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, 180034, 180020, 180025, 180035, 180030, 180033, 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

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)

1.4. Emergency telephone number

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

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
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

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS number: 8052-42-4</th>
<th>EC number: 232-490-9</th>
<th>REACH registration number: 01-2119480172-44-XXXX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td>100 %</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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, B100/100, 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 mm2/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, B170/100, 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**

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**

Based on available data the classification criteria are not met. (OECD 405).

**Respiratory sensitisation**

Based on available data the classification criteria are not met.

**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**

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**

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
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-organism (wastewater sludge), NOEL, 40 hours: ≥ 1000 mg/l, Micro-organism (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

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

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)