



## MATERIAL SAFETY DATA SHEET (MSDS)

### BITUMEN VG30

**Product Name:** Bitumen VG30

**Product Type:** Viscosity Grade Paving Bitumen

**Chemical Name:** Petroleum Bitumen / Asphalt

**CAS Number:** 8052-42-4

**EC Number:** 232-490-9

**Recommended Use:** Road construction, asphalt paving, pavement maintenance and industrial applications.

### 1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY

**Product Identifier:** Bitumen VG30

**Synonyms:** VG30 Bitumen, Viscosity Grade 30 Bitumen, Paving Asphalt VG30, Asphalt VG30

**Chemical Family:** Petroleum Hydrocarbon

**CAS No.:** 8052-42-4

**EC No.:** 232-490-9

#### Recommended Uses

Bitumen VG30 is primarily used as a binder in:

- Asphalt pavement and road construction
- Highway construction
- Airport runways
- Asphalt mixtures
- Road maintenance
- Paving applications
- Selected waterproofing and industrial applications

**Uses Advised Against:** Uses other than those recommended by the supplier without appropriate technical and safety assessment.

### 2. HAZARDS IDENTIFICATION

#### GHS/CLP Classification

Bitumen VG30 is generally **not classified as hazardous** according to Regulation (EC) No. 1272/2008 (CLP/GHS).

**Hazard Pictograms:** None required

**Signal Word:** None required

**Hazard Statements:** None assigned under normal supply conditions.

#### Important Additional Hazards

Although the product is not normally classified as hazardous, significant hazards can occur during hot handling.

**Hot Bitumen:** Contact with molten or heated Bitumen VG30 can cause severe thermal burns to skin and eyes.

**Bitumen Fumes:** Heating may generate fumes, mists and vapors. Excessive exposure may cause



irritation of the eyes and respiratory tract.

**Hydrogen Sulfide (H<sub>2</sub>S):** Hydrogen sulfide may accumulate in storage tank headspaces and other enclosed or poorly ventilated spaces. H<sub>2</sub>S is highly toxic and requires appropriate gas monitoring and ventilation procedures.

**Water Contact:** Water contacting hot bitumen can rapidly turn into steam, causing violent foaming, splashing or boil-over.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Component                   | CAS Number | EC Number | Concentration   |
|-----------------------------|------------|-----------|-----------------|
| Petroleum Bitumen / Asphalt | 8052-42-4  | 232-490-9 | Approx. 99–100% |

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

### 4. FIRST-AID MEASURES

#### Inhalation

Move the affected person to fresh air.

Keep the person at rest and seek medical attention if coughing, dizziness, headache, nausea, breathing difficulty or other symptoms persist.

If exposure to hydrogen sulfide is suspected, rescuers must not enter contaminated or confined areas without appropriate respiratory protection.

#### Skin Contact – Cold Product

Wash contaminated skin thoroughly with soap and water.

Remove contaminated clothing.

#### Skin Contact – Hot Bitumen

Immediately cool the affected area with large amounts of cool running water.

**Do not attempt to remove solidified bitumen from the skin.**

Do not use solvents or other chemicals to remove adhering bitumen.

Cover the affected area with a clean dressing and obtain urgent medical attention for significant burns.

#### Eye Contact

For cold material, rinse cautiously with clean water for several minutes.

For hot material, immediately cool the affected area with clean water and obtain urgent specialist medical attention.

Do not attempt to remove solidified bitumen from the eye.

#### Ingestion

Ingestion is unlikely under normal industrial conditions.

Rinse mouth with water. Do not induce vomiting unless directed by medical personnel. Obtain medical advice if symptoms occur.

### 5. FIRE-FIGHTING MEASURES

#### Suitable Extinguishing Media

Use:

- Dry chemical powder



- Foam
- Carbon dioxide (CO<sub>2</sub>)
- Water fog where appropriate

**Unsuitable Extinguishing Media**

Do not direct a high-pressure water jet onto hot or burning bitumen.

Water entering hot bitumen may vaporize rapidly and cause dangerous splashing or boil-over.

**Specific Hazards**

Combustion may generate:

- Carbon monoxide (CO)
- Carbon dioxide (CO<sub>2</sub>)
- Sulfur oxides
- Hydrocarbon fumes
- Smoke and other irritating combustion products

**Protective Equipment for Firefighters**

Firefighters should wear suitable protective clothing and self-contained breathing apparatus (SCBA), particularly in enclosed or poorly ventilated areas.

Cool exposed containers using water spray where this can be done safely.

---

**6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Keep unnecessary personnel away from the affected area.

Avoid contact with hot product.

Ensure adequate ventilation.

Use appropriate personal protective equipment.

Monitor for hydrogen sulfide where relevant, particularly around tanks, pits and confined spaces.

**Environmental Precautions**

Prevent material from entering:

- Drains
- Sewers
- Waterways
- Soil
- Groundwater

**Methods for Cleanup**

**Cold/Solid Material:** Allow the material to solidify if necessary, then mechanically collect it using suitable tools.

**Hot Material:** Stop the leak only when safe to do so. Allow the material to cool and solidify before recovery.

Dispose of recovered material according to applicable local regulations.

---

**7. HANDLING AND STORAGE****Safe Handling**

Avoid contact with hot bitumen.



Use suitable PPE when handling heated product.  
Avoid breathing fumes or vapors generated during heating.  
Provide adequate local and general ventilation.  
Avoid unnecessary overheating.  
Do not allow water to enter tanks or containers containing hot bitumen.

#### **Storage**

Store in suitable, properly designed bitumen tanks or containers.

Keep storage systems:

- Dry
- Properly ventilated
- Away from incompatible materials
- Protected against water ingress
- Equipped for safe temperature control

Storage tanks should have adequate ullage space.

Tank headspaces may contain hydrogen sulfide. Appropriate H<sub>2</sub>S monitoring and confined-space procedures should therefore be implemented.

---

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

### **Engineering Controls**

Provide adequate ventilation, particularly when bitumen is heated.

Use local exhaust ventilation where fumes may accumulate.

Monitor hydrogen sulfide concentrations where there is potential for accumulation.

### **Eye and Face Protection**

When handling hot product, use:

- Chemical/safety goggles
- Full-face shield where splash risk exists

### **Hand Protection**

Use suitable heat-resistant gloves when handling heated bitumen.

### **Body Protection**

Wear:

- Heat-resistant protective clothing
- Long sleeves
- Long trousers
- Suitable safety footwear
- Protective apron where necessary

Clothing should minimize the possibility of hot material reaching the skin.

### **Respiratory Protection**

Under normal conditions with adequate ventilation, respiratory protection may not be necessary.

Where ventilation is insufficient or fumes/H<sub>2</sub>S may exceed applicable occupational exposure limits, use suitable approved respiratory protection according to the site risk assessment.

---

## **9. PHYSICAL AND CHEMICAL PROPERTIES**



| Property                              | Typical / Specification Value        |
|---------------------------------------|--------------------------------------|
| Appearance                            | Black to dark brown                  |
| Physical State at Ambient Temperature | Semi-solid / highly viscous material |
| Odor                                  | Characteristic petroleum odor        |
| Penetration at 25°C                   | Typically within VG30 specification  |
| Absolute Viscosity at 60°C            | 2400–3600 Poise                      |
| Kinematic Viscosity at 135°C          | Min. 350 cSt                         |
| Softening Point                       | Min. 47°C                            |
| Flash Point                           | Min. 220°C                           |
| Solubility in Trichloroethylene       | Min. 99%                             |
| Water Solubility                      | Practically insoluble                |
| Specific Gravity                      | Approx. 1.0 or greater               |
| Color                                 | Black / dark brown                   |

Actual values may vary depending on refinery source and applicable VG30 specification.

## 10. STABILITY AND REACTIVITY

### Reactivity

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

### Chemical Stability

Stable under recommended storage and handling conditions.

### Possibility of Hazardous Reactions

Dangerous reactions are not expected under normal conditions.

Contact between water and very hot bitumen may result in rapid steam generation, foaming and violent splashing.

### Conditions to Avoid

Avoid:

- Excessive heating
- Open flames
- Ignition sources
- Water contamination of hot product

### Incompatible Materials

Avoid contact with strong oxidizing agents.

### Hazardous Decomposition Products

Thermal decomposition or combustion may produce carbon monoxide, carbon dioxide, sulfur compounds, smoke and hydrocarbon fumes.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity



Bitumen is generally considered to have low acute toxicity under normal handling conditions.

**Skin Contact**

Cold material may cause minor mechanical irritation.

Hot material can cause severe thermal burns.

**Eye Contact**

Fumes may cause irritation.

Hot product can cause severe thermal injury to the eyes.

**Inhalation**

Exposure to fumes generated during heating may cause:

- Eye irritation
- Nose and throat irritation
- Headache
- Nausea
- Respiratory discomfort

Hydrogen sulfide exposure can be extremely hazardous at elevated concentrations.

**Ingestion**

Not expected to be a significant route of occupational exposure.

---

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Bitumen has very low water solubility and is not expected to be readily bioavailable.

**Persistence and Degradability**

Bitumen consists predominantly of high molecular-weight hydrocarbon components and is expected to degrade slowly in the environment.

**Bioaccumulative Potential**

Limited mobility and low water solubility reduce environmental bioavailability.

**Mobility in Soil**

The product is highly viscous and has low mobility under normal environmental conditions.

**Environmental Precautions**

Avoid uncontrolled discharge into soil, surface water, groundwater, drains or sewage systems.

---

**13. DISPOSAL CONSIDERATIONS**

Recover or recycle material whenever technically and economically feasible.

Waste product should be disposed of through an authorized waste-management facility in accordance with applicable local, national and international regulations.

Do not discharge bitumen into:

- Drains
- Sewers
- Rivers
- Surface waters
- Groundwater

Empty containers may contain product residues and should be handled appropriately.

---



#### 14. TRANSPORT INFORMATION

Bitumen VG30 transported at ambient temperature is generally not regulated as dangerous goods.

Transportation classification may change when the product is shipped at elevated temperatures. Where applicable, hot bitumen transported at or above the relevant regulatory threshold may fall under provisions for elevated-temperature substances.

Transport requirements must therefore be determined according to:

- Actual shipping temperature
- Mode of transport
- Country of origin
- Destination country
- Applicable ADR/RID, IMDG or other transport regulations

Always verify the transport classification for the specific shipment before issuing shipping documentation.

---

#### 15. REGULATORY INFORMATION

Bitumen VG30 should be handled in accordance with applicable occupational health, safety, environmental and chemical-management regulations.

Petroleum bitumen/asphalt is generally identified by:

**CAS No.: 8052-42-4**

**EC No.: 232-490-9**

Under European CLP criteria, petroleum bitumen is generally not classified as hazardous for supply and use.

Local regulations may impose additional requirements for hot handling, occupational exposure, hydrogen sulfide, storage and transportation.

---

#### 16. OTHER INFORMATION

##### Product

##### Bitumen VG30 – Viscosity Grade Paving Bitumen

VG30 is a viscosity-graded paving bitumen commonly used in asphalt mixtures and road construction. The grade is designed to provide suitable viscosity and performance characteristics for paving applications, including operation under relatively high pavement temperatures and heavy traffic conditions.

##### Key Safety Considerations

The principal occupational hazards associated with VG30 arise from:

1. Thermal burns from hot/molten bitumen
2. Exposure to fumes generated during heating
3. Potential hydrogen sulfide accumulation
4. Fire hazards associated with excessive heating
5. Violent foaming or splashing if water contacts hot bitumen

Personnel involved in storage, heating, loading, unloading and application should receive appropriate safety training.

##### Disclaimer



The information contained in this MSDS is based on currently available technical and safety information and is intended to provide general guidance for the safe handling, storage, transportation and use of Bitumen VG30.

Actual product properties may vary according to crude source, refinery, production process and specification. Users should evaluate the suitability of the product and this safety information for their particular application and comply with all applicable local and international regulations.

