



SAFETY DATA SHEET

Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)
Chemical name	Asphalt
Product number	ID 10507
Internal identification	180011, 180334, 180020, 180025, 180305, 180030, 180201, 180033, 180035, 180040, 180045, 180050, 180055, 180060, 180065, 180070, 180075, 180028, 180029, 180034, 180052, 180419, 180418
REACH registration number	01-2119480172-44-0006
CAS number	8052-42-4
EC number	232-490-9

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Manufacture of substance Use as an intermediate Distribution of substance Formulation & (re)packing of substances and mixtures Uses in coatings Use in oil and gas field drilling and production operations Road and construction applications Rubber production and processing Use as a fuel Lubricants
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1.3. Details of the supplier of the safety data sheet

Supplier	Neste Oyj Keilaranta 21, Espoo, P.O.B. 95, FIN-00095 NESTE, FINLAND Tel. +358 10 45811 SDS@neste.com (chemical safety)
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1.4. Emergency telephone number

National emergency telephone number +358-9-471 977, +358-9-4711, Poison Information Centre

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Not Classified
Environmental hazards	Not Classified

2.2. Label elements

EC number	232-490-9
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Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

Hazard statements NC Not Classified

2.3. Other hazards

Other hazards Heating may cause a fire. Bitumen fumes liberated from heated product irritates eyes, respiratory tract and skin. Unloading gases (Hydrogen sulphide (H₂S). Hydrocarbons.) Causes eye irritation. Irritating to respiratory system. High concentrations can depress the central nervous system.

SECTION 3: Composition/information on ingredients

3.1. Substances

Asphalt			100 %
CAS number: 8052-42-4	EC number: 232-490-9	REACH registration number: 01-2119480172-44-XXXX	
Classification	Not Classified		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Product name Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

Chemical name Asphalt

REACH registration number 01-2119480172-44-0006

CAS number 8052-42-4

EC number 232-490-9

SECTION 4: First aid measures

4.1. Description of first aid measures

General information Hydrogen sulphide (H₂S). The product contains volatile substances which may spread in the atmosphere. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus.

Inhalation If spray/mist has been inhaled, proceed as follows. Remove person to fresh air and keep comfortable for breathing. If breathing stops, provide artificial respiration. Get medical attention if symptoms are severe or persist.

Ingestion Do not induce vomiting. Get medical attention.

Skin contact Remove contaminated clothing and rinse skin thoroughly with water. Continue to rinse for at least 10 minutes. Do not use the following: Solvent. No attempt must be made to remove the bitumen adherent to the skin at the worksite. In the case of a circumferential burn with adhesion of the bitumen, the adhering material should be split to prevent a tourniquet effect as it cools. If adhesive bonding occurs, do not force skin apart. Get medical attention.

Eye contact Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

General information Contact with hot product can cause serious thermal burns. Avoid breathing gas, fume, vapours or spray. Irritating to respiratory system.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards Harmful and toxic gases can be released during heating. Contact of hot product with water will result in a violent expansion as the water turns to steam. This may cause splashing of hot product, or damage to, or complete loss of the tank roof.

Hazardous combustion products Carbon dioxide (CO₂). Carbon monoxide (CO). Hydrocarbons.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear adequate protective equipment at all operations. Large Spillages: If there is a risk of contact with hot product, all protective equipment worn should be suitable for use with high temperatures.

For emergency responders Keep unnecessary and unprotected personnel away from the spillage. Eliminate all ignition sources if safe to do so.

6.2. Environmental precautions

Environmental precautions Avoid release to the environment. Stop leak if safe to do so. Avoid the spillage or runoff entering drains, sewers or watercourses. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Allow hot product solidify first (if there is no risk of spreading into the environment). Solid product can be taken up. Stains can be cleaned with a hydrocarbon solvent. Pay attention to the fire and health hazards caused by the product. Solid bitumen waste can be disposed in a landfill.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

Usage precautions Eliminate all sources of ignition. Product is usually handled heated. 95 ... 195°C Handling and storage temperature must not exceed the flash point. Take precautionary measures against static discharges. Avoid contact with skin. While transferring the product and opening containers, avoid inhalation of unloading gases (e.g. hydrogen sulphide). Do not feed hot product into tanks which contain residues of water, bitumen emulsion or cutback bitumen (risk of effervescence and splashes).

Take off contaminated clothing. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Do not use the following: Solvent. Ensure the handling temperature from product data sheet. Maintain it as low as possible to prevent formation of fumes. Bitumen fumes liberated from heated product irritates eyes, respiratory tract and skin. Avoid inhalation of vapours. Use personal protective equipment and/or local ventilation when needed. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Can be stored heated. Change contaminated thermal insulation material (autoignition hazard). Selfheating leading to auto ignition at the surfaces of porous or fibrous materials impregnated with oils or bitumen, can occur at temperatures as low as 100°C. Store away from the following materials: Oxidising agents. Store in accordance with local regulations. Use containers made of the following materials: Carbon steel. Stainless steel.

7.3. Specific end use(s)

Specific end use(s) Not known.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

Bitumen fumes (organic dust): 5 mg/m³ (8 h), 10 mg/m³ (15 min), HTP 2018/FIN.

Hydrogen sulfide: 5 ppm (8h), 7 mg/m³ (8h), 10 ppm (15 min), 14 mg/m³ (15 min) HTP 2018/FIN, EU OELV (EC/2009/161).

PNEC PNEC derivation is not scientifically justified based on water solubility limitations.

Asphalt (CAS: 8052-42-4)

DNEL

Workers - Inhalation; Long term systemic effects: 2,9 mg/m³, (8h)

8.2. Exposure controls

Appropriate engineering controls

All handling should only take place in well-ventilated areas. Handle in accordance with good industrial hygiene and safety practice. If there is a risk of contact with hot product, all protective equipment worn should be suitable for use with high temperatures. During tank operations follow special instructions (risk of oxygen displacement, hydrogen sulfide and hydrocarbons).

Eye/face protection

Face shield when needed. Wear tight-fitting, chemical splash goggles or face shield.

Hand protection

Thick, thermally insulated protective gloves. Change protective gloves regularly. Protective gloves according to standards EN 374 and EN 407.

Other skin and body protection

If there is a risk of contact with hot product, all protective equipment worn should be suitable for use with high temperatures.

Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

Respiratory protection

Bitumen fumes: Filter device/half mask Combination filter, type A1/P2. Unloading gases : Filter device/half mask Gas filter, type B1. Filter device could be used maximum 2 hours at a time. Filter devices must not be used in conditions where the oxygen level is low (< 19 vol.-%). At high concentrations a breathing apparatus must be used (self-contained or fresh air hose breathing apparatus). Filter must be changed often enough. Respirator according to standard EN 140.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	A thick liquid when heated.
Colour	Black.
Odour	Mild.
Odour threshold	-
pH	-
Melting point	-
Initial boiling point and range	400 ... > 750°C
Flash point	≥ 200°C (SFS-EN ISO 2592, SFS-EN ISO 2719)
Flammability (solid, gas)	-
Upper/lower flammability or explosive limits	-
Vapour pressure	<< 0,1 kPa @ 20°C
Vapour density	-
Relative density	~ 0,93 - 1,10 @ 15°C (EN ISO 12185 / EN ISO 3838 / EN 15326)
Solubility(ies)	Insoluble in water.
Partition coefficient	-
Auto-ignition temperature	> 400°C
Decomposition Temperature	-
Viscosity	Kinematic viscosity ≥ 40 mm ² /s @ 135°C (SFS-EN 12595)
Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information Not known.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

Possibility of hazardous reactions No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid Excessive heating above the maximum recommended handling and storage temperature may cause degradation of the substance and evolution of irritant vapours and fumes.

10.5. Incompatible materials

Materials to avoid Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Heating may generate the following products: Bitumen fumes: Highly irritating. Ensure the handling temperature from product data sheet.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Based on available data the classification criteria are not met.

Skin corrosion/irritation

Skin corrosion/irritation Based on available data the classification criteria are not met. (OECD 404) Bitumen fumes liberated from heated product irritates eyes, respiratory tract and skin. Contact with hot product can cause serious thermal burns.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met. (OECD 405).

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met. (OECD 406).

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met. (OECD 471)

Genotoxicity - in vivo Based on available data the classification criteria are not met. (OECD 474)

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met. (OECD 451)

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met. (OECD 422)

Reproductive toxicity - development Based on available data the classification criteria are not met. (OECD 422, EPA OPPTS 870 3650)

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met. (OECD 410, 451).

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

General information Especially fresh product may contain traces of highly toxic hydrogen sulphide, which irritates severely eyes and respiratory tract. High concentrations can depress the central nervous system.

Toxicological information on ingredients.

Asphalt

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ > 5000 mg/kg, Oral, Rat (OECD 401)

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rabbit (OECD 402)

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ > 94.4 mg/m³, Inhalation, Rat (OECD 403)

SECTION 12: Ecological information

12.1. Toxicity

Toxicity The product is not believed to present a hazard due to its physical nature. Based on available data the classification criteria are not met.

Ecological information on ingredients.

Asphalt

Acute aquatic toxicity

Acute toxicity - fish LL₅₀, 96 hours: > 1000 mg/l, Oncorhynchus mykiss (Rainbow trout) (QSAR)

Acute toxicity - aquatic invertebrates LL₅₀, 48 hours: > 1000 mg/l, Daphnia magna (QSAR)

Acute toxicity - aquatic plants EL50, 72 hours: > 1000 mg/l, Pseudokirchneriella subcapitata (QSAR)

Acute toxicity - microorganisms LL₅₀, 40 hours: > 1000 mg/l, Micro-organisms (wastewater sludge)
NOEL, 40 hours: ≥ 1000 mg/l, Micro-organisms (wastewater sludge) (QSAR)

Chronic aquatic toxicity

Chronic toxicity - fish early life stage LL₅₀, 28 days: > 1000 mg/l,
NOEL, 28 days: ≥ 1000 mg/l, (QSAR)

Chronic toxicity - aquatic invertebrates NOEL, 21 days: ≥ 1000 mg/l, Daphnia magna (QSAR)

12.2. Persistence and degradability

Stability (hydrolysis) No significant reaction in water.

Biodegradation Not available.

12.3. Bioaccumulative potential

Bioaccumulative potential Not available.

Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

Partition coefficient -

12.4. Mobility in soil

Mobility Solidifies quickly to solid product. Insoluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Solid bitumen waste can be disposed in a landfill. Reuse or recycle products wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 3257

14.2. UN proper shipping name

Proper shipping name (ADR/RID) UN 3257 ELEVATED TEMPERATURE LIQUID, N.O.S., (BITUMEN)

14.3. Transport hazard class(es)

ADR/RID class 9

14.4. Packing group

ADR/RID packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Hazard Identification Number (ADR/RID) 99

Tunnel restriction code (D)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Bitumen (BI20/30, B40/60, B50/70, B50/70TEO, B70/100, BI70/100, B100F, B100/150, B170, B160/220, B250/330, B330/430, B500/650, B650/900, BV12000, BV6000, BV3000, BV1500, B70/100I, B100/150I, B160/220I, B160/220K)

EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

A chemical safety assessment has been carried out. Not classified. Exposure scenarios are not required.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	DNEL = Derived No-Effect Level PNEC = Predicted No-Effect Concentration NOEL = No Observed Effect Level
Key literature references and sources for data	Regulations, databases, literature, own research. Chemical Safety Report (CSR Bitumen, 2017).
Revision comments	Product name change. Updated, sections: 1, 3.2 -> 3.1
Revision date	15/09/2020
Supersedes date	05/05/2020
SDS number	5665
Use Descriptor Codes, Industrial uses	Manufacture of substance, (PROC 1, 2, 3, 4, 8a, 8b, 15; ERC 1) Use as an intermediate, (SU 8, 9; PROC 1, 2, 3, 4, 8a, 8b, 15; ERC 6a) Distribution of substance, (PROC 1, 2, 3, 4, 8a, 8b, 9, 15; ERC 4, 5, 6a, 6b, 6c, 6d, 7) Formulation & (re)packing of substances and mixtures, (PROC 1, 2, 3, 4, 5, 8a, 8b, 9, 14, 15; ERC 2) Uses in coatings, (PROC 1, 2, 3, 4, 5, 7, 8a, 8b, 10, 13, 15; ERC 4) Use in oil and gas field drilling and production operations, (PROC 1, 2, 3, 4, 8a, 8b; ERC 4) Rubber production and processing, (SU 10, 11; PROC 1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 13, 14, 15, 21; ERC 4, 6d) Use as a fuel, (PROC 1, 2, 3, 8a, 8b, 16; ERC 7) Lubricants, (PROC 1, 2, 3, 4, 7, 8a, 8b, 9, 10, 13, 17, 18; ERC 4, 7)
Use Descriptor Codes, Professional uses	Uses in coatings, (PROC 1, 2, 3, 4, 5, 8a, 8b, 10, 11, 13, 15, 19; ERC 8a, 8d) Use in oil and gas field drilling and production operations, (PROC 1, 2, 3, 4, 8a, 8b; ERC 8d) Road and construction applications, (PROC 8a, 8b, 9, 10, 11, 13; ERC 8d, 8f) Lubricants, Low Release (PROC 1, 2, 3, 4, 8a, 8b, 9, 10, 11, 13, 17, 18, 20; ERC 9a, 9b) Lubricants, High Release (PROC 1, 2, 3, 4, 8a, 8b, 9, 10, 11, 13, 17, 18, 20; ERC 8a, 8d)