BLACK ROCK BITUMEN

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SAFETY DATA SHEET (SDS / MSDS)

Bitumen 35/50

Hard Penetration Grade Paving Bitumen — EN 12591 | High-Load / Warm Climate Grade

GHS (Globally Harmonized System) Compliant — Revision 9

Markets: UAE/GCC | Australia | United Kingdom

Revision Date: May 2026 | Version: 1.0 | Document No: BRB-SDS-3550-001

⚠ CRITICAL SAFETY NOTICE — READ BEFORE USE

Bitumen 35/50 is handled at 155–175°C and poses a severe thermal burn hazard. All personnel must read and understand this document before handling. Keep accessible at the worksite at all times.

SECTION 1: IDENTIFICATION

1.1 Product Identifier

Field	Details
Product Name	Bitumen 35/50
Penetration Grade	35/50 (penetration range 35–50 × 0.1 mm at 25°C)
Standards	EN 12591:2009 (Grade 35/50) | ASTM D5 | IS 73:2013 (VG-40 equivalent) | BS EN 12591
CAS Number	8052-42-4
EC Number	232-490-9
HS Code	27132000
Synonyms / Equivalent Grades	Bitumen 35/50 EN, Hard Grade Bitumen 35/50, Paving Grade Bitumen 35/50, Asphalt Binder 35/50, Petroleum Bitumen 35-50
Global Equivalencies	EN 12591: 35/50 | IS 73:2013: VG-40 (closest equivalent) | AASHTO M 226: AC-30 (closest equivalent) | Australian Standard: between C320 and C450

1.2 Identified Uses

- Primary use: High-traffic highways, expressways, and motorways in warm to hot climate regions where C60/70 would be susceptible to rutting and permanent deformation
- Heavy-duty industrial roads, logistics hub pavements, and container terminal yards with high axle-load traffic
- Urban arterials, bus lanes, and roundabouts subject to slow-moving heavy vehicles in warm climates (UAE, GCC, hot-region Australia)
- Airport runway and apron construction in moderate to warm climates where stiffness is a priority
- Stone mastic asphalt (SMA) and porous asphalt mix designs requiring a stiffer base binder
- High-modulus asphalt (HiMA) or EME base layers where elevated service temperature stability is required
- Base binder for stiff polymer-modified bitumens (PMB) in warm and subtropical environments
- Uses NOT recommended: Not recommended for cold climate applications (<0°C service temperatures) where brittleness and thermal cracking risk is elevated; not intended for use as fuel or solvent

1.3 Supplier Details

Field	Information
Company Name	Black Rock Bitumen
Address	Sheikha Fathima Building, Office #20, 6th Floor, Al Raffa, Bur Dubai, Dubai, United Arab Emirates
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SECTION 2: HAZARD IDENTIFICATION

2.1 GHS Classification (UN GHS Rev. 9)

Hazard Class	Category	Hazard Statement
Skin Corrosion/Irritation	Category 2	H315 — Causes skin irritation (hot material)
Serious Eye Damage/Irritation	Category 2B	H320 — Causes eye irritation
Carcinogenicity	Category 2 (IARC Group 2B)	H351 — Suspected of causing cancer
Thermal Burns (hot liquid)	Hot liquid hazard	H314 (when hot) — Severe burns on contact
STOT — Repeated Exposure	Category 1	H372 — Causes organ damage through repeated exposure
Aquatic Environment — Chronic	Category 3	H412 — Harmful to aquatic life with long lasting effects

2.2 GHS Label Elements

Element	Details
Signal Word	**WARNING**
GHS Pictograms	GHS07 (Exclamation mark) | GHS08 (Health hazard) | GHS05 (Corrosion — when hot) | GHS09 (Environmental hazard)

2.3 Hazard Statements

- H315 — Causes skin irritation; contact with hot product causes severe thermal burns
- H320 — Causes eye irritation; hot splash causes severe eye injury or permanent damage
- H351 — Suspected of causing cancer (PAH content in bitumen fumes — IARC Group 2B)
- H372 — Causes damage to the respiratory system through prolonged or repeated inhalation of fumes
- H412 — Harmful to aquatic life with long lasting effects

2.4 Precautionary Statements

- P201 — Obtain special instructions before use
- P260 — Do not breathe fumes/vapours; use adequate ventilation or respiratory protection
- P272 — Contaminated work clothing must not leave the workplace
- P280 — Wear heat-resistant gloves / protective clothing / full face shield / respirator
- P304+P340 — IF INHALED: Move to fresh air; keep at rest in position comfortable for breathing
- P308+P313 — IF exposed or concerned: Seek medical advice/attention immediately
- P405 — Store locked up and out of reach of children
- P501 — Dispose of contents/container per local, national, and international regulations

⚠ SEVERE HOT BITUMEN THERMAL BURN HAZARD

Bitumen 35/50 is handled and applied at 155–175°C. Direct contact with hot bitumen causes immediate deep thermal burns. Full PPE — heat-resistant gloves, face shield, FR coveralls, and safety boots — is MANDATORY. Establish exclusion zones around all hot bitumen operations.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance Classification

Bitumen 35/50 is a complex mixture of high molecular-weight hydrocarbons (asphaltenes and maltenes fractions) derived from vacuum distillation of petroleum crude oil. It is classified as a single substance (CAS 8052-42-4) under GHS. Polycyclic aromatic hydrocarbons (PAHs) are inherently present as natural constituents at trace levels.

Component / Ingredient	CAS No.	EC No.	Conc. (% w/w)	GHS Classification
Bitumen (Petroleum Asphalt) — base substance	8052-42-4	232-490-9	>95%	H351, H372, H412
Asphaltenes (high-MW aromatic fraction)	Complex fraction	N/A	15–25%	No specific GHS classification
Maltenes (saturates, aromatics, resins)	Complex fraction	N/A	75–85%	No specific GHS classification
Polycyclic Aromatic Hydrocarbons (PAHs)	Various	Various	<0.1% (trace)	H350, H340 (trace)
H_2S (evolved when heated above 150°C)	7783-06-4	231-977-3	Generated on heating	H260, H400 — Toxic gas

Note: Benzo[a]pyrene (BaP) equivalent PAH content is typically <0.005% w/w. Full PAH analysis certificates are available on request. Third-party inspection (SGS / Bureau Veritas) is available for every shipment.

SECTION 4: FIRST AID MEASURES

4.1 First Aid by Route of Exposure

Route	First Aid Procedure
INHALATION	Immediately move the affected person to fresh air. Keep warm and at rest in a comfortable breathing position. If breathing is laboured or absent, administer artificial respiration and call emergency services. Do NOT give anything by mouth to an unconscious person. Provide oxygen if available and trained. Advise attending physician of potential bitumen fume and H_2S exposure.
SKIN — Cold/Ambient	Remove contaminated clothing carefully. Wash the affected area thoroughly with soap and water for at least 10 minutes. Do NOT use solvents (petrol, kerosene, acetone) to remove bitumen — greatly increases dermal absorption. Seek medical advice if irritation or redness persists.
SKIN — Hot Bitumen BURN	EMERGENCY: Do NOT attempt to remove hot bitumen from skin — causes further tissue damage. Cool the burn immediately with cool (not ice-cold) running water for a minimum of 20 minutes. Do NOT apply ice, butter, oil, or adhesive dressings. Cover loosely with a non-adhesive sterile dressing. CALL EMERGENCY SERVICES IMMEDIATELY. Transport to hospital. Inform treating team the burn agent was hot bitumen at 155–175°C.
EYE CONTACT	Flush eyes immediately with large amounts of clean water for at least 15–20 minutes, holding eyelids open. Remove contact lenses if safe to do so. Do NOT rub eyes. If hot bitumen has entered the eye, do NOT attempt removal — cover gently and seek emergency ophthalmological treatment. Permanent damage can occur rapidly.
INGESTION	Unlikely under normal use conditions. If swallowed: rinse mouth with water. Do NOT induce vomiting. Give one glass of water if conscious and not fitting. Seek immediate medical attention; show this SDS to the attending physician.

4.2 Symptoms and Effects

- Acute: Severe thermal burns from hot material; eye irritation; nausea/headache from fume inhalation; at high H_2S concentrations, rapid collapse
- Chronic: Dermatitis and photosensitisation from prolonged skin contact; respiratory damage from repeated fume inhalation; possible carcinogenic risk (IARC Group 2B) from PAH exposure

Clinical Note for Emergency Physicians

Hot bitumen burns are thermal injuries — apply standard TBSA assessment and fluid resuscitation protocols. For inhalation: monitor for delayed pulmonary oedema up to 24–48 h post-exposure. H_2S: supportive treatment, 100% O_2; consider hydroxocobalamin per local toxicology protocols. No specific antidote for bitumen components.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media

Media Type	Details
Suitable	Dry chemical powder, CO_2, AFFF protein foam, dry sand. Suitable for all sizes of fire involving this product.
NOT suitable — water jets	Direct water jets MUST NOT be used on burning hot bitumen — causes violent frothing and spattering of burning material, spreading fire and causing severe burns.
Water mist/spray	Water spray (fine mist only) may be used to cool adjacent containers but must not contact burning product directly.

5.2 Special Hazards from Combustion

- Flash Point: >250°C (ASTM D92 Cleveland Open Cup) — NOT classified as flammable liquid under GHS at ambient temperature
- Auto-ignition Temperature: approximately 400–450°C
- At handling temperatures (155–175°C), combustible vapours are generated that may ignite if an ignition source is present
- Toxic combustion products: CO, CO_2, SO_2, SO_3, NO_x, H_2S, and PAH-containing particulates
- H_2S is colourless, heavier than air, and accumulates in low-lying areas — IDLH = 100 ppm; lethal >1,000 ppm

5.3 Advice for Firefighters

- Full structural firefighting clothing and self-contained breathing apparatus (SCBA) must be worn
- Evacuate all non-essential personnel downwind of any burning bitumen
- Cool storage tanks/containers exposed to fire with water spray from a safe distance
- Contain all firefighting runoff — prevent entry to drains, watercourses, or soil
- Large tank fires: contact specialist hazmat fire services and notify local emergency management authority

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

- Evacuate and establish an exclusion zone around any hot bitumen spill — minimum 15 m for large spills
- Wear full PPE (Section 8) before approaching any hot spill area
- Deploy calibrated H_2S detectors; do NOT enter without confirming levels below OEL (1 ppm TWA)
- No smoking, naked flames, or electrical sparks near hot bitumen
- Ensure adequate ventilation in any enclosed/semi-enclosed area where spill occurred

6.2 Environmental Precautions

- Prevent material reaching drains, ditches, watercourses, or groundwater (H412 classification)
- If product enters a waterway or drain, notify immediately: UAE — Ministry of Climate Change & Environment; Australia — State EPA; UK — Environment Agency (0800 807 060)
- Solidified bitumen has low acute environmental risk but may cause long-term PAH leaching if left in soil

6.3 Containment and Cleanup

For HOT LIQUID SPILLS:

- Do NOT apply water to hot bitumen — severe flash steam and burn hazard
- Allow to cool naturally. Contain spread with sand or earth berms
- Once solidified, break up and collect mechanically; transfer to steel drums or lined skips

For COLD/SOLID SPILLS:

- Break up and collect mechanically with shovels/excavators
- Clean residue from hard surfaces with hot water and industrial detergent; avoid solvent cleaners
- Recover material for asphalt recycling (RAP) where possible
- Non-recyclable material to be disposed of via licensed waste contractor per Section 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

- Handle Bitumen 35/50 at 155–175°C; do NOT heat above 200°C — excessive oxidation, fume/H_2S generation, and fire risk
- Bitumen 35/50 is a harder grade with higher viscosity than 60/70 — requires slightly elevated handling temperatures (155–175°C vs 150–170°C for 60/70)
- Higher viscosity requires more powerful pumping systems; ensure piping systems are rated for the product viscosity at your storage temperature
- The higher softening point (52–60°C) makes 35/50 significantly more resistant to rutting at elevated pavement surface temperatures
- Inspect heating equipment daily; ensure overtemperature thermostat cut-off devices are set at or below 200°C
- Do NOT mix with lighter petroleum products (kerosene, diesel) as this reduces flash point and significantly alters product properties
- ALWAYS test for H_2S before opening storage tanks, manholes, or drums — use calibrated personal H_2S detector (alarm at 1 ppm, evacuate at 5 ppm)
- Avoid breathing fumes and aerosols — use local exhaust ventilation at all mixing and application points
- No smoking, naked flames, or ignition sources within 10 m of any heated bitumen
- Do NOT add water to heated bitumen — violent flash steam and spattering will result
- Provide emergency shower and eyewash stations within 10 seconds of all hot work areas (ANSI Z358.1 / AS 4775)
- Workers must be trained in hot bitumen burn first aid before commencing duties

7.2 Storage Conditions

Parameter	Requirement
Bulk Storage Temperature	Bulk storage: 150–165°C. Higher temperature than 60/70 needed to maintain flowability due to elevated viscosity. Drums/jumbo bags: ambient temperature (solid form).
Storage Vessel	Insulated carbon steel tanks with nitrogen blanket preferred for extended storage. Steel drums or jumbo bags for solid/semi-solid storage at ambient.
Container Materials	Carbon steel only. Do NOT use galvanised, zinc-lined, or aluminium containers — zinc/aluminium react with bitumen at elevated temperatures.
Incompatibilities	Strong oxidisers (peroxides, chlorates), strong acids, strong alkalis, halogenated solvents, reactive metals.
Ventilation	Adequate ventilation required in all heated storage areas. H_2S monitoring mandatory for enclosed tank environments.
Shelf Life	12 months from production date under recommended conditions.
Special Requirements	Store away from foodstuffs and animal feed. Comply with applicable fire codes. Provide secondary bunding for all storage tanks.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Occupational Exposure Limits

Substance	Jurisdiction	TWA (8-hr)	STEL (15-min)
Bitumen Fumes (benzene-soluble fraction)	UAE (OSHAD-SF)	5 mg/m³	Not established
Bitumen Fumes (benzene-soluble fraction)	Australia (Safe Work Australia)	5 mg/m³	Not established
Bitumen Fumes (benzene-soluble fraction)	UK (EH40/2005 WEL)	5 mg/m³	10 mg/m³
Hydrogen Sulphide (H_2S)	All jurisdictions	1 ppm (1.4 mg/m³)	5 ppm (STEL)
PAHs (as BaP equivalent)	All jurisdictions	0.2 mg/m³	Not established

8.2 Engineering Controls

- Local exhaust ventilation (LEV) at all hot bitumen pumping, mixing, and application points
- Enclosed or semi-enclosed paver systems preferred to reduce worker fume exposure during road operations
- Fixed and portable H_2S gas detectors wherever bitumen is stored or heated in enclosed/semi-enclosed environments
- Emergency eyewash (AS 4775 / ANSI Z358.1) and shower stations within 10 seconds of all hot work areas

8.3 Personal Protective Equipment (PPE)

PPE Type	Specification	Required When
Hand Protection	Heat-resistant gloves EN 407 / AS/NZS 2161.4, Class 4+, long-cuffed gauntlet style for pouring/sampling. Nitrile or neoprene for cold handling.	All handling
Eye & Face Protection	Full face shield (EN 166 / AS/NZS 1337) rated for heat and chemical splash, worn over safety goggles. Minimum optical class 1.	All hot operations
Respiratory Protection	Outdoor / ventilated: P2/P3 particulate respirator. Enclosed spaces: Combination OV/P2 air-purifying respirator (EN 140+143 / AS/NZS 1716). Confined space entry: Full-face SCBA.	Heated operations; mandatory in enclosed spaces
Body Protection	Flame-resistant (FR) or cotton long-sleeve workwear. Avoid all synthetic fabrics. High-vis vest where required.	All operations
Foot Protection	Steel-toe, oil-resistant, heat-resistant safety boots (ISO 20345 / AS/NZS 2210.3). Gaiters for additional ankle protection during paving.	All operations

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Value / Range	Test Method
Appearance (ambient)	Viscous black to very dark brown solid or semi-solid	Visual
Appearance (heated, >155°C)	Highly viscous dark liquid	Visual
Odour	Characteristic petroleum hydrocarbon odour; stronger when heated	Sensory
Physical State at 25°C	Semi-solid to solid	—
Penetration at 25°C (100g, 5s)	35–50 (0.1 mm units)	ASTM D5
Softening Point (Ring & Ball)	52–60°C	ASTM D36
Ductility at 25°C	>100 cm	ASTM D113
Specific Gravity at 25°C	1.01 – 1.06 g/cm³	ASTM D70
Density at 15°C	1.01–1.06 g/cm³ (typical)	ASTM D70
Kinematic Viscosity at 135°C	~350–500 cSt (higher viscosity than 60/70 due to harder grade)	ASTM D2170
Flash Point (Cleveland Open Cup)	>250°C	ASTM D92
Auto-Ignition Temperature	>400°C (approximately)	ASTM E659
Boiling Range	>350°C (complex mixture; no defined boiling point)	—
Vapour Pressure at 25°C	<0.001 hPa (negligible at ambient temperature)	—
Solubility in Water (25°C)	Practically insoluble <0.01 mg/L	ASTM D2042
Solubility in Trichloroethylene	>99% w/w	ASTM D2042
Loss on Heating	<0.2% w/w	ASTM D6
Drop in Penetration after Heating	<20%	ASTM D5
Spot Test	Negative	AASHTO T102
Flammability Classification	Not classified as flammable liquid (GHS) at ambient temperature	GHS

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Bitumen 35/50 is chemically stable under recommended handling conditions (155–175°C). No hazardous polymerisation will occur under normal use conditions.

10.2 Chemical Stability

- Stable at recommended processing temperatures in properly designed and maintained equipment
- Oxidative hardening occurs over time at elevated temperatures — do not overheat or hold at high temperature for extended periods

10.3 Conditions to Avoid

- Temperatures above 200°C — excessive oxidation, fume/H_2S generation, degradation, and fire risk
- Contact with liquid water at handling temperatures — violent flash steam and dangerous spattering of hot bitumen
- Strong oxidising agents (chlorates, perchlorates, peroxides, permanganates)
- Strong acids and strong bases; halogenated compounds; reactive metals

10.4 Hazardous Decomposition Products

- At handling temperatures (155–175°C): Bitumen fumes, H_2S, CO, trace VOCs (benzene, toluene), PAH vapours
- In fire conditions: CO, CO_2, SO_2, SO_3, NO_x, H_2S, PAH-containing particulates — all toxic at elevated concentrations
- H_2S: Olfactory paralysis at ~100–150 ppm (cannot smell danger); IDLH = 100 ppm

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity

Route	Species	Result	Notes
Oral LD_{50}	Rat	>5,000 mg/kg	Low acute oral toxicity — not GHS classified
Dermal LD_{50}	Rabbit	>2,000 mg/kg	Low acute dermal toxicity — not classified
Inhalation LC_{50} (fumes, 4h)	Rat	>10 mg/L	Vapour fraction at handling temperature

11.2 Skin and Eye Irritation

- Skin (ambient): Low potential for irritation at ambient temperature; prolonged contact may cause dermatitis and photosensitisation
- Skin (hot): Contact at handling temperatures causes immediate severe full-thickness thermal burns requiring emergency treatment
- Eye (ambient): May cause mild, reversible irritation
- Eye (hot splash): Immediate severe injury with potential for permanent damage or blindness

11.3 Carcinogenicity — IARC Classification

IARC CARCINOGENICITY — IMPORTANT NOTICE

IARC Monograph Volume 103 (2013): Occupational exposures to bitumen fumes during paving are classified Group 2A — Probably carcinogenic to humans. Neat bitumen and bitumen extracts: Group 2B — Possibly carcinogenic to humans. GHS: H351 — Suspected of causing cancer. Primary concern is PAH vapours in bitumen fumes. Minimise exposure through engineering controls and PPE (Section 8).

- BaP (primary carcinogenicity marker PAH) typically present at <0.005% w/w in paving grade bitumen
- No evidence of genotoxicity from standard Ames test and in vitro assays for neat paving grade bitumen

11.4 STOT Repeated Exposure

H372 — Causes damage to the respiratory system through prolonged or repeated inhalation of bitumen fumes above the OEL. Engineering controls and appropriate respiratory protection are essential (see Section 8).

11.5 Reproductive Toxicity

No reproductive toxicity identified at occupational exposure levels. Not classified under GHS for reproductive effects.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Test Organism	Endpoint	Value (WAF)	Duration
Fish (Oncorhynchus mykiss)	LC_{50}	>1,000 mg/L	96 hours
Invertebrate (Daphnia magna)	EC_{50}	>1,000 mg/L	48 hours
Algae (P. subcapitata)	ErC_{50}	>1,000 mg/L	72 hours

Note: Values based on Water Accommodated Fraction (WAF). Neat bitumen has extremely low water solubility. Long-term chronic effects from PAH components cannot be excluded — classified Aquatic Chronic Category 3 (H412).

12.2 Persistence and Degradability

- Bitumen is inherently biodegradable over the long term but highly resistant to rapid environmental biodegradation
- PAH components may be persistent in soil and sediment; individual half-lives range from weeks to years
- Bitumen undergoes slow photoxidative weathering on exposed surfaces

12.3 Bioaccumulative Potential

- Specific PAH components (benzo[a]pyrene, fluoranthene, pyrene) have significant bioaccumulation potential in aquatic organisms (BCF >100 for some components)
- Overall bioaccumulation risk from neat bitumen is low due to extremely low water solubility

12.4 Mobility in Soil

- Neat bitumen: Essentially immobile in soil — semi-solid/solid nature prevents migration through soil profiles
- Prevent any contact between bitumen and surface water or permeable soils near waterbodies

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

- Preferred: Recycle unused bitumen into asphalt production as Reclaimed Asphalt Pavement (RAP) — most economical and environmentally preferred option
- Alternative: Consign to licensed industrial waste contractor for incineration or landfill at a licensed hazardous waste site
- NEVER dispose of in domestic waste, open burning, or uncontrolled incineration
- NEVER pour into drains, sewers, watercourses, or onto soil

13.2 Waste Classification by Jurisdiction

Jurisdiction	Classification and Reference
UAE	Industrial/hazardous waste if contaminated. Regulated under UAE Federal Law No. 24/1999. Consult Dubai Municipality / Abu Dhabi CEDD for disposal permits.
Australia	Listed Industrial Waste (Category C) when contaminated. Governed by State EPA Waste Regulations. Disposal requires licensed facility consignment.
United Kingdom	EWC Code: 17 03 02 (bituminous mixtures not containing coal tar). Controlled waste under UK Environmental Permitting Regulations. Waste Consignment Note required for hazardous waste >1 tonne.

13.3 Container Disposal

- Steel drums: Drain fully, steam clean, then recycle via a licensed drum reconditioning contractor. Do NOT cut, weld, or grind unclean drums
- Jumbo bags: Dispose as industrial waste per local authority requirements if not recyclable

SECTION 14: TRANSPORT INFORMATION

14.1 Solid/Semi-Solid Bitumen at Ambient Temperature

Parameter	Classification — Ambient
UN Number	Not regulated as Dangerous Goods when solid/semi-solid at ambient temperature
Proper Shipping Name	BITUMEN (solid) — Bitumen 35/50 — not subject to ADR/IMDG/IATA DGR
Hazard Class	Not classified as dangerous goods in solid form

14.2 Hot Liquid Bitumen at Elevated Temperature (≥100°C)

Parameter	Classification — Hot Liquid
UN Number	UN 3257
Proper Shipping Name	ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen)
Hazard Class	Class 9 — Miscellaneous Dangerous Goods
Packing Group	III
Marine Pollutant	Not classified as Marine Pollutant (neat bitumen has low water solubility; not listed in IMDG Marine Pollutant index)
Emergency Action Code	4X (UK Hazchem) — Handle with caution, fine spray to cool, evacuate in event of fire
Regulations	ADR (Road — EU/UAE), IMDG Code (Sea), IATA DGR (Air), ADG Code (Australian Road/Rail)

14.3 Black Rock Bitumen Shipping Notes

- Black Rock Bitumen supplies Bitumen 35/50 from Jebel Ali Port, UAE. Standard sea freight in drums and jumbo bags (solid form) is as non-dangerous goods.
- Bulk hot bitumen tanker shipments consigned under UN 3257, Class 9, with full IMDG documentation
- Third-party inspection (SGS / Bureau Veritas) and full documentation (B/L, CoA, SDS, Certificate of Conformity) provided for all shipments

SECTION 15: REGULATORY INFORMATION

15.1 UAE / GCC

- UAE Federal Law No. 24 of 1999 on Environmental Protection and its Implementing Regulations
- UAE Cabinet Resolution No. 37 of 2001 on Control of Chemicals Harmful to Human Health and Environment
- OSHAD-SF — Abu Dhabi Occupational Safety and Health System Framework, Chemical Management CoP 2.0
- Dubai Municipality Technical Guidelines for GHS/SDS compliance
- GCC Standardization Organisation (GSO) Hazardous Chemicals Regulations

15.2 Australia

- Safe Work Australia — Model WHS Regulations, Schedule 10 (Hazardous Chemicals)
- Safe Work Australia — Code of Practice: Managing Risks of Hazardous Chemicals in the Workplace (2021)
- AICIS — Bitumen (CAS 8052-42-4) listed on Australian Inventory of Industrial Chemicals (AIIC)
- Australian Dangerous Goods Code (ADG 7.8) — hot liquid bitumen: UN 3257, Class 9
- State/Territory EPA Waste Regulations for disposal and waste classification

15.3 United Kingdom

- UK REACH: Bitumen (CAS 8052-42-4) on UK Held Register. Retained under The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019
- COSHH Regulations 2002: COSHH assessment required for all UK employers using this product
- EH40/2005 Workplace Exposure Limits (4th Ed., HSE): Bitumen fume 5 mg/m³ TWA; 10 mg/m³ STEL
- BS EN 12591:2009 — Specifications for Paving Grade Bitumens (European reference standard)
- CDG 2009: Hot liquid bitumen — UN 3257, Class 9
- UK Environmental Permitting (England and Wales) Regulations 2016: Waste disposal permits required

15.4 International References

- UN GHS Purple Book, Revision 9 (2021)
- IARC Monographs on Carcinogenic Risks to Humans, Volume 103 (2013): Bitumen
- CONCAWE — Bitumen Industry Safety Data Sheet guidance
- ASTM International: D5, D6, D36, D70, D92, D113, D2042, D2170 (test methods cited herein)

SECTION 16: OTHER INFORMATION

16.1 Document History

Version	Revision Date	Prepared By	Summary
1.0	May 2026	Black Rock Bitumen	Initial release — GHS Rev. 9 compliant. All 16 sections. UAE/GCC, Australia, UK regulatory references.

16.2 Grade-Specific Technical Notes

Bitumen 35/50 is a hard-grade penetration bitumen, positioned above 40/60 and 50/70 in stiffness but below viscosity-grade equivalents such as AS 2008 C320 or C450. Its higher softening point (52–60°C vs 48–56°C for 60/70) makes it substantially more rut-resistant at elevated pavement surface temperatures, making it the preferred grade for UAE, GCC, and tropical road construction where softer grades bleed or deform. It corresponds closely to EN 12591 Grade 35/50, IS 73 VG-40, and AASHTO AC-30, and is also used as a stiffer alternative to 60/70 in warm-climate European road construction per EN standards.

16.3 Key Abbreviations

- ASTM — American Society for Testing and Materials | BCF — Bioconcentration Factor
- BaP — Benzo[a]pyrene (PAH carcinogenicity marker) | CAS — Chemical Abstracts Service
- COSHH — Control of Substances Hazardous to Health (UK) | EC_{50} — Effective Concentration 50%
- FR — Flame Resistant | GHS — Globally Harmonized System of Classification and Labelling
- H_2S — Hydrogen Sulphide | IARC — International Agency for Research on Cancer
- IDLH — Immediately Dangerous to Life and Health | LC_{50} — Lethal Concentration 50%
- LEV — Local Exhaust Ventilation | OEL — Occupational Exposure Limit
- OSHAD — Abu Dhabi Occupational Safety and Health Authority | PAH — Polycyclic Aromatic Hydrocarbon
- PPE — Personal Protective Equipment | RAP — Reclaimed Asphalt Pavement
- SCBA — Self-Contained Breathing Apparatus | SDS — Safety Data Sheet
- STEL — Short-Term Exposure Limit | STOT — Specific Target Organ Toxicity
- TWA — Time-Weighted Average | WAF — Water Accommodated Fraction | WEL — Workplace Exposure Limit

DISCLAIMER

This Safety Data Sheet (SDS/MSDS) for Bitumen 35/50 has been prepared by Black Rock Bitumen in good faith and based on information available at the time of preparation (May 2026). The information is provided for informational purposes only and is intended to assist users in the safe handling, storage, transport, use, and disposal of this product. It does not constitute a warranty of fitness for any particular purpose, nor does it impose legal obligations beyond applicable law.

Users are solely responsible for ensuring compliance with all applicable local, national, and international laws, regulations, standards, and codes of practice. Black Rock Bitumen accepts no liability for loss, injury, damage, or regulatory breach arising from use or misuse of this product in ways not described in this SDS, or from failure to follow the precautions and instructions herein.

This SDS should be reviewed and updated whenever significant new hazard information becomes available or when applicable regulations change. Always verify you hold the most current revision. Requests for updated documents: sales@blackrockbitumen.com.

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