

SAFETY DATA SHEET

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

- 1.1 Product identifier**
Product name C67B4 , C65B3, C65B4, C69B4
 Bitumen emulsion
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Use of the substance/mixture Emulsion for surface dressing
- 1.3 Details of the supplier of the safety data sheet**
Manufacturer OÜ Pigipada
 Mäo tee 1
 Sillaotsa küla
 72758 Paide vald
 Järvamaa
 Estonia
E-mail address arne@pigipada.ee
- 1.4 Emergency telephone number**
POISON INFORMATION CENTRE NUMBER 16662 (from abroad +372 6269390) Estonia
 Open Mon: 9:00 - 21:00, Tue-Sun 24H.
EMERGENCY NUMBER 112

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture**
Product definition Mixture
Classification according to Regulation (EC) No. 1272/2008 (CLP)
 Product is not classified hazardous according to CLP Regulation.
 See sections 11 and 12 for more detailed information on possible health effects and symptoms and environmental hazards.
- 2.2 Label elements**
Pictogram(s) Not applicable
Signal word Not applicable
Hazard Statements Not applicable
Precautionary statements on prevention Not applicable
Precautionary statements on disposal P501 Dispose of contents/container to in accordance with local/national regulation.
Supplemental label elements Not applicable
Special packaging requirements Not applicable
Dangerous ingredients Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics (EC: 919-857-5), 2-Propanol, 1,1'-iminobis-, N-tallow alkyl derivs. (CAS: 68951-72-4), (Z)-N-9-octadecenylpropane-1,3-diamine (CAS: 7173-62-8), Calcium chloride (CAS: 10043-52-4), Hydrogen chloride (CAS: 7647-01-0)
- 2.3 Other hazards**
 See Toxicological Information, section 11 of this Safety Data Sheet.

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SECTION 3: Composition/information on ingredients**Mixture**

Substance name	Identifiers	%	Classification	
			Regulation (EC) No. 1272/2008 [CLP]	Type
Bitumen	CAS No.: 8052-42-4 EC No.: 232-490-9 REACH: 01-2119480172-44	67	Not classified	
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics*	EC No.: 919-857-5 REACH: 01-2119463258-33	<2	Flam. Liquid 3, H226, Asp. Tox 1, H304, STOT SE 3, H336	[1]
2-Propanol, 1,1'-iminobis-, N-tallow alkyl derivs.	CAS nr: 68951-72-4 EC nr: 273-160-4 REACH: 01-2119948108-34	<0,2	Acute Tox. 4; H302 Skin Corr. 1C; H314 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	[1]
(Z)-N-9-octadecenylpropane-1,3-diamine	CAS nr: 7173-62-8 EC nr: 230-528-9 REACH: 01-2119487002-46	<0,2	Acute Tox. 4; H302 Skin Corr. 1B; H314 STOT RE 1, H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	[1]
Calcium chloride	CAS No.: 10043-52-4 EC No.: 233-140-8 REACH: 01-2119494219-28	<0,1	Eye Irrit. 2, H319	[1]
Hydrogen chloride	CAS No.: 7647-01-0 EC No.: 231-595-7 Index: 017-002-01-X REACH: 01-2119484862-27	<0,1	Skin Corr. 1B, H314 STOT SE 3; H335 Metal Corr. 1, H290	[1] [2]

* Contains benzene < 0,1 % vol, n-hexane < 1 % vol and aromatic hydrocarbons <0,5 % vol.

See Section 16 for the full text of the hazard statements and classifications declared above.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures**4.1 Description of first aid measures****Eye contact**

COLD PRODUCT: Rinse eyes cautiously with plenty of running water for at least 5 minutes; keep eyes open. Get medical attention if irritation persists.

HOT PRODUCT: Causes severe thermal burns. If hot bitumen is splashed into the eye, it should be cooled immediately to dissipate heat, under cold running water for at least 5 minutes; keep eyes open. Immediately get medical attention.

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- Skin contact** In the event of accidental skin contact with hot bitumen, the injured part should be immediately plunged under cold running water for at least 10 minutes. Get medical attention if symptoms occur. Remove contaminated clothing and shoes. Solvents should not be used for removing the product.
- Inhalation** In case of irritation arising from inhalation of fumes or vapours in the nose, throat or cough, remove casualty to a well-ventilated place if safe to do so. Get medical attention if irritation persists. If casualty is unconscious ensure availability of fresh air and place in the recovery position. When not breathing give artificial respiration.
- Ingestion** Do not induce vomiting. Never give anything by mouth. Send casualty for medical care when violently coughing or vomiting or when large amount is ingested.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

Not available

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

- Suitable extinguishing media** Product is not considered a fire hazard.
In case of fire, use foam, dry chemical or carbon dioxide extinguisher, spray, sand or dirt.
- Unsuitable extinguishing media** Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** In a fire or if heated the container may burst.
- Hazardous combustion products** Incomplete combustion is likely to give rise to a mixture of airborne solid and liquid particulates and gases.

5.3 Advice for fire-fighters

- Special precautions for fire-fighters** Cool unopened containers at risk with water.
- Special protective equipment for fire-fighters** Fire-fighters should wear appropriate protective equipment (gloves, protective boots and goggles and/or breathing apparatus). Ensure the use of certified breathing apparatus or equivalent respiratory protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** Avoid contact with skin and eyes.
- For emergency responders** See section 8 for individual protection measures. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

Prevent entry into sewers, water courses, basements or confined areas. Block if necessary.

6.3 Methods and materials for containment and cleaning up

When entering the soil immediately start removing the contaminated soil. Small amounts may be absorbed using absorbent (earth, sand etc.). When entering a water body the product may deposit or float. Contain and collect if possible. In case of a large spill contact emergency personnel.

6.4 Reference to other sections

See Section 1 for emergency contact information.

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See Section 5 for fire-fighting measures.
 See Section 8 for information on appropriate personal protective equipment.
 See Section 12 for environmental precautions.
 See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Hot product should be handled so that there is no risk of burns. Do not breathe smoke arising from the hot product. Put on appropriate personal protective equipment.
 See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Self-heating leading to auto ignition can occur at temperatures as low as 100 °C; do not store product at above temperature. Product should be stored at all times at temperatures over 40 °C. For loading container capacity should be evaluated and the temperature of the container should be under 100 °C.

Not suitable Most synthetic materials are unsuitable for containers or container linings, due to low heat resistance.
 Oxidizers.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Substance	Regulation No. 293 (Estonia)
Asphalt (vapours) (8052-42-4)	Exposure limit value: 5 mg/m ³
Hydrogen chloride (7647-01-0)	Exposure limit value: 8 mg/m ³ (5 ppm) Short-term exposure limit or threshold value: 15 mg/m ³ (10 ppm)

8.2 Exposure controls

Appropriate engineering controls

Individual protection measures

Hygiene measures Wash hands thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Respiratory protection Respiratory protective equipment is not normally required where there is adequate natural or local exhaust ventilation to control exposure.

Eye/face protection If splashing is likely or when handling hot product protective face shield and/or safety goggles or full face protection should be used. For loading/unloading operations full body coverage is needed and integrated full face visor of the safety helmet should be kept closed.

Skin protection

Hand protection Heat and chemical resistant protective gloves with long cuffs (e.g. nitrile rubber).

Skin and body Wear protective clothing for normal operations with the product: heat resistant coveralls (with trousers legs over boots and sleeves over cuffs of gloves), heat resistant gloves and heavy duty antiskid boots.
 For loading/unloading operations: safety helmet with integrated full face visor and neck protection. Protective boots should be solvent resistant (e.g. nitrile rubber).

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

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Appearance

Physical state	Liquid
Colour	Brown/Black
Odour	Not available
Odour threshold	Not available
pH	4,5
Melting point/freezing point	Not available
Initial boiling point and boiling range	Not available
Flash point	Not available
Evaporation rate	(butyl acetate =1) >1
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available
Density	0,99 to 1.1 g/cm ³ (15 °C / 59 °F)
Solubility(ies)	Dissolves in water
Partition coefficient: noctanol/water	Not determined
Auto-ignition temperature	Lowes known level: >300 °C (572 °F) (Bitumen).
Decomposition temperature	No data available
Viscosity	15 - 45 s (2 mm, 40 °C - test method EVS-EN 12846)
Explosive properties	Not available
Oxidising properties	Not available

9.2 Other information

SECTION 10: Stability and reactivity

- 10.1 Reactivity**
No specific test data available for this product. Refer to Conditions to avoid and Incompatible materials for additional information.
- 10.2 Chemical stability**
The product is stable.
- 10.3 Possibility of hazardous reactions**
No data available
- 10.4 Conditions to avoid**
Contamination with other substances may damage the product.
Non-compliance of handling and storage requirements.
- 10.5 Incompatible materials**
Store separately from oxidising and strong alkaline agents.
- 10.6 Hazardous decomposition products**

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Under normal conditions and at moderate temperatures hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Bitumen is not classified as dangerous under EC criteria, but they do contain very low concentrations of Polycyclic Aromatic Compounds (PAC's). In undiluted bitumen these PAC's are not considered to be bio-available. However, if PMB are mixed with diluents it is believed that such materials may become bio-available if the product has a low viscosity at ambient temperatures. Despite the known presence of PAC's there is no evidence that exposure to undiluted bitumen, or their fume is harmful.

Prudence would dictate that skin exposure to the product should be kept to a minimum.

Information on the likely routes of exposure

Product-specific acute toxicity data is unavailable but it is presumed that the product is slightly toxic when in contact with skin, in ingestion and inhalation.

Inhalation	The fumes from bitumen may lead to slight irritation of the upper respiratory tract.
Ingestion	No data available
Skin contact	Bitumen is not known to be a skin sensitizer although condensed bitumen fume is likely to be slightly irritant to the skin. Product contains amines that may cause skin and eye irritation for more sensitive individuals.
Eye contact	No data available

Symptoms related to the physical, chemical and toxicological characteristics

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Product-specific tests have not been conducted. Considering the intrinsic properties of the ingredients product should not present chronic hazards.

SECTION 12: Ecological information

12.1 Toxicity

Environmental hazards Product contains ingredients harmful to the environment and the product is classified as dangerous to the environment. No data is available on the acute or chronic hazard effects.

12.2 Persistence and degradability

Bitumen: No data is available on the biodegradability in aquatic environment. The use of bitumen in road building or roofing has shown that it is persistent and not biodegradable material.

Emulgator: Not biodegradable.

Solvent: Not biodegradable.

12.3 Bioaccumulative potential

Bitumen: Although all bitumen components have Log Pow > 6 and is therefore potentially bioaccumulative, the assimilation of it by aquatic organisms is unlikely due to very low water solubility and high molecular weight.

Emulgator: Product has bioaccumulative potential.

Solvent: Product has bioaccumulative potential.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) Not available

Mobility WATER: When in contact with water the emulsion will dissolve over the surface and dilutes; the bitumen phase disperses. Bitumen phase may agglomerate in narrow spaces (e.g. channels) and normally deposits. In case the density of the bitumen is lower it floats.
SOIL: When in contact with soil the emulsion will degrade and the bitumen attaches the outer layer of the soil particles.

12.5 PBT and vPvB assessment

PBT Not applicable

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vPvB Not applicable

12.6 Other adverse effects

Other ecological information Contamination and penetration into the soil layers are the primary effects in case product enters water body or is in contact with soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal Regular waste. Recycling recommended.

Hazardous waste In present knowledge of the manufacturer the product is not classified as hazardous waste according to directive 91/689/EC.

European waste catalogue (EWC)

Waste code	Waste designation
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01

Packaging

Methods of disposal Dispose of via an authorised person/ licensed waste disposal contractor in accordance with local regulations.

SECTION 14: Transport information

- 14.1 **UN number** -
- 14.2 **ADR/RID** ADR/RID requirements not applicable
 - UN proper shipping name** -
 - Transport hazard class(es)** Not classified
 - Packing group** Not classified
 - Environmental hazards** No
- 14.3 **IMDG** IMDG requirements not applicable
 - UN proper shipping name** -
 - Transport hazard class(es)** Not classified
 - Packing group** Not classified
 - EmS** Not classified
 - Marine pollutant** No
 - Environmental hazards** No
- 14.4 **IATA** IATA requirements not applicable
 - UN proper shipping name** -
 - Transport hazard class(es)** Not classified
 - Packing group** Not classified
 - Environmental hazards** No
- 14.5 **Special precautions for user** Not applicable
- 14.6 **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Transported as packaged goods not in bulk; therefore not applicable.

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SECTION 15: Regulatory information

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

National regulations

(EC) No. 1907/2006 (REACH).
 (EU) No. 830/2015 (amending Annex II or REACH).
 (EC) No. 1272/2008 (CLP).
 Estonian Chemicals Act (RT I 1998, 47, 697).
 Estonian Waste Act (RT I 2004, 43, 298).
 Estonian Regulations No. 106, No. 293 and No. 102.

15.2 Chemical Safety Assessment This product contains substances for which Chemical Safety Assessments are required.

SECTION 16: Other information

Abbreviations and acronyms

ADN/ADNR = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 CAS = Chemical Abstracts Service number.
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DPD = Dangerous Preparations Directive [1999/45/EC]
 DSD = Dangerous Substances Directive [67/548/EEC]
 EINECS = European Inventory of Existing Commercial chemical Substances
 EWC = European Waste Catalogue
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 PAC = Polycyclic Aromatic Compounds
 PBT = Persistent, Bioaccumulative and Toxic
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 UN = United Nations
 vPvB = Very Persistent and Very Bioaccumulative

Full text of abbreviated hazard statements

H226 Flammable liquid and vapour.
 H290 May be corrosive to metals.
 H302 Harmful if swallowed.
 May be fatal if swallowed and enters airways.
 H314 Causes severe skin burns and eye damage.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H411 Toxic to aquatic life with long lasting effects.

Full text of classifications (CLP)

Flam. Liquid 3 - Flammable liquids, Hazard Category 3
 Metal Corr. 1 - Corrosive to metals, Hazard Category 1

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Eye Irrit. 2 - Serious eye irritation, Hazard Category 2
STOT SE 3 - Specific target organ toxicity - Single exposure, Hazard Category 3, Respiratory tract irritation
STOT SE 3 - Specific target organ toxicity - Single exposure, Hazard Category 3, Narcosis
Asp. Tox 1 - Aspiration hazard, Hazard Category 1
Acute Tox. 4 - Acute toxicity (oral), Hazard Category 4
Skin Corr. 1B - Skin corrosion, Hazard Category 1B
Skin Corr. 1C - Skin corrosion, Hazard Category 1C
STOT RE 1 - Specific target organ toxicity - Repeated exposure, Hazard Category 1
Aquatic Acute 1 - Hazardous to the aquatic environment - Acute Hazard, Category 1
Aquatic Chronic 1 - Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 2 - Hazardous to the aquatic environment - Chronic Hazard, Category 2

History

Summation method has been used for classification of this mixture.

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Date of issue	10.02.2018
Date of previous issue	30.03.2015

Indicates information that has changed from previously issued version.

Notice to reader

All information of this safety data sheet reflects present available knowledge of the hazards and risks in handling bitumen. When product is mixed with other substances all additional hazards and risks must be taken into account.

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