

**BETOLIT ED component A**

|                  |                |              |   |
|------------------|----------------|--------------|---|
| Creation date    | 24. March 2015 | Revision no. |   |
| Date of revision |                | Version      | 1 |

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

- 1.1. Product identifier**  
substance / mixture  
Number  
Other names of the mixture
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**  
Intended use of the mixture  
Not recommended use of the mixture
- 1.3. Details of the supplier of the safety data sheet**  
**Manufacturer**  
Name or trade name  
Place of business or residency  
Telephone  
Fax  
E-mail  
Web address  
Emergency telephone number
- Competent person responsible for the safety data sheet**  
Name  
E-mail
- 1.4. Emergency telephone number**  
Toxicological Information Centre, Na Bojišti 1, Praha, Tel.: non-stop 224 919 293 or 224 915 402, Information on health risks only - acute poisoning of humans and animals
- BETOLIT ED component A  
mixture  
7-18
- Two-component epoxy-based protective coating with modifying bituminous component  
The product should not be used in ways other than those referred in Section 1.
- BETOSAN s.r.o.  
Na Dolinách 28, Praha 4, 147 00  
Czech Republic  
241 431 212  
241 431 212  
praha@betosan.cz  
www.betosan.cz  
241 431 212, 8,00-16,00
- BETOSAN s.r.o.  
praha@betosan.cz

**SECTION 2: Hazards identification**

- 2.1. Classification of the substance or mixture**  
**Classification of the mixture in accordance with Regulation (EC) No 1272/2008**

A mixture is classified as dangerous.

Skin Irrit. 2, H315  
Skin Sens. 1, H317  
Eye Irrit. 2, H319  
Aquatic Chronic 2, H411

**The classification of the mixture according to Directive 1999/45/EC**

A mixture is classified as dangerous.

Irritant: Xi; R 36/38  
sensitising: R 43  
Dangerous for the environment: N; R 51/53

Full text of all classifications, H-phrases and R-phrases is given in the section 16.

**The most serious adverse physicochemical effects**

Unknown

**The most serious adverse effects on human health and the environment**

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Toxic to aquatic life with long lasting effects.

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**2.2. Label elements**

**Warning symbol**



**Signal word**

Warning

**Hazardous substances**

epoxy resin (number average molecular weight ≤ 700)

**Hazard statements**

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H411 Toxic to aquatic life with long lasting effects.

**Instructions for safe handling**

- P261 Avoid breathing dust
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P321 Specific treatment (see Supplemental first aid instructions. on this label).
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P362 Take off contaminated clothing.
- P363 Wash contaminated clothing before reuse.
- P391 Collect spillage.
- P501 Dispose of contents/container to local\regional\national\international regulations.

**2.3. Other hazards**

not available

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

**3.2. Mixtures**

**Chemical characterization**

Mixture of substances specified below and additives.

**Mixture contents these hazardous substances and substances with the highest permissible concentration in the working environment**

| Identification numbers                                  | Name of the substance                               | Content in % weight of the mixture | Classification according to Directive 67/548/EEC | Classification according to Regulation (EC) No 1272/2008                                   | Note |
|---|---|------------------------------------|--|--|------|
| Index: 603-074-00-8<br>CAS: 25068-38-6<br>ES: 500-033-5 | epoxy resin (number average molecular weight ≤ 700) | >85                                | Xi; R 36/38<br>R 43<br>N; R 51/53                | Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Eye Irrit. 2, H319<br>Aquatic Chronic 2, H411 | 1, 2 |

**Notes**

- 1 Substances for which there are exposure limits Community for working environment.
- 2 The substance with a specific concentration limit

The full text of all standard phrases and guidelines is specified in Section 16.

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**SECTION 4: First aid measures****4.1. Description of first aid measures**

If any health problems are manifested or if in doubt, inform a doctor and show him information from this Safety Data Sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that respiratory pathways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

**Inhalation**

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

**Skin contact**

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists. Note: If the mixture sticks to the skin and cannot be removed with water and cleaning products or edible oil, do not use force and leave for specialized treatment.

**Eye contact**

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes. Provide medical treatment, specialized if possible. Note: If the product sticks to the skin of the eyelids and cannot be removed using water, do not use force and leave for specialized treatment.

**Ingestion**

DO NOT INDUCE VOMITING - even the inducing of vomiting by itself may cause complications (inhalation of the substance in respiratory pathways and lungs, for example, in detergents and other substances that produce foam or causing mechanical damage to the mucous membrane of the pharynx). If possible, give a small amount of activated carbon (1-2 crushed tablets). For persons with no symptoms, call the Toxicological Information Centre to decide about the need of medical treatment; provide information about the substances or composition of the product from the original packaging or the Safety Data Sheet of the substance or mixture. Provide medical treatment if the person has any health problems.

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

Possible irritation of respiratory pathways, cough, headache.

**Skin contact**

Painful reddening, irritation.

**Eye contact**

Not expected.

**Ingestion**

Irritation, nausea.

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

Symptomatic treatment.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist

**Unsuitable extinguishing media**

water - full jet

**5.2. Special hazards arising from the substance or mixture**

Heavy, black smoke is produced in a fire, with potential development of carbon monoxide and dioxide and other toxic gases. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

**5.3. Advice for firefighters**

Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the mixture near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

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**SECTION 6: Accidental release measures**
**6.1. Personal precautions, protective equipment and emergency procedures**

The mixture is nonflammable. Provide sufficient ventilation. Use gloves in case of prolonged contact. Follow the instructions in Sections 7 and 8.

**6.2. Environmental precautions**

Prevent contamination of the soil and entering surface or ground water. Do not allow to enter drains.

**6.3. Methods and material for containment and cleaning up**

Spilled mixture should be covered with suitable (nonflammable) absorbing material (sand, kieselguhr, earth and other suitable absorption materials); to be contained in well closed containers and removed as per Section 13. Collected material should be disposed of in accordance with locally valid regulations. Upon an escape of large quantities of the mixture, inform the Fire Department and the Environmental Department of the Municipal Authority with extended scope of competencies. After removal of the mixture, wash the contaminated site with plenty of water or another suitable cleaning material. Do not use solvents.

**6.4. Reference to other sections**

7, 8 and 13.

**SECTION 7: Handling and storage**
**7.1. Precautions for safe handling**

Prevent formation of gases and vapours in flammable or explosive concentrations and concentrations exceeding the highest permissible concentration in the occupational environment. The mixture should be used only in areas where it is not in contact with open fire and other ignition sources. No smoking. Protect against direct sunlight. Electrostatic charge may form during use; use only earthed piping (tubing) when repumping. Use of antistatic clothes and footwear is recommended. Use non-sparking tools. Do not inhale gases and vapours. Prevent contact with skin and eyes. Use personal protective equipment as per Section 8. Observe valid legal regulations laying down safety and health protection.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight.

|                     |                                |
|---------------------|--------------------------------|
| Storage class       | 10 - Other combustible liquids |
| Content             | 9 kg                           |
| Type of packaging   | tin                            |
| Material of package | FE (40), Steel (Metals)        |



FE

**The specific requirements or rules relating to the substance/mixture**

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

**7.3. Specific end use(s)**

not available

**SECTION 8: Exposure controls/personal protection**
**8.1. Control parameters**

Czech Republic

| Name of the substance (component)                                 | CAS number | Limit values      |     |                   |     | Note |
|---|------------|-------------------|-----|-------------------|-----|------|
|   |            | PEL               |     | NPK-P             |     |      |
|   |            | mg/m <sup>3</sup> | ppm | mg/m <sup>3</sup> | ppm |      |
| epoxidová pryskyřice (průměrná početní molekulová hmotnost ≤ 700) | 25068-38-6 | 2                 |     |                   |     |      |

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European Union

| Name of the substance (component) | CAS number | Limit values      |     |                   |     | Note |
|-----------------------------------|------------|-------------------|-----|-------------------|-----|------|
|                                   |            | 8 hours           |     | Short-term        |     |      |
|                                   |            | mg/m <sup>3</sup> | ppm | mg/m <sup>3</sup> | ppm |      |
| dust epoxy resins                 | 25068-38-6 | 2                 |     |                   |     |      |

### 8.2. Exposure controls

Follow usual measures for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of respiratory pathways must be used. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

#### Eye and face protection

Protective goggles or face shield (based on the nature of the work performed).

#### Skin protection

Hand protection: Protective gloves resistant against the product. Observe recommendations of the particular manufacturer of the gloves in the choice of their appropriate thickness, material and permeability. Use barrier creams to protect of the skin, they should however not be applied once exposure has occurred. Observe other recommendations of the manufacturer. Other protection: Protective antistatic clothing made of natural fibres (cotton) or synthetic fibres resistant against elevated temperatures. Contaminated skin should be washed thoroughly.

#### Respiratory protection

Mask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of toxic substances are exceeded or in a poorly ventilated environment.

#### Thermal hazard

not available

#### Restriction of the environment exposure

Observe usual measures for protection of the environment, see Section 6.2.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|  |                    |
|--|--------------------|
| Appearance                                   | liquid             |
| physical state                               | liquid in 20°C     |
| colour                                       | pale yellow        |
| Odour  | typical            |
| Odour threshold                              | data not available |
| pH   | data not available |
| Melting point/freezing point                 | data not available |
| Initial boiling point and boiling range      | data not available |
| Flash point                                  | 200 °C             |
| Evaporation rate                             | data not available |
| Flammability (solid, gas)                    | data not available |
| Upper/lower flammability or explosive limits |                    |
| flammability limits                          | data not available |
| explosive limits                             | data not available |
| Vapour pressure                              | data not available |
| Vapour density                               | data not available |
| Relative density                             | data not available |
| Solubility(ies)                              |                    |
| solubility in water                          | insoluble          |
| solubility in fats                           | data not available |
| Partition coefficient: n-octanol/water       | data not available |
| Auto-ignition temperature                    | data not available |
| Decomposition temperature                    | data not available |
| Viscosity                                    | data not available |
| Explosive properties                         | data not available |
| Oxidising properties                         | data not available |

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**9.2. Other information**

Density 1,14 g/cm<sup>3</sup>  
 auto-ignition temperature data not available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

The mixture is nonflammable

**10.2. Chemical stability**

Under normal conditions, the mixture is stable.

**10.3. Possibility of hazardous reactions**

The mixture is stable under normal conditions.

**10.4. Conditions to avoid**

The mixture is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

**10.5. Incompatible materials**

Protect against strong acids, bases and oxidizing agents. Thereby a dangerous exothermic reaction will be prevented.

**10.6. Hazardous decomposition products**

Not developed under normal uses. Dangerous products are formed at high temperature and in fire, such as carbon monoxide and carbon dioxide, heavy smoke and nitrogen oxides.

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

No toxicological data is available for the mixture.

**Acute toxicity**

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| Route of exposure | Parameter | Method | Value      | Time of exposure | Species                 | Sex | Determining the value of | Source |
|-------------------|-----------|--------|------------|------------------|-------------------------|-----|--------------------------|--------|
| oral              | LD 50     |        | 5000 mg/kg | 96 hour          | rat (Rattus norvegicus) |     |                          |        |

Based on available data, the classification criteria are not accomplished.

**Corrosion/skin irritation**

Causes skin irritation.

**Serious eye damage / eye irritation**

Causes serious eye irritation.

**Respiratory / skin sensitization**

May cause an allergic skin reaction.

**Germ cells mutagenicity**

Based on available data, the classification criteria are not accomplished.

**Carcinogenicity**

Based on available data, the classification criteria are not accomplished.

**Reproductive toxicity**

Based on available data, the classification criteria are not accomplished.

**Toxicity for specific target organ - single exposure**

Based on available data, the classification criteria are not accomplished.

**Toxicity for specific target organ - repeated exposure**

Based on available data, the classification criteria are not accomplished.

**Aspiration hazard**

Based on available data, the classification criteria are not accomplished.

**SECTION 12: Ecological information**

**12.1. Toxicity**

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### Acute toxicity

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| Parameter           | Method | Value      | Time of exposure | Species                      | Environment | Determining the value of | Source |
|---------------------|--------|------------|------------------|------------------------------|-------------|--------------------------|--------|
| LC 50               |        | 7,5 mg/kg  | 72 hour          | fishes (Oncorhynchus mykiss) |             |                          |        |
| EC 50               |        | 3,3 mg/kg  | 48 hour          | daphnia (Daphnia magna)      |             |                          |        |
| LC 50, EC 50, IC 50 |        | 1-10 mg/kg | 48 hour          | other aquatic organisms      |             |                          |        |

Toxic to aquatic life with long lasting effects.

### 12.2. Persistence and degradability

The mixture is biodegradable.

### 12.3. Bioaccumulative potential

Insignificant.

### 12.4. Mobility in soil

The product is soluble and mobile in water and soil. Contamination of water courses may occur in case of rain.

### 12.5. Results of PBT and vPvB assessment

The mixture is not classified as PBT or vPvB.

### 12.6. Other adverse effects

not available

## SECTION 13: Disposal considerations

Hazard of environmental contamination; remove waste in accordance with local and/or national regulations.

### 13.1. Waste treatment methods

Proceed in accordance with valid regulations laying down the disposal of waste. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to an authorised person for waste removal (specialized company) authorised for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

#### Legislation of waste

Council Directive 75/442/EEC on waste, at last amended. Council Directive 91/689/EEC on hazardous waste, as last amended. Decision 94/3/EC establishing a list of wastes, as last amended.

|  |   |
|--|---|
| <b>Code of type of waste</b>           | 080409  |
| Type of waste                          | waste adhesives and sealants containing organic solvents or other dangerous substances  |
| Subgroup of waste                      | wastes from MFSU of adhesives and sealants (including waterproofing products)   |
| Waste group                            | WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS |
| <b>Code of type of waste packaging</b> | 150110  |
| Type of waste                          | packaging containing residues of or contaminated by dangerous substances  |
| Subgroup of waste                      | packaging (including separately collected municipal packaging waste)  |
| Waste group                            | WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED  |

## SECTION 14: Transport information

### 14.1. UN number

UN 3082

### 14.2. UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

### 14.3. Transport hazard class(es)

9 Miscellaneous dangerous substances and articles

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**14.4 Packing group**

III - Less hazardous substances

**14.5. Environmental hazards**

not available

**14.6. Special precautions for user**

not available

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

not available

**Additional information**

The hazard identification number

**90**

(Kemler Code)

UN number

**3082**

Classification code

M6

Safety signs

9

**Road transport ADR**

Special provision 274, 335, 601

Limited amount 5 L

Extracted amounts E1

**Packaging**

Packaging instruction P001, IBC03, LP01, R001

Special provision for packaging PP1,

Packing provisions MP19

**Portable tanks and containers for open stored materials**

Guidelines T4

Special provision TP1, TP29

**Tanks ADR**

Code of the tank LGBV

Vehicles for the transport in tanks AT

Transport category 3

Tunnel restriction code E

**Special provision for**

transport of pieces V12

loading, unloading and manipulation CV13

**Railway transport - RID**

Special provision 274, 335, 601

**Packaging**

Packaging instruction P001, IBC03, LP01, R001

Special provision for packaging PP1,

Packing provisions MP19

**Portable tanks and containers for open stored materials**

Guidelines T4

Special provision TP1, TP29

**Tanks RID**

Code of the tank LGBV

Transport category 3

**Special provision for**

transport of pieces W 12

loading, unloading and manipulation CW 13



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**Air transport - ICAO/IATA**

|  |      |
|--|------|
| Packing instructions for limited amount of | Y964 |
| Packing instruction passenger              | 964  |
| Packing instruction cargo                  | 964  |

**Marine transport - IMDG**

|                      |          |
|----------------------|----------|
| EMS (emergency plan) | F-A, S-F |
| Marine pollution     | No       |

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended. Directives 67/548/EEC, as amended, and 1999/45/EC, as amended.

**15.2. Chemical safety assessment**

not available

**16. SECTION 16: Other information****A list of standard risk phrases used in the safety data sheet**

|      |  |
|------|--|
| H315 | Causes skin irritation.                          |
| H317 | May cause an allergic skin reaction.             |
| H319 | Causes serious eye irritation.                   |
| H411 | Toxic to aquatic life with long lasting effects. |

**Guidelines for safe handling used in the safety data sheet**

|                |  |
|----------------|--|
| P261           | Avoid breathing dust   |
| P272           | Contaminated work clothing should not be allowed out of the workplace.   |
| P273           | Avoid release to the environment.  |
| P280           | Wear protective gloves.  |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P321           | Specific treatment (see Supplemental first aid instructions. on this label).   |
| P333+P313      | If skin irritation or rash occurs: Get medical advice/attention.   |
| P337+P313      | If eye irritation persists: Get medical advice/attention.  |
| P362           | Take off contaminated clothing.  |
| P363           | Wash contaminated clothing before reuse.   |
| P391           | Collect spillage.  |
| P501           | Dispose of contents/container to local\regional\national\international regulations.  |

**List of R-phrases used in the safety data sheet**

|         |   |
|---------|---|
| R 36/38 | Irritating to eyes and skin.  |
| R 43    | May cause sensitisation by skin contact.  |
| R 51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

**Other important information about safety of human health**

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per Section 1. The user is responsible for adherence to all related health protection regulations.

**Key to the abbreviations and the acronyms used in the safety data sheet**

|     |   |
|-----|---|
| ADR | European agreement concerning the international carriage of dangerous goods by road |
| BCF | Bioconcentration Factor   |
| CAS | Unique Numeric Identifier used in chemistry for chemical substances                 |

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|                 |   |
|-----------------|---|
| CLP             | Classification, Labelling and Packaging   |
| CSN             | Czech Technical Standard  |
| DNEL            | Derived no-effect level   |
| EC50            | Concentration of a substance when it is affected 50% of the population                              |
| EINECS          | European Inventory of Existing Commercial Chemical Substances                                       |
| Ems             | Emergency plan  |
| ErC50           | Environmental Release category  |
| ES              | Identification code for each substance listed in EINECS   |
| IATA            | International Air Transport Association   |
| IBC             | International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals         |
| IC50            | Concentration causing 50 % blockade   |
| ICAO            | International Civil Aviation Organization   |
| IMDG            | International Maritime Dangerous Goods Transport  |
| LC50            | Lethal concentration of a substance in which it can be expected death of 50% of the population      |
| LD50            | Lethal dose of a substance in which it can be expected death of 50% of the population               |
| LOAEC           | Lowest observed adverse effect concentration  |
| LOAEL           | Lowest observed adverse effect level  |
| Log Kow         | Octanol-water partition coefficient   |
| MARPOL          | International Convention for the Prevention of Pollution From Ships                                 |
| MFAG            | First Aid Manual  |
| NOAEC           | No observed adverse effect concentration  |
| NOAEL           | No observed adverse effect level  |
| NOEC            | No observed effect concentration  |
| NOEL            | No observed effect level  |
| NPK             | The maximum permissible concentration   |
| PBT             | Persistent ,Bioaccumulative and Toxic   |
| PEL             | Permissible Exposure Limit  |
| PNEC            | Predicted no-effect concentration   |
| REACH           | Registration, Evaluation and Restriction of chemicals (EP and Council Regulation (EC) No.1907/2006) |
| RID             | Agreement on the transport of dangerous goods by rail   |
| UN              | Four-digit code reflecting the characteristics of substances or mixtures in transport               |
| UVCB            | Substances of unknown or variable composition, complex reaction products or biological materials    |
| VOC             | Volatile organic compounds  |
| vPvB            | Very Persistent and very Bioaccumulative  |
| Aquatic Chronic | Hazardous to the aquatic environment  |
| Eye Irrit.      | Eye irritation  |
| Skin Irrit.     | Skin irritation   |
| Skin Sens.      | Skin sensitization  |

**Training guidelines**

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the mixture.

**Recommended restrictions of use**

not available

**Information about the sources of data used to compile the data sheet**

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended, REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended, COMMISSION REGULATION (EU) No 453/2010, COUNCIL DIRECTIVE 67/548/EEC as amended and 1999/45/EC, COMMISSION REGULATION (EU) No 286/2011 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.

**The changes (which information has been added, deleted or modified)**

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Reworked the classification according to Regulation 1272/2008 (CLP).

**Statement**

The Safety Data Sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.

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

- 1.1. Product identifier**  
substance / mixture  
Number  
Other names of the mixture
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**  
Intended use of the mixture  
Not recommended use of the mixture
- 1.3. Details of the supplier of the safety data sheet**  
**Manufacturer**  
Name or trade name  
Place of business or residency  
Telephone  
Fax  
E-mail  
Web address  
Emergency telephone number
- Competent person responsible for the safety data sheet**  
Name  
E-mail
- 1.4. Emergency telephone number**  
Toxicological Information Centre, Na Bojišti 1, Praha, Tel.: non-stop 224 919 293 or 224 915 402, Information on health risks only - acute poisoning of humans and animals
- BETOLIT ED component B  
mixture  
7-18
- Two-component epoxy-based protective coating with modifying bituminous component  
The product should not be used in ways other than those referred in Section 1.
- BETOSAN s.r.o.  
Na Dolinách 28, Praha 4, 147 00  
Czech Republic  
241 431 212  
241 431 212  
praha@betosan.cz  
www.betosan.cz  
241 431 212, 8,00-16,00
- BETOSAN s.r.o.  
praha@betosan.cz

**SECTION 2: Hazards identification**

- 2.1. Classification of the substance or mixture**  
**Classification of the mixture in accordance with Regulation (EC) No 1272/2008**

A mixture is classified as dangerous.

Skin Sens. 1, H317  
Muta. 1A, H340  
Carc. 1B, H350  
Repr. 1A, H360FD  
Aquatic Chronic 4, H413

**The classification of the mixture according to Directive 1999/45/EC**

A mixture is classified as dangerous.

sensitising: R 43  
carcinogen: Carc. cat. 1; R 45  
mutagen: Mut. cat. 1; R 46  
toxic for reproduction: Repr. cat. 1; R 60, R 61  
Dangerous for the environment: R 53

Full text of all classifications, H-phrases and R-phrases is given in the section 16.

**The most serious adverse physicochemical effects**

Unknown

**The most serious adverse effects on human health and the environment**

May cause an allergic skin reaction. May cause cancer. May damage fertility. May damage the unborn child. May cause genetic defects. May cause long lasting harmful effects to aquatic life.

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**2.2. Label elements**
**Warning symbol**

**Signal word**

Danger

**Hazardous substances**

 brea, smola, černouhelný dehet  
 Solvent naphtha (coal)

**Hazard statements**

|        |   |
|--------|---|
| H317   | May cause an allergic skin reaction.                    |
| H340   | May cause genetic defects.                              |
| H350   | May cause cancer.                                       |
| H360FD | May damage fertility. May damage the unborn child.      |
| H413   | May cause long lasting harmful effects to aquatic life. |

**Instructions for safe handling**

|           |   |
|-----------|---|
| P201      | Obtain special instructions before use.   |
| P261      | Avoid breathing dust  |
| P272      | Contaminated work clothing should not be allowed out of the workplace.              |
| P273      | Avoid release to the environment.   |
| P280      | Wear protective gloves.   |
| P281      | Use personal protective equipment as required.                                      |
| P302+P352 | IF ON SKIN: Wash with plenty of water.  |
| P308+P313 | IF exposed or concerned: Get medical advice/attention.                              |
| P321      | Specific treatment (see Supplemental first aid instructions. on this label).        |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention.                    |
| P363      | Wash contaminated clothing before reuse.  |
| P405      | Store locked up.  |
| P501      | Dispose of contents/container to local\regional\national\international regulations. |

**2.3. Other hazards**

not available

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Chemical characterization**

Mixture of substances specified below and additives.

**Mixture contents these hazardous substances and substances with the highest permissible concentration in the working environment**

| Identification numbers                                  | Name of the substance          | Content in % weight of the mixture | Classification according to Directive 67/548/EEC                                    | Classification according to Regulation (EC) No 1272/2008  | Note |
|---|--------------------------------|------------------------------------|---|---|------|
| Index: 648-055-00-5<br>CAS: 65996-93-2<br>ES: 266-028-2 | brea, smola, černouhelný dehet | >20                                | R 43<br>Carc. cat. 1; R 45<br>Mut. cat. 1; R 46<br>Repr. cat. 1; R 60, R 61<br>R 53 | Skin Sens. 1, H317<br>Muta. 1A, H340<br>Carc. 1B, H350<br>Repr. 1A, H360FD<br>Aquatic Chronic 4, H413 |      |
| Index: 648-020-00-4<br>CAS: 65996-79-4<br>ES: 266-013-0 | Solvent naphtha (coal)         | >20                                | Carc. cat. 1; R 45<br>Mut. cat. 1; R 46   | Muta. 1B, H340<br>Carc. 1B, H350  | 1    |

**Notes**

1 Substances for which there are exposure limits Community for working environment.

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The full text of all standard phrases and guidelines is specified in Section 16.

**SECTION 4: First aid measures****4.1. Description of first aid measures**

If any health problems are manifested or if in doubt, inform a doctor and show him information from this Safety Data Sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that respiratory pathways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

**Inhalation**

Move the affected person to fresh air immediately while paying attention to your own safety; do not let the person walk! Depending on the situation, rinsing of the mouth and/or nose as appropriate with water can be recommended. Change the clothes of the affected person if contaminated by the substances. Protect the affected person against growing cold. Depending on the situation, call medical rescue service or ensure medical treatment considering the need of further observation for at least 24 hours.

**Skin contact**

Remove contaminated clothes immediately; take off any rings, watches, bracelets before or during washing if used in the contaminated areas of the skin. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Cover corroded parts of skin with sterile dressing; do not apply ointments or other medicines on the skin. Cover the person to ensure protection against growing cold. Depending on the situation, call medical rescue service or ensure medical treatment.

**Eye contact**

Rinse the eyes immediately with a flow of running water, open the eyelids wide (also using force if needed); remove contact lenses immediately if worn by the person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment, specialized if possible, as quickly as possible. Everyone must be referred for treatment even if affected only little.

**Ingestion**

DO NOT INDUCE VOMITING - danger of further damage to the gastrointestinal tract!!! Danger of esophageal and gastric perforation! RINSE THE MOUTH WITH WATER IMMEDIATELY AND LET THE PERSON DRINK 2-5 dl of cold water to reduce the heating effect of the corrosive substance. Considering an almost immediate effect on the mucous membranes, providing tap water quickly is preferred to any delay due to looking for cooled liquids - the condition of the mucous membrane worsens irreparably with every minute of delay! Carbonated or mineral water is not suitable as they may release gaseous carbon dioxide. Consuming larger amounts of liquid is not advisable as it may induce vomiting and potential inhaling of the corrosive substances in the lungs). The affected person must not be forced to drink, particularly if already feeling pain in the mouth or throat. In this case let the affected person only rinse the mouth with water. DO NOT GIVE ACTIVATED CARBON! (It makes an examination of the gastrointestinal tract membranes more difficult due to their black colouring and does not have a favourable effect with acids and bases.) Do not give anything to eat. Do not give anything by mouth if the person is unconscious or if having cramps. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible.

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

Possible irritation of respiratory pathways, cough, headache.

**Skin contact**

Painful reddening, irritation.

**Eye contact**

Not expected.

**Ingestion**

Irritation, nausea.

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

Symptomatic treatment.

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**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist

**Unsuitable extinguishing media**

water - full jet

**5.2. Special hazards arising from the substance or mixture**

Heavy, black smoke is produced in a fire, with potential development of carbon monoxide and dioxide and other toxic gases. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

**5.3. Advice for firefighters**

Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the mixture near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Remove all ignition sources; provide sufficient ventilation. Use personal protective equipment for work. Follow the instructions in Sections 7 and 8.

**6.2. Environmental precautions**

Prevent contamination of the soil and entering surface or ground water. Do not allow to enter drains.

**6.3. Methods and material for containment and cleaning up**

Spilled mixture should be covered with suitable (nonflammable) absorbing material (sand, kieselguhr, earth and other suitable absorption materials); to be contained in well closed containers and removed as per Section 13. Collected material should be disposed of in accordance with locally valid regulations. Upon an escape of large quantities of the mixture, inform the Fire Department and the Environmental Department of the Municipal Authority with extended scope of competencies. After removal of the mixture, wash the contaminated site with plenty of water or another suitable cleaning material. Do not use solvents.

**6.4. Reference to other sections**

7, 8 and 13.

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**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Prevent formation of gases and vapours in flammable or explosive concentrations and concentrations exceeding the highest permissible concentration in the occupational environment. The mixture should be used only in areas where it is not in contact with open fire and other ignition sources. No smoking. Protect against direct sunlight. Electrostatic charge may form during use; use only earthed piping (tubing) when repumping. Use of antistatic clothes and footwear is recommended. Use non-sparking tools. Do not inhale gases and vapours. Prevent contact with skin and eyes. Use personal protective equipment as per Section 8. Observe valid legal regulations laying down safety and health protection.

**7.2. Conditions for safe storage, including any incompatibilities**

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight.

|                     |   |
|---------------------|---|
| Storage class       | 6,1B - Non-combustible acute toxic substances |
| Content             | 0.5 kg  |
| Type of packaging   | tin   |
| Material of package | FE (40), Steel (Metals)                       |



FE

**The specific requirements or rules relating to the substance/mixture**

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

**7.3. Specific end use(s)**

not available

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

European Union

| Name of the substance (component) | CAS number | Limit values      |     |                   |     | Note |
|-----------------------------------|------------|-------------------|-----|-------------------|-----|------|
|                                   |            | 8 hours           |     | Short-term        |     |      |
|                                   |            | mg/m <sup>3</sup> | ppm | mg/m <sup>3</sup> | ppm |      |
| solvent naphtha                   | 65996-79-4 | 200               |     | 1000              |     |      |

**8.2. Exposure controls**

Follow usual measures for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of respiratory pathways must be used. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

**Eye and face protection**

Protective goggles or face shield (based on the nature of the work performed).

**Skin protection**

Hand protection: Protective gloves resistant against the product. Observe recommendations of the particular manufacturer of the gloves in the choice of their appropriate thickness, material and permeability. Use barrier creams to protect of the skin, they should however not be applied once exposure has occurred. Observe other recommendations of the manufacturer. Other protection: Protective antistatic clothing made of natural fibres (cotton) or synthetic fibres resistant against elevated temperatures. Contaminated skin should be washed thoroughly.

**Respiratory protection**

Mask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of toxic substances are exceeded or in a poorly ventilated environment.

**Thermal hazard**

not available

**Restriction of the environment exposure**

Observe usual measures for protection of the environment, see Section 6.2.



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**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|  |                    |
|--|--------------------|
| Appearance                                   | viscous liquid     |
| physical state                               | liquid in 20°C     |
| colour                                       | black              |
| Odour  | ammonia            |
| Odour threshold                              | data not available |
| pH   | data not available |
| Melting point/freezing point                 | data not available |
| Initial boiling point and boiling range      | data not available |
| Flash point                                  | >200 °C            |
| Evaporation rate                             | data not available |
| Flammability (solid, gas)                    | data not available |
| Upper/lower flammability or explosive limits |                    |
| flammability limits                          | data not available |
| explosive limits                             | data not available |
| Vapour pressure                              | data not available |
| Vapour density                               | data not available |
| Relative density                             | data not available |
| Solubility(ies)                              |                    |
| solubility in water                          | data not available |
| solubility in fats                           | data not available |
| Partition coefficient: n-octanol/water       | data not available |
| Auto-ignition temperature                    | data not available |
| Decomposition temperature                    | data not available |
| Viscosity                                    | data not available |
| Explosive properties                         | data not available |
| Oxidising properties                         | data not available |

**9.2. Other information**

|                           |                        |
|---------------------------|------------------------|
| Density                   | 1,53 g/cm <sup>3</sup> |
| auto-ignition temperature | data not available     |

**SECTION 10: Stability and reactivity****10.1. Reactivity**

The mixture is flammable.

**10.2. Chemical stability**

Under normal conditions, the mixture is stable.

**10.3. Possibility of hazardous reactions**

Under normal conditions, the mixture is stable.

**10.4. Conditions to avoid**

The mixture is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

**10.5. Incompatible materials**

Protect against strong acids, bases and oxidizing agents. Thereby a dangerous exothermic reaction will be prevented.

**10.6. Hazardous decomposition products**

Not developed under normal uses. Dangerous products are formed at high temperature and in fire, such as carbon monoxide and carbon dioxide, heavy smoke and nitrogen oxides.

**SECTION 11: Toxicological information****11.1. Information on toxicological effects**

No toxicological data is available for the mixture.

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**Acute toxicity**

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| Route of exposure | Parameter | Method | Value      | Time of exposure | Species                          | Sex | Determining the value of | Source |
|-------------------|-----------|--------|------------|------------------|----------------------------------|-----|--------------------------|--------|
|                   | LD 50     |        | 2000 mg/kg | 96 hour          | rat ( <i>Rattus norvegicus</i> ) |     |                          |        |
| dermal            | LD 50     |        | 5000 mg/kg | 72 hour          | rat ( <i>Rattus norvegicus</i> ) |     |                          |        |

Based on available data, the classification criteria are not accomplished.

**Corrosion/skin irritation**

Based on available data, the classification criteria are not accomplished.

**Serious eye damage / eye irritation**

Based on available data, the classification criteria are not accomplished.

**Respiratory / skin sensitization**

Produkuje kožní přecitlivělost.

**Germ cells mutagenicity**

May cause genetic defects.

**Carcinogenicity**

Může vyvolat rakovinu. Může vyvolat rakovinu.

**Reproductive toxicity**

Based on available data, the classification criteria are not accomplished.

**Toxicity for specific target organ - single exposure**

Based on available data, the classification criteria are not accomplished.

**Toxicity for specific target organ - repeated exposure**

Based on available data, the classification criteria are not accomplished.

**Aspiration hazard**

Based on available data, the classification criteria are not accomplished.

**SECTION 12: Ecological information****12.1. Toxicity****Acute toxicity**

May cause long lasting harmful effects to aquatic life.

**12.2. Persistence and degradability**

The mixture is biodegradable.

**12.3. Bioaccumulative potential**

Insignificant.

**12.4. Mobility in soil**

The product is soluble and mobile in water and soil. Contamination of water courses may occur in case of rain.

**12.5. Results of PBT and vPvB assessment**

The mixture is not classified as PBT or vPvB.

**12.6. Other adverse effects**

not available

**SECTION 13: Disposal considerations**

Hazard of environmental contamination; remove waste in accordance with local and/or national regulations.

**13.1. Waste treatment methods**

Proceed in accordance with valid regulations laying down the disposal of waste. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to an authorised person for waste removal (specialized company) authorised for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

**Legislation of waste**

Council Directive 75/442/EEC on waste, at last amended. Council Directive 91/689/EEC on hazardous waste, as last amended. Decision 94/3/EC establishing a list of wastes, as last amended.

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|  |   |
|--|---|
| <b>Code of type of waste</b>           | 080410  |
| Type of waste                          | waste adhesives and sealants other than those mentioned in 08 04 09   |
| Subgroup of waste                      | wastes from MFSU of adhesives and sealants (including waterproofing products)   |
| Waste group                            | WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS |
| <b>Code of type of waste packaging</b> | 150110  |
| Type of waste                          | packaging containing residues of or contaminated by dangerous substances  |
| Subgroup of waste                      | packaging (including separately collected municipal packaging waste)  |
| Waste group                            | WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED  |

**SECTION 14: Transport information**

- 14.1. UN number**  
not available
- 14.2. UN proper shipping name**  
not available
- 14.3. Transport hazard class(es)**  
not available
- 14.4. Packing group**  
not available
- 14.5. Environmental hazards**  
not available
- 14.6. Special precautions for user**  
Reference in Sections 4 to 8.
- 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
not available

**SECTION 15: Regulatory information**

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**  
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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended. Directives 67/548/EEC, as amended, and 1999/45/EC, as amended.
- 15.2. Chemical safety assessment**  
not available

**16. SECTION 16: Other information****A list of standard risk phrases used in the safety data sheet**

|        |   |
|--------|---|
| H317   | May cause an allergic skin reaction.                    |
| H340   | May cause genetic defects.                              |
| H340   | May cause genetic defects.                              |
| H350   | May cause cancer.                                       |
| H360FD | May damage fertility. May damage the unborn child.      |
| H413   | May cause long lasting harmful effects to aquatic life. |

**Guidelines for safe handling used in the safety data sheet**

|      |  |
|------|--|
| P201 | Obtain special instructions before use.                                |
| P261 | Avoid breathing dust   |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |

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|           |   |
|-----------|---|
| P273      | Avoid release to the environment.   |
| P280      | Wear protective gloves.   |
| P281      | Use personal protective equipment as required.                                      |
| P302+P352 | IF ON SKIN: Wash with plenty of water.  |
| P308+P313 | IF exposed or concerned: Get medical advice/attention.                              |
| P321      | Specific treatment (see Supplemental first aid instructions. on this label).        |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention.                    |
| P363      | Wash contaminated clothing before reuse.  |
| P405      | Store locked up.  |
| P501      | Dispose of contents/container to local\regional\national\international regulations. |

**List of R-phrases used in the safety data sheet**

|      |   |
|------|---|
| R 43 | May cause sensitisation by skin contact.                        |
| R 45 | May cause cancer.   |
| R 46 | May cause heritable genetic damage.                             |
| R 60 | May impair fertility.   |
| R 61 | May cause harm to the unborn child.                             |
| R 53 | May cause long-term adverse effects in the aquatic environment. |

**Other important information about safety of human health**

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per Section 1. The user is responsible for adherence to all related health protection regulations.

**Key to the abbreviations and the acronyms used in the safety data sheet**

|         |  |
|---------|--|
| ADR     | European agreement concerning the international carriage of dangerous goods by road            |
| BCF     | Bioconcentration Factor  |
| CAS     | Unique Numeric Identifier used in chemistry for chemical substances                            |
| CLP     | Classification, Labelling and Packaging  |
| CSN     | Czech Technical Standard   |
| DNEL    | Derived no-effect level  |
| EC50    | Concentration of a substance when it is affected 50% of the population                         |
| EINECS  | European Inventory of Existing Commercial Chemical Substances                                  |
| Ems     | Emergency plan   |
| ErC50   | Environmental Release category   |
| ES      | Identification code for each substance listed in EINECS  |
| IATA    | International Air Transport Association  |
| IBC     | International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals    |
| IC50    | Concentration causing 50 % blockade  |
| ICAO    | International Civil Aviation Organization  |
| IMDG    | International Maritime Dangerous Goods Transport   |
| LC50    | Lethal concentration of a substance in which it can be expected death of 50% of the population |
| LD50    | Lethal dose of a substance in which it can be expected death of 50% of the population          |
| LOAEC   | Lowest observed adverse effect concentration   |
| LOAEL   | Lowest observed adverse effect level   |
| Log Kow | Octanol-water partition coefficient  |
| MARPOL  | International Convention for the Prevention of Pollution From Ships                            |
| MFAG    | First Aid Manual   |
| NOAEC   | No observed adverse effect concentration   |
| NOAEL   | No observed adverse effect level   |
| NOEC    | No observed effect concentration   |
| NOEL    | No observed effect level   |
| NPK     | The maximum permissible concentration  |
| PBT     | Persistent ,Bioaccumulative and Toxic  |
| PEL     | Permissible Exposure Limit   |
| PNEC    | Predicted no-effect concentration  |

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|                 |   |
|-----------------|---|
| REACH           | Registration, Evaluation and Restriction of chemicals (EP and Council Regulation (EC) No.1907/2006) |
| RID             | Agreement on the transport of dangerous goods by rail   |
| UN              | Four-digit code reflecting the characteristics of substances or mixtures in transport               |
| UVCB            | Substances of unknown or variable composition, complex reaction products or biological materials    |
| VOC             | Volatile organic compounds  |
| vPvB            | Very Persistent and very Bioaccumulative  |
| Aquatic Chronic | Hazardous to the aquatic environment  |
| Carc            | Carcinogenicity   |
| Muta            | Germ cell mutagenicity  |
| Repr            | Reproductive toxicity   |
| Skin Sens.      | Skin sensitization  |

**Training guidelines**

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the mixture.

**Recommended restrictions of use**

not available

**Information about the sources of data used to compile the data sheet**

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended, REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended, COMMISSION REGULATION (EU) No 453/2010, COUNCIL DIRECTIVE 67/548/EEC as amended and 1999/45/EC, COMMISSION REGULATION (EU) No 286/2011 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.

**The changes (which information has been added, deleted or modified)**

Reworked the classification according to Regulation 1272/2008 (CLP).

**Statement**

The Safety Data Sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.