil-over.

Hazardous Decomposition Products

Fire or excessive thermal decomposition may generate carbon monoxide, carbon dioxide, smoke, irritating fumes, and other combustion products.

11. Toxicological Information

Likely Routes of Exposure

Potential exposure can occur through:

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

Acute Effects

Hot product causes thermal burns. Meanwhile, fumes from heated bitumen may cause temporary irritation of the eyes, nose, throat, or respiratory system.

Skin Effects

Cold bitumen may cause irritation after prolonged or repeated contact. However, hot material presents a much greater thermal-burn hazard.



Inhalation

Excessive exposure to fumes may cause irritation, headache, nausea, or discomfort. Therefore, operators should maintain adequate ventilation and minimize unnecessary fume generation.

Chronic Effects

Long-term hazard classification can depend on the product composition, operating temperature, exposure conditions, and jurisdiction. The final regulatory SDS should provide the applicable toxicological classification for the specific supplied material.

12. Ecological Information

Bitumen has very low water solubility. Nevertheless, large releases can physically contaminate soil, waterways, and habitats.

Prevent uncontrolled discharge into:

- Surface water
- Groundwater
- Drains
- Sewers
- Soil

Because ecological classifications can depend on composition and local regulations, consult the supplier-specific SDS for regulatory environmental information.

13. Disposal Considerations

Recover and recycle material where technically and legally practical.

Dispose of unusable product, contaminated materials, and packaging according to applicable national and local regulations.

Do not discharge bitumen into drains, waterways, or soil. Furthermore, use authorized waste contractors where regulations require them.



14. Transport Information

Transport classification can depend on the **temperature of the material during shipment**, transport mode, packaging, and applicable ADR/RID, IMDG, ICAO/IATA, or national regulations.

Cold or ambient-temperature bitumen may fall under different transport requirements from bitumen transported hot.

Hot material can fall under transport provisions for **elevated-temperature substances**. Therefore, the shipper must determine the correct UN number, proper shipping name, hazard class, packing provisions, marks, and documentation for the actual shipment.

Do not assign transport classification from this generic MSDS alone.

15. Regulatory Information

Users, suppliers, and importers should evaluate VG 20 Bitumen under the chemical safety, occupational health, environmental, labeling, and transportation regulations that apply in the destination country.

Requirements can differ between jurisdictions. Therefore, the final supplier SDS should reflect the market where the product enters commerce.

Applicable frameworks may include GHS-based hazard communication rules and relevant national chemical regulations.

16. Other Information

Document: Material Safety Data Sheet / Safety Data Sheet

Product: Viscosity Grade Bitumen VG 20

Grade: VG 20

Application: Asphalt and road construction

Supplier: Basekim

Disclaimer

This document provides general technical and safety information for **Viscosity Grade Bitumen VG 20**. It does not replace a legally compliant, supplier-specific SDS.



Actual composition, hazard classification, exposure limits, transport status, regulatory requirements, and handling recommendations can vary by product source, operating temperature, destination country, and applicable legislation.

Therefore, industrial buyers should obtain the current supplier-issued **VG 20 Bitumen MSDS/SDS, Technical Data Sheet, and Certificate of Analysis** before transportation, storage, handling, or use.