

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



Septicare II Bond - 50 ml/160 ml/200 ml/250 ml (comp. A)

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	26.03.2018	2637954-00001	Date of first issue: 26.03.2018

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

1.1 Product identifier

Trade name : Septicare II Bond - 50 ml/160 ml/200 ml/250 ml (comp. A)

Product code : 106652001 / 106652005

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

Use of the Sub-stance/Mixture : Adhesives

1.3 Details of the supplier of the safety data sheet

Company : UKAL Elevage
2 rue de l'Etang
F-67360 ESCHBACH

Telephone : +33 3 88 07 40 15

Telefax : +33 3 88 07 40 14

E-mail address of person responsible for the SDS : ukalel@ukal-elevage.com

1.4 Emergency telephone number

+49 (0)6132 – 84463

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - single exposure, Category 3	H335: May cause respiratory irritation.

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Specific target organ toxicity - repeated exposure, Category 2

H373: May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements :

- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H351 Suspected of causing cancer.
- H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements :

Prevention:

- P201 Obtain special instructions before use.
- P260 Do not breathe mist or vapours.
- P264 Wash skin thoroughly after handling.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
- P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Hazardous components which must be listed on the label:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]
4,4'-Diphenylmethane diisocyanate

2.3 Other hazards

Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]	68424-09-9	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE 2; H373	>= 90 - <= 100
4,4'-Diphenylmethane diisocyanate	101-68-8 202-966-0 615-005-00-9 01-2119457014-47	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 STOT RE 2; H373	>= 10 - < 20

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- | | |
|----------------------------|--|
| General advice | : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice. |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists. |
| If inhaled | : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention. |
| In case of skin contact | : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse. |

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In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

Respiratory symptoms, including pulmonary edema, may be delayed.
Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
Water spray in large fire situations

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)

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Septicare II Bond 9201 - 50 ml/160 ml/200 ml/250 ml (comp. A)

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Hydrogen cyanide (hydrocyanic acid)
Isocyanates

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

- Environmental precautions : Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up with inert absorbent material. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. After approximately one hour, transfer to waste container and do not seal, due to evolution of carbon dioxide. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

- | | | |
|-------------------------|---|--|
| Technical measures | : | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : | Use with local exhaust ventilation. |
| Advice on safe handling | : | Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Keep container tightly closed.
Keep away from water.
Protect from moisture.
Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers.
Take care to prevent spills, waste and minimize release to the environment. |
| Hygiene measures | : | Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. |

7.2 Conditions for safe storage, including any incompatibilities

- | | | |
|---|---|--|
| Requirements for storage areas and containers | : | Keep in properly labelled containers. Store locked up. Protect from moisture. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. |
| Advice on common storage | : | Do not store with the following product types:
Strong oxidizing agents |
| Storage class (TRGS 510) | : | 10, Combustible liquids |
| Recommended storage temperature | : | 18 - 30 °C |

7.3 Specific end use(s)

- | | | |
|-----------------|---|-------------------|
| Specific use(s) | : | No data available |
|-----------------|---|-------------------|

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

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Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
4,4'-Diphenylmethane diisocyanate	101-68-8	AGW (Vapour and aerosols)	0,05 mg/m ³	TRGS 430
Peak-limit: excursion factor (category)	1;=2=(I)			
Further information	Sum of vapour and aerosols, The exposure limit is established for monomers. For regulatory details on oligomers and polymers see TRGS 430 'Isocyanate', airway sensitizing substance			
		AGW (Vapour and aerosols, inhalable fraction)	0,05 mg/m ³	DE TRGS 900
Peak-limit: excursion factor (category)	1;=2=(I)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., Sum of vapor and aerosols., The exposure limit is established for monomers. For regulatory details on oligomers and polymers see TRGS 430 'Isocyanate', Skin absorption, When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child, Substance sensitizing through the skin and respiratory system			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
4,4'-Diphenylmethane diisocyanate	Workers	Inhalation	Long-term local effects	0,05 mg/m ³
	Workers	Inhalation	Acute local effects	0,1 mg/m ³
	Consumers	Inhalation	Long-term local effects	0,025 mg/m ³
	Consumers	Inhalation	Acute local effects	0,05 mg/m ³

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
4,4'-Diphenylmethane diisocyanate	Fresh water	1 mg/l
	Marine water	0,1 mg/l
	Intermittent use/release	10 mg/l
	Sewage treatment plant	1 mg/l
	Soil	1 mg/kg

8.2 Exposure controls

Engineering measures

Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
Use with local exhaust ventilation.

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Personal protective equipment

- Eye protection : Wear the following personal protective equipment:
Safety goggles
- Hand protection
- | | |
|--------------------|----------------|
| Material | : butyl-rubber |
| Break through time | : > 480 min |
| Glove thickness | : 0,7 mm |
| Directive | : DIN EN 374 |
-
- | | |
|--------------------|----------------|
| Material | : butyl-rubber |
| Break through time | : > 120 min |
| Glove thickness | : 0,7 mm |
| Directive | : DIN EN 374 |
- Remarks : Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
- Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
- Filter type : Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|-----------------------------------|---------------------|
| Appearance | : liquid |
| Colour | : amber |
| Odour | : characteristic |
| Odour Threshold | : No data available |
| pH | : No data available |
| Melting point/freezing point | : No data available |
| Initial boiling point and boiling | : No data available |

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range

Flash point	:	>= 200 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	5 - < 10 mmHg (25 °C)
Relative vapour density	:	No data available
Relative density	:	1,15
Density	:	ca. 1,15 g/cm ³
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	3.000 - 6.000 mPa.s (23 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Flammability (liquids)	:	No data available
Particle size	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

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10.2 Chemical stability

Stable if used as directed. Follow precautionary advice and avoid incompatible materials and conditions.

Polymerises at high temperatures with evolution of carbon dioxide.

10.3 Possibility of hazardous reactions

Hazardous reactions : Isocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the isocyanate. Exothermic reaction with acids, amines and alcohols. Reacts with water to form carbon dioxide and heat. Isocyanates are not soluble in water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Hazardous decomposition products will be formed upon contact with water or humid air.

10.4 Conditions to avoid

Conditions to avoid : Exposure to moisture

10.5 Incompatible materials

Materials to avoid : Oxidizing agents
Acids
Bases
Water
Alcohols
Amines
Ammonia
Aluminium
Zinc
Brass
Tin
Copper
Galvanised metals
Humid air

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

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Acute toxicity

Harmful if inhaled.

Product:

Acute inhalation toxicity : Acute toxicity estimate: 1,25 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : Acute toxicity estimate: 1,5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgement
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg
Remarks: Based on data from similar materials

4,4'-Diphenylmethane diisocyanate:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 2,24 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg
Remarks: Based on data from similar materials

Skin corrosion/irritation

Causes skin irritation.

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : Based on data from similar materials

4,4'-Diphenylmethane diisocyanate:

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Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation
Remarks	:	Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Result	:	Irritation to eyes, reversing within 21 days
Remarks	:	Based on data from similar materials Based on harmonised classification in EU regulation 1272/2008, Annex VI

4,4'-Diphenylmethane diisocyanate:

Result	:	Irritation to eyes, reversing within 7 days
Remarks	:	Based on harmonised classification in EU regulation 1272/2008, Annex VI

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Result	:	positive
Remarks	:	Based on data from similar materials

Assessment	:	Probability or evidence of skin sensitisation in humans
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Exposure routes	:	inhalation (dust/mist/fume)
Species	:	Guinea pig
Result	:	positive
Remarks	:	Based on data from similar materials

Assessment	:	Probability of respiratory sensitisation in humans based on animal testing
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4,4'-Diphenylmethane diisocyanate:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact

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Species	:	Guinea pig
Result	:	positive
Assessment	:	Probability or evidence of skin sensitisation in humans
Exposure routes	:	Inhalation
Species	:	Rat
Result	:	positive
Remarks	:	Based on data from similar materials
Assessment	:	Probability of respiratory sensitisation in humans based on animal testing

Germ cell mutagenicity

Not classified based on available information.

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: Directive 67/548/EEC, Annex, B.13/14 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: inhalation (dust/mist/fume) Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials

4,4'-Diphenylmethane diisocyanate:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: inhalation (dust/mist/fume) Method: OECD Test Guideline 474 Result: negative

Carcinogenicity

Suspected of causing cancer.

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Species	:	Rat
Application Route	:	inhalation (dust/mist/fume)

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Exposure time : 2 Years
Result : positive
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

4,4'-Diphenylmethane diisocyanate:

Species : Rat
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 Years
Result : positive
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

Not classified based on available information.

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (dust/mist/fume)
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

4,4'-Diphenylmethane diisocyanate:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (dust/mist/fume)
Result: negative
Remarks: Based on data from similar materials

STOT - single exposure

May cause respiratory irritation.

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Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Assessment : May cause respiratory irritation.

4,4'-Diphenylmethane diisocyanate:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Exposure routes : inhalation (dust/mist/fume)
Target Organs : Respiratory system
Assessment : Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.

4,4'-Diphenylmethane diisocyanate:

Exposure routes : inhalation (dust/mist/fume)
Target Organs : Respiratory system
Assessment : Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.

Repeated dose toxicity

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Species : Rat
LOAEL : 0,05 mg/kg
Application Route : inhalation (dust/mist/fume)
Exposure time : 90 Days
Remarks : Based on data from similar materials

4,4'-Diphenylmethane diisocyanate:

Species : Rat
NOAEL : 0,2 mg/m³
LOAEL : 1 mg/m³
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 yr
Remarks : Based on data from similar materials

Aspiration toxicity

Not classified based on available information.

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SECTION 12: Ecological information

12.1 Toxicity

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 24 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 1 - 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: Based on data from similar materials

4,4'-Diphenylmethane diisocyanate:

Toxicity to fish	:	LC50 (Oryzias latipes (Orange-red killifish)): > 3.000 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 129,7 mg/l Exposure time: 24 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 1.640 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials NOEC (Desmodesmus subspicatus (green algae)): 1.640 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

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Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 : > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

12.2 Persistence and degradability

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C
Remarks: Based on data from similar materials

4,4'-Diphenylmethane diisocyanate:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302
Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Components:

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 92 - 200
Method: OECD Test Guideline 305
Remarks: Based on data from similar materials

4,4'-Diphenylmethane diisocyanate:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 200

Partition coefficient: n-octanol/water : log Pow: 4,51

12.4 Mobility in soil

No data available

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12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- | | |
|------------------------|--|
| Product | : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. |
| Contaminated packaging | : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product. |
| Waste Code | : The following Waste Codes are only suggestions:

used product
080501, waste isocyanates

unused product
080501, waste isocyanates

uncleaned packagings
150110, packaging containing residues of or contaminated by dangerous substances

Acc. Packaging Ordinance properly emptied packaging:
Properly emptied, non-contaminated packaging of non-hazardous products can be supplied to a system for the collection of sales packaging. |

SECTION 14: Transport information

14.1 UN number

- | | |
|------|-------------------------------------|
| ADN | : Not regulated as a dangerous good |
| ADR | : Not regulated as a dangerous good |
| RID | : Not regulated as a dangerous good |
| IMDG | : Not regulated as a dangerous good |
| IATA | : UN 3334 |

14.2 UN proper shipping name

- | | |
|-----|-------------------------------------|
| ADN | : Not regulated as a dangerous good |
|-----|-------------------------------------|

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ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good
IATA	: Aviation regulated liquid, n.o.s.

14.3 Transport hazard class(es)

ADN	: Not regulated as a dangerous good
ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good
IATA	: 9

14.4 Packing group

ADN	: Not regulated as a dangerous good
ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good

IATA (Cargo)

Packing instruction (cargo aircraft)	: 964
Packing instruction (LQ)	: Y964
Packing group	: III
Labels	: Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	: 964
Packing instruction (LQ)	: Y964
Packing group	: III
Labels	: Miscellaneous

14.5 Environmental hazards

ADN	: Not regulated as a dangerous good
ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Remarks	: Not applicable for product as supplied.
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SECTION 15: Regulatory information

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

- REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable
- REACH - List of substances subject to authorisation (Annex XIV) : Not applicable
- Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable
- Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable
- Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable
- REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
(3)
4,4'-Diphenylmethane diisocyanate
(56)
- Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable
- Water contaminating class (Germany) : WGK 1 slightly hazardous to water
Classification according to AwSV, Annex 1 (5.2)
- Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: 0 %

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

TRGS 430 (German regulatory requirements)

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

Full text of H-Statements

H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H334	: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	: May cause respiratory irritation.
H351	: Suspected of causing cancer.
H373	: May cause damage to organs through prolonged or repeated exposure.
H373	: May cause damage to organs through prolonged or repeated exposure if inhaled.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Carc.	: Carcinogenicity
Eye Irrit.	: Eye irritation
Resp. Sens.	: Respiratory sensitisation
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
DE TRGS 900	: Germany. TRGS 900 - Occupational exposure limit values.
TRGS 430	: Germany. TRGS 430 - Isocyanates
DE TRGS 900 / AGW	: Time Weighted Average
TRGS 430 / AGW	: Occupational Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New

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Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Classification of the mixture:

Acute Tox. 4	H332
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
STOT SE 3	H335
STOT RE 2	H373

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

DE / EN