SAFETY DATA SHEET BITUMEN — PENETRATION GRADE 20/30 (EN 12591)

Document No: ATB-SDS-BIT-2030-2026-002 | Revision: 02 | Issue Date: 19 August 2026

Prepared in accordance with GHS (Globally Harmonized System) 16-section format, consistent with Regulation (EC) No 1907/2006 (REACH) Annex II / UN GHS Rev. 9.

SECTION 1 — Identification

Product Name	Bitumen, Penetration Grade 20/30 (EN 12591), Hard-Grade Paving/Industrial Bitumen
Synonyms	Asphalt cement; hard bitumen; petroleum bitumen; road tar substitute (informal trade name)
CAS Number	8052-42-4 (Asphalt/Bitumen)
EC Number	232-490-9
UN Number (hot, bulk)	UN 3257 — Elevated Temperature Liquid, N.O.S. (bitumen), Class 9, PG III
Recommended Use	Feedstock for oxidised/polymer-modified bitumen, waterproofing, industrial coatings, heavy-duty paving
Manufacturer / Supplier	ATABAŞ GLOBAL DIŞ TİCARET ANONİM ŞİRKETİ
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SECTION 2 — Hazard(s) Identification

GHS Classification:

- Not classified as hazardous under GHS at ambient temperature in its solid/semi-solid state
- Carcinogenicity, Category 1B (H350) — applies to fume/vapour generated when heated above 200 °C for extended periods (IARC Group 2B: possibly carcinogenic to humans, occupational exposure to bitumen fumes during paving)
- Aspiration Hazard, Category 1 (H304) — for the heated, liquid product

Label elements (heated/molten product): Signal Word — Warning. Hazard statements: H304 (may be fatal if swallowed and enters airways — molten state only); H350 (may cause cancer — chronic fume inhalation). Precautionary statements: P210, P260, P280, P301+P310, P303+P361+P353, P305+P351+P338, P405, P501.

Physical hazards: severe thermal (contact) burn hazard from molten product (typical handling temperature 160–190 °C). Not flammable or explosive under normal handling; combustible at temperatures approaching or exceeding flash point.

Other hazards: molten bitumen in contact with water or moisture can cause violent frothing/boil-over with hot splatter. Confined storage of hot bulk product may accumulate hydrogen sulphide (H_2S) vapour in the tank headspace.

SECTION 3 — Composition / Information on Ingredients

Component	CAS No.	EC No.	Concentration
Bitumen (petroleum residue, vacuum/atmospheric distillation)	8052-42-4	232-490-9	≥ 99.5% w/w
Polycyclic aromatic hydrocarbons (PAH), trace	N/A (complex mixture)	—	< 0.5% w/w, not individually classified

Bitumen is a complex mixture (UVCB substance) of hydrocarbons; the composition above is indicative and not a formal chemical assay. No hazardous additives, solvents, or fluxing agents are incorporated in this grade.

SECTION 4 — First-Aid Measures

Skin contact (molten)	DO NOT attempt to peel off adhered bitumen. Cool the affected area immediately with copious cold water for at least 20 minutes to arrest the burn. Do not attempt to remove solidified bitumen from skin. Treat as a thermal burn and seek immediate medical attention.
Skin contact (cold/solid)	Wash with soap and water. Mineral oil or a suitable emulsifying cleanser may aid removal. Do not use solvents on skin.
Eye contact	Flush immediately with copious water for at least 15 minutes, holding eyelids open. Seek immediate medical/ophthalmological attention, particularly for molten-product splashes.
Inhalation	Remove person to fresh air. If fume exposure causes irritation, cough, or breathing difficulty, seek medical attention. Keep at rest.
Ingestion	Unlikely under normal use. Do not induce vomiting (aspiration hazard, particularly for the molten product). Rinse mouth with water and seek immediate medical attention.
Notes to physician	Treat skin contact with molten bitumen as a thermal burn; do not attempt mechanical removal of adhered material in the field.

SECTION 5 — Fire-Fighting Measures

- Suitable extinguishing media: Dry chemical powder, foam, carbon dioxide (CO_2), water fog/spray
- Unsuitable media: Do not use a direct high-pressure water jet on burning or molten bitumen — risk of frothing, splatter, and steam explosion
- Specific hazards: Combustion may generate carbon monoxide, carbon dioxide, sulphur oxides, and hydrogen sulphide; hot bitumen fires can re-ignite
- Firefighter protection: Full protective clothing and self-contained breathing apparatus (SCBA) in positive-pressure mode for enclosed or confined-space fires
- Flash Point (COC): 240 °C minimum, EN ISO 2592 — Autoignition temperature: approximately 400 °C (typical for petroleum bitumen)

SECTION 6 — Accidental Release Measures

- Personal precautions: Keep unprotected personnel away; molten spills present severe burn hazard. Use heat-resistant PPE for any response to a hot release
- Environmental precautions: Prevent entry into drains, watercourses, or soil. Contain the spill area; bitumen solidifies on cooling and can then be handled as solid waste
- Containment/clean-up: Allow molten spill to cool and solidify where safe to do so, then mechanically break up and collect. Do not attempt to hose down a hot spill with water. Dispose of per Section 13
- Solid product spills (drums/bags): Sweep up or shovel into suitable, labelled containers for reuse or disposal

SECTION 7 — Handling and Storage

Handling	Handle molten product only with heat-resistant gloves, face shield, and protective clothing covering all exposed skin. Avoid splashing. Ensure adequate ventilation where fumes may accumulate. Do not exceed 200 °C during heating. Ground and bond equipment during bulk transfer to control static ignition risk
Storage	Store in insulated, temperature-controlled bulk tanks at 160–180 °C with headspace ventilation, or as drummed/bagged product in a dry, covered area away from direct sun, ignition sources, and oxidising agents. Keep tank headspace monitored for H_2S accumulation where applicable
Incompatibilities	Strong oxidising agents, water/moisture in contact with molten product (frothing hazard)

SECTION 8 — Exposure Controls / Personal Protection

Substance	Exposure Limit	Basis
Bitumen fume, as total inhalable aerosol	0.5 mg/m^3 (TWA, 8 h)	ACGIH TLV — asphalt (bitumen) fume, inhalable fraction
Bitumen fume	5 mg/m^3 (TWA, 8 h), benzene-soluble fraction	NIOSH REL (analogous reference)
Hydrogen sulphide (headspace)	10 ppm (TWA) / 15 ppm (STEL)	ACGIH TLV — H_2S

- Engineering controls: Local exhaust ventilation at loading/heating points; enclosed transfer systems where practicable
- Eye/face protection: Face shield when handling molten product; safety glasses for general handling
- Skin protection: Heat-resistant gauntlet gloves, apron/coveralls, and boots for molten-product handling; standard work gloves for solid/cold product
- Respiratory protection: Not normally required for cold product; for prolonged fume exposure during heating/loading, an organic-vapour respirator or supplied-air respirator as per site risk assessment

SECTION 9 — Physical and Chemical Properties

Property	Value
Appearance	Black to dark brown, solid to semi-solid at ambient temperature

Odour	Characteristic bituminous / mild petroleum odour
Physical State (20 °C)	Solid
Melting / Softening Range	55 – 63 °C (Ring & Ball, EN 1427)
Flash Point (COC)	240 °C min (EN ISO 2592)
Density @ 25 °C	1,000 – 1,060 kg/m³ (EN 15326)
Solubility in Water	Insoluble
Solubility in Trichloroethylene	99.0% min (EN 12592)
Kinematic Viscosity @ 135 °C	530 mm²/s min (EN 12595)
Autoignition Temperature	≈ 400 °C (typical, petroleum bitumen)
Vapour Pressure	Negligible at ambient temperature

SECTION 10 — Stability and Reactivity

- Reactivity: Stable under normal handling and storage conditions
- Chemical stability: Stable; may harden/oxidise (age) on prolonged exposure to air at elevated temperature
- Hazardous reactions: Violent frothing/steam generation on contact between molten product and water
- Conditions to avoid: Overheating above 200 °C, open flame near hot product, prolonged confined storage without headspace ventilation
- Incompatible materials: Strong oxidisers
- Hazardous decomposition products: On combustion or severe overheating — carbon oxides, sulphur oxides, hydrogen sulphide, and polycyclic aromatic hydrocarbon fume

SECTION 11 — Toxicological Information

- Acute toxicity: Low acute toxicity by dermal or oral routes under normal use; molten product presents thermal-burn injury, not chemical toxicity, as the primary acute hazard
- Skin/eye irritation: Cold product — minimal irritation potential; molten product causes severe thermal burns
- Sensitisation: Not expected to be a skin sensitiser in solid form
- Carcinogenicity: Bitumen fume generated during heating/paving is classified by IARC as Group 2B (possibly carcinogenic to humans); chronic, repeated occupational fume exposure is the relevant exposure route, not the solid product itself
- Chronic effects: Prolonged, repeated skin contact with heated bitumen has been associated with dermal irritation in occupational-exposure studies; use appropriate PPE

SECTION 12 — Ecological Information

- Ecotoxicity: Low water solubility limits aquatic bioavailability; solid product is not readily bioavailable
- Persistence/degradability: Not readily biodegradable; physically persistent as a solid in the environment
- Bioaccumulative potential: Low, due to very low water solubility and high molecular weight of the bulk material
- Mobility in soil: Low; solidifies and adheres to soil/substrate on cooling
- Other adverse effects: Prevent release to watercourses and drainage systems; molten spills to soil should be contained and recovered

SECTION 13 — Disposal Considerations

- Waste from residues: Recover and recycle where possible (e.g., re-blending into lower-grade bitumen or asphalt production) subject to buyer's/receiver's local regulations
- Disposal method: Dispose of as non-hazardous solid waste at a licensed facility in accordance with local/national waste regulations; do not discharge to drains or watercourses
- Contaminated packaging: Steel drums may be decontaminated and reconditioned/recycled by an approved handler; empty FIBC bags should be disposed of or recycled per local regulation

SECTION 14 — Transport Information

Mode / Condition	Classification
Cold/solid product (drummed, bagged, packaged)	Not regulated as dangerous goods under IMDG / ADR / IATA in solid form
Molten/hot bulk product (> 100 °C, tanker/bitutainer/vessel)	UN 3257 — Elevated Temperature Liquid, N.O.S. (Bitumen), Class 9, Packing Group III
IMDG (sea)	Class 9, PG III — Marine Pollutant: No
ADR (road, Türkiye/EU transit)	Class 9, PG III, Tunnel Code E, Special Provision 580
Special precautions	Insulated/heated tank vehicles required for molten transport; secure temperature monitoring during transit

SECTION 15 — Regulatory Information

- EU: Registered under REACH (EC No. 1907/2006) as Bitumen, CAS 8052-42-4; classified per CLP Regulation (EC) No 1272/2008 for fume-related carcinogenicity (heated use)
- IARC: Group 2B — occupational exposure to bitumen and its emissions during road paving (fume inhalation route)
- Türkiye: Compliant with SEA (Zararlı Maddeler ve Karışımlara İlişkin Güvenlik Bilgi Formları Hakkında Yönetmelik) SDS requirements
- Iraq: Handled per Iraqi Ministry of Environment and Ministry of Oil product-movement and HSE requirements applicable to petroleum-residue products
- This SDS does not constitute the receiving country's own hazard classification; the buyer/importer remains responsible for compliance with destination-country regulations

SECTION 16 — Other Information

Revision: 02 — Issue date: 19 August 2026. This Safety Data Sheet supersedes all previous versions issued for this grade and origin combination.

Key literature abbreviations: TWA = Time-Weighted Average; STEL = Short-Term Exposure Limit; RTFOT = Rolling Thin Film Oven Test; GHS = Globally Harmonized System of Classification and Labelling of Chemicals; IARC = International Agency for Research on Cancer.

SANCTIONS AND TRADE COMPLIANCE

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