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SAFETY DATA SHEET

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

DESCRIPTION	**BPR Two-component epoxi Universal 50ml**
CODE	090088 (1.5min), 090089 (3.5min)
DISTRIBUTOR	BOSSAUTO INNOVA, S.A.
ADDRESS	C/ Thomas Edison 16, apartado de correos 95
LOCATION	08430 La Roca del Vallés (Barcelona)
TEL	902 100 667
FAX	902 363 047
E-MAIL	info@bossauto.com
WEBSITE	www.bossauto.com

2. HAZARDS IDENTIFICATION

A COMPONENT

2.1. Classification of the substance or mixture

A. Classification according to Regulation nº1272/2008 (CLP)

Hazard class	Hazard Category	Hazard Statement
Acute Tox.	4	H332 Harmful if inhaled
Eye Irrit.	2	H319 Causes serious eye irritation.
STOT SE	3	H335 May cause respiratory irritation.
Skin Irrit.	2	H315 Causes skin irritation.
Resp. Sens.	1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens.	1	H317 May cause an allergic skin reaction.
Carc.	2	H351 Suspected of causing cancer.
STOT RE	2	H373 May cause damage to organs through prolonged or repeated exposure by inhalation (respiratory system).

2.2. Label elements
Labelling according to regulation (EC) 1272/2008 (CLP)

Danger

H332- Harmful if inhaled
H319-Causes serious eye irritation.
H335-May cause respiratory irritation.
H315 Causes skin irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause respiratory irritation.
H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure by inhalation (respiratory system).

P201 Obtain special instructions before use.
P260 Do not breathe vapors or spray.
P280 Wear protective gloves/protective clothing and eye protection/face protection.
P284 Wear respiratory protection.
P304+P340-IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTRE/doctor if you feel unwell.
EUH204 Contains isocyanates. May produce an allergic reaction.

4.4'-methylenediphenyl diisocyanate
Diphenylmethanediisocyanate, isomers and homologues
Methylenediphenyl diisocyanate, modified

2.3. Other hazards
The mixture does not contain any vPvB substance (vPvB= very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (<0,1%).
The mixture does not contain any PBT substance (PBT=persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (<0,1%).

B COMPONENT

2.1. Classification of the substance or mixture
A. Classification according to Regulation nº1272/2008 (CLP)
The mixture is not classified as dangerous in the terms of the Regulation (EC) 1272/2008 (CLP).

2.2. Label elements
Labelling according to Regulation (EC) 1272/2008 (CLP)
Not applicable

2.3. Other hazards
The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

3. COMPOSITION/INFORMATION ON INGREDIENTS

A COMPONENT

3.1 Substance
n.a

3.2. Mixtures

Diphenylmethanediisocyanate, isomeres and homologues	
Registration number (REACH)	----
Index	----
EINECS, ELINCS, NLP	----
CAS	9016-87-9

Content %	10-20
Classification according to Regulation (EC) 1272/2008 (CLP)	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 (respiratory system) (as inhalation)

Methylenediphenyl diisocyanate, modified	
Registration number (REACH)	01-2119457013-49-XXXX
Index	----
EINECS, ELINCS, NLP	500-040-3 (NLP)
CAS	25686-28-6
Content %	10-20
Classification according to Regulation (EC) 1272/2008 (CLP)	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 4, H332 Resp. Sens. 1, H334 STOT SE 3, H335 Carc. 2, H351 STOT RE 2, H373 (respiratory system) (as inhalation)

4,4-methylenediphenyl diisocyanate	
Registration number (REACH)	01-2119457014-47-XXXX
Index	615-005-00-9
EINECS, ELINCS, NLP	202-966-0
CAS	101-68-8
Content %	5-10
Classification according to Regulation (EC) 1272/2008 (CLP)	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 (respiratory system) (as inhalation)

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

B COMPONENT
Polyhydric alcohols
Amines

3.1. Substances n.a
3.2 Mixture

Registration number (REACH)	----
Index	----
EINECS, ELINCS, NLP	----
CAS	----
content %	----
Classification according to Regulation (EC) 1272/2008 (CLP)	----

4. FIRST AID MEASURES

A COMPONENT

4.1. Description of first aid measures
First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

A. Inhalation
Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.
If the person is unconscious, place in a stable side position and consult a doctor.
Respiratory arrest – Artificial respiration apparatus necessary.
B. Skins contact
Wipe off residual product carefully with a soft, dry cloth.
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.
Dab away with polyethylene glycol 400
C. Eye contact
Remove contact lenses.
Wash thoroughly for several minutes using copious water – call doctor immediately, have Data Sheet available.
D. Ingestion
Rinse the mouth thoroughly with water.
Do not induce vomiting-give copious water to drink. Consult doctor immediately.

4.2. Most important symptoms and effects, both acute and delayed
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1. The following may occur:
Dermatitis (skin inflammation)
Drying of the skin.
Allergic contact eczema
Discoloration of the skin
Irritant to mucosa of the nose and throat
Coughing
Headaches
Effect on the central nervous system

Asthmatic symptoms
In case of sensitivity, concentrations below the limit value may already result in asthmatic symptoms.
Respiratory distress
In certain cases, the symptoms of poisoning may only appear after an extended period/after several hours.

4.3. Indication of any immediate medical attention and special treatment needed
In case of irritation of the lungs, perform first-aid with controlled-dosage aerosol dexamethasone.
Pulmonary oedema prophylaxis.
Medical supervision necessary due to possibility of delayed reaction.

B COMPONENT

4.1. Description of first aid measures
Never pour anything into the mouth of an unconscious person!

A. By inhalation
Supply person with fresh air and consult doctor according to symptoms.
B. Skin contact
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.
C. Eye contact
Remove contact lenses. Wash thoroughly for several minutes using copious water. Seek medical help if necessary.
D. Ingestion
Rinse the mouth thoroughly with water. Do not induce vomiting. Consult doctor immediately.

4.2. Most important symptoms and effects, both acute and delayed
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

5. FIREFIGHTING MEASURES

A COMPONENT

5.1. Extinguishing media
Suitable extinguishing media:
CO2
Extinction powder
Water jet spray
Foam
Unsuitable extinguishing media:
High volume water jet

5.2. Special hazards arising from the substance or mixture
In case of fire the following can develop:
Oxides of carbon
Oxides of nitrogen
Isocyanates

Hydrocyanic acid (hydrogen cyanide)
Toxic gases
Danger of bursting (explosion) when heated

5.3. Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Protective respiratory with independent air supply.
According to size of fire
Full protection, if necessary
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

B COMPONENT

5.1. Extinguishing media
Small fire:
Dry extinguisher
CO2
Large fire:
Water jet spray
Foam
Unsuitable extinguishing media: High volume water jet

5.2. Special hazards arising from the substance or mixture
In case of fire the following can develop: Oxides of carbon, Oxides of nitrogen, Toxic gases
5.3. Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary.
Dispose of contaminated extinction water according to official regulations

6. ACCIDENTAL RELEASE MEASURES

A COMPONENT

6.1. Personal precautions, protective equipment and emergency procedures
Keep unprotected persons away.
Ensure sufficient supply of air.
Avoid inhalation, and contact with eyes or skin.
If applicable, caution-risk of slipping.
6.2. Environmental precautions
If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent from entering drainage system.
If accidental entry into drainage system occurs, inform responsible authorities.
6.3. Methods and material for containment and cleaning up
Soak up with absorbent material (e.g universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.
Allow to stand for a few days in an unclosed container until reaction no longer occurs.
Keep moist.
Do not close packing drum.

C02 formation in closed tanks causes pressure to rise.

6.4. Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

B COMPONENT

6.1. Personal precautions, protective equipment and emergency procedures

Ensure sufficient supply of air.
Avoid contact with skin and eyes.
If applicable, caution - risk of slipping.

6.2. Environmental precautions

If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent from entering drainage system.
Prevent surface and ground-water infiltration, as well as ground penetration.

6.3. Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.
Or:
Pick up mechanically and dispose of according to Section 13.

6.4. Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

7. HANDLING AND STORAGE

A COMPONENT

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1. Precautions for safe handling

7.1.1 General recommendations

Ensure good ventilation. Avoid inhalation of the vapors. If applicable, suction measures at the workstation or on the processing machine necessary. Avoid contact with eyes or skin. No contact with products of this type in case of allergies, asthma and chronic respiratory tract disorders. Eating, drinking, smoking, as well as food-storage, is prohibited in work-room. Observe directions on label and instructions for use. Use working methods according to operating instructions.

7.1.2. Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable. Wash hands before breaks and at end of work. Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorized individuals. Not to be stored in gangways or stair wells. Store product closed and only in original packing. Keep protected from direct sunlight and temperatures over 50ºC. Store at room temperature. Store in a dry place.

7.3. Specific end use(s)

No information available at present.

B COMPONENT

7.1. Precautions for safe handling
7.1.1 General recommendations
Ensure good ventilation.
Avoid contact with eyes or skin.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
7.1.2 Notes on general hygiene measures at the workplace
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2. Condition for safe storage, including any incompatibilities
Not to be stored in gangways or stair wells.
Store product closed and only in original packing.
Store separately from acids.
Protect against moisture and store closed.
Store in a well-ventilated place.
Store cool

7.3. Specific end use(s)
No information available at present.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A COMPONENT

8.1. Control parameters

GB **Chemical Name**	**Diphenylmethanediisocyanate, isomers and homologues**	**Content %: 10-20**
WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as-NCO))	WEL-STEL:0,07 mg/m3 (Isocyanates, all (as NCO))	----
Monitoring procedures:	----	
BMGV: 1 µmol urinary diamine/mol creatinine in urine (Isocyanate, post task)	Other information: Sen (Isocyanates,all (as-NCO))	
GB **Chemical name**	**Methylenediphenyl diisocyanate, modified**	**Content %: 10-20**
WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as-NCO))	WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as-NCO))	----
Monitoring procedures:	----	
BMGV: 1µmol urinary diamine/mol creatinine in urine (Isocyanate, post task)	Other information: ----	
GB **Chemical Name**	**4,4'-methylenediphenyl diisocyanate**	**Content %: 5-10**
WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as-NCO))	WEL-STEL 0,07 mg/m3 (Isocyanates, all (as- NCO))	----
Monitoring procedures:	ISO 16702 (Workplace air quality-	----

	determination of total isocyanate groups in air using 2-(1-methoxyphenylpiperazine and liquid chromatolography)-2001 MDHS 25/3 (Organic isocyanates in air – Laboratory method using sampling either onto 2-(1-methoxyphenylpiperazine coated glass fibre filters followed by solvent desorption or into impingers and analysis using high performance liquid chromatography) – 1999- EU project BC/CEN/ENTR/000/2002-16 card 7-4 (2004)	
BMGV: 1 µmol urinary diamine/mol creatinine in urine (Isocyanate, post task)	Other information:	Sen (Isocyanates, all (as-NCO))
GB **Chemical Name**	**Talc**	**Content %:**
WEL-TWA: 1 mg/m3 (res. Dust)	WEL-STEL: ----	----
Monitoring procedures: ----		
BMGV: ----		Other information: ----
GB **Chemical Name**	**Silica, amorphous**	**Content %:**
WEL-TWA: 6mg/m3 (total inh. Dust), 2,4 mg/m3 (resp. dust)	WEL-STEL: ----	----
Monitoring procedures:----		
BMGV: ----		Other information: ----

GB - WEL-TWA = Workplace Exposure Limit – Long-term exposure limit (8-hour TWA (=time weighted average) reference period) EH40. AGW= "Arbeitsplatzrenzwert" (workplace limit value, Germany).
(8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/EU). WEL-STEL = Workplace Exposure Limit-Short-term exposure limit (15-minute reference period).
(8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU).
BMGV= Biological monitoring guidance value EH40. BGW= "Biologischer Grenzwert" (biological limit value, Germany).
Other information: Sen=Capable of causing occupational asthma. Sk=Can be absorbed through skin. Carc= Capable of causing cancer and/or heritable genetic damage.
**= The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

8.2. Exposure controls

4,4- methylenediphenyl diisocyanate					
Area of application	**Exposure route/Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**
Consumer	Human-oral	Short term, systemic effects	DNEL	20	Mg/kg Bw/day
Consumer	Human-dermal	Short term,	DNEL	17,2	Mg/cm2

		local effects			
Consumer	Human-dermal	Short term, systemic effects	DNEL	25	Mg/kg Bw/day
Consumer	Human-inhalation	Short term, local effects	DNEL	0,05	Mg/m3
Consumer	Human-inhalation	Short term, systemic effects	DNEL	0,05	Mg/m3
Consumer	Human-inhalation	Long term, local effects	DNEL	0,025	Mg/m3
Consumer	Human-inhalation	Long term, systemic effects	DNEL	0,025	Mg/m3
Workers/employees	Human-dermal	Short term, local effects	DNEL	28,7	Mg/cm2
Workers/employees	Human-dermal	Short term, systemic effects	DNEL	50	Mg/kg Bw/day
Workers/employees	Human-inhalation	Short term, local effects	DNEL	0,1	Mg/m3
Workers/employees	Human-inhalation	Shor term, systemic effects	DNEL	0,1	Mg/m3
Workers/employees	Human-inhalation	Long term, local effects	DNEL	0,05	Mg/m3
Workers/employees	Human-inhalation	Long term, systemic effects	DNEL	0,05	Mg/m3

8.2.1 Appropiate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here. Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques. These are specified by e.g EN 14042. EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable. Wash hands before breaks and at end of work. Keep away from food, drink and animal feedingstuffs. Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection
Tight fitting protective goggles with side protection (EN 166).
Skin protection- Hand protection:
Chemical resistant protective gloves (EN 374).
If applicable
Protective Neoprene® /polychloroprene gloves (EN 374).
Protective nitrile gloves (EN 374)
Protective Viton ® /fluoroelastomer gloves (EN 374)
Minimum layer thickness in mm : >=0,4

Permeation time (penetration time) in minutes:
>=480
The breakthrough times determined in accordance with EN 374 Part 3 were not obtainded under practical conditions. The recommended maximum wearing time is 50% of breakthrough time.
Protective hand cream recommended.
Skin protection-Other:
Protective working garments (e.g safety shoes EN ISO 20345, long-sleeved protective working garments)
Respiratory protection:
Normally not necessary.
If OES or MEL is exceeded.
Filter A2 P2 (EN 14387), code colour brown, white
Observe wearing time limitations for respiratory protection equipment.
Thermal hazards:
Not applicable

Additional information on hand protection – No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents. Selection of materials derived from glove manufacturer's indications. Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account. Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use. The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls
No information available at present.

B COMPONENT

8.1. Control parameters

GB **Chemical Name**	Talc	Content%:
WEL-TWA: 1 mg/m3 (res. dust)	WEL-STEL: ---	----
Monitoring procedures: ----		
BMGV: ----		Other information: ----
GB **Chemical Name**	Silica, amorphous	Content%:
WEL-TWA: 6 mg/m3 (total inh. dust), 2,4 mg/m3 (resp. dust)	WEL-STEL: ---	----
Monitoring procedures:----		
BMGV: ----		Other information:

GB WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

Oxidipropanol						
Area of application	**Exposure route / Environmental compartment**	**Effect on health**	**Descriptor**	**Value**	**Unit**	**Note**
	Environment - freshwater		PNEC	**0,1**	mg/l	
	Environment - Marine		PNEC	**0,01**	mg/l	
	Environment – sporadic (intermittent) release		PNEC	**1**	mg/l	
	Environment – sewage treatment plant		PNEC	**1000**	mg/l	
	Environment – sediment fresh water		PNEC	**0,238**	mg/Kg	
	Environment - Marine		PNEC	**0,0238**	mg/Kg	
	Environment - Soil		PNEC	**0,0253**	mg/Kg	
Consumer	Environment – Oral (animal feed)		PNEC	**313**	mg/Kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	**51**	mg/Kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	**70**	mg/m3	
Consumer	Human: oral	Long term, systemic effects	DNEL	**24**	mg/Kg	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	**84**	mg/Kg	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	**238**	mg/m3	

8.2. Exposure controls

A. Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

A. Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

B. Skin protection – Hand protection:

Chemical resistant protective gloves (EN 374).
If applicable
Protective nitrile gloves (EN 374)
Minimum layer thickness in mm: 0,35
Permeation time (penetration time) in minutes: > 480
The breakthrough times determined in accordance with EN 374 Part 3 were not obtained under practical conditions. The recommended maximum wearing time is 50% of breakthrough time.
Protective hand cream recommended.

C. Skin protection-Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

D. Respiratory protection:

If air supply is not sufficient, wear protective breathing apparatus.
Observe wearing time limitations for respiratory protection equipment.

E. Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

9. PHYSICAL AND CHEMICAL PROPERTIES

A COMPONENT

9.1. Information on Basic physical and chemical properties

Physical state	Pastelike, Liquid
Colour	Black
Odour	Slightly
Odour threshold	Not determined
pH-value	n.a
Melting point/freezing point	Not determined
Initial boiling point and boiling range	Not determined
Flash point	Not determined
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Lower explosive limit	Not determined
Upper explosive limit	Not determined
Vapour pressure	Not determined
Vapour density (air=1)	Not determined
Density	1,28 g/cm3
Bulk density	n.a
Solubility(ies)	Not determined
Water solubility	Insoluble
Partition coefficient (n-octanol/water)	Not determined
Auto-ignition temperature	Not determined
Decomposition temperature	Not determined
Viscosity	~600000 mPas (Thixotrope)
Explosive properties	Product is not explosive
Oxidising properties	No

9.2. Other information

Miscibility:	Not determined
Fat solubility/solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

B COMPONENT

9.1. Information on Basic physical and chemical properties

Physical state	Paste, Liquid
Colour	White
Odour	Slightly
Odour threshold	Not determined
pH-value	Not determined
Melting point/freezing point	Not determined
Initial boiling point and boiling range	Not determined
Flash point	Not determined
Evaportaion rate	Not determined
Flammability (solid, gas)	n.a.
Lower explosive limit	Not determined
Upper explosive limit	Not determined
Vapour pressure	Not determined
Vapour density (air=1)	Not determined
Density	1,21 g/ml
Bulk density	n.a.
Solubility(ies)	Not determined
Water solubility	Insoluble
Partition coefficient (n-octanol/water)	Not determined
Auto-ignition temperature	Not determined
Decomposition temperature	Not determined
Viscosity	50000 mPas
Explosive properties	Product is not explosive
Oxidising properties	No

9.2. Other information

Miscibility:	Not determined
Fat solubility/solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

10. STABILITY AND REACTIVITY

A COMPONENT

10.1. Reactivity

Reacts with water

10.2. Chemical stability

Stable with proper storage and handling.

10.3. Possibility of hazardous reactions
Exothermic reaction possible with:
Alcohols
Amines
Bases
Acids
Water
Development of: Carbon dioxide
CO2 formation in closed tanks causes pressure to rise
Pressure increase will result in danger of bursting

10.4. Conditions to avoid
Protect from humidity. Polymerisation due to high heat is possible.

10.5. Incompatible materials
Acids, bases, amines, alcohols, water

10.6. Hazardous decomposition products
No decomposition when used as directed.

B COMPONENT

10.1. Reactivity
The product has not been tested.
10.2. Chemical stability
Stable with proper storage and handling.
10.3. Possibility of hazardous reactions
No dangerous reactions are known.
10.4. Conditions to avoid
See also section 7
None known
10.5. Incompatible materials
See also section 7.
Avoid contact with strong oxidizing agents.
Avoid contact with strong acids.
10.6. Hazardous decomposition products
See also section 5.2. No decomposition when used as directed.

11. TOXICOLOGICAL INFORMATION

A COMPONENT

11.1 Information on toxicological effects

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a
Acute toxicity, by derma route:						n.d.a
Acute toxicity, by inhalation	ATE	4,29	Mg/l/4 h			Calculated value, aerosol
Acute toxicity, by inhalation	ATE	31,47	Mg/l/4 h			Calculated value, vapours

Skin corrosion/irritation						n.d.a
Serious eye damage/irritation						n.d.a
Respiratory or skin sensitization						n.d.a
Germ cell mutagenicity						n.d.a
Carcinogenicity						n.d.a
Reproductive toxicity						n.d.a
Specific target organ toxicity – repeated exposure (STOT SE)						n.d.a
Specific target organ toxicity – repeated exposure (STOT RE)						n.d.a
Aspiration hazard						n.d.a
Symptoms						n.d.a
Diphenylmethanediisocyanate, isomers and homologues						
Toxicity/effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route:	LD50	>5000	Mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route	LD50	>5000	Mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation	LC50	0,31	Mg/l/4 h	Rat	OECD 403 (Acute Inhalation Toxicity)	Aerosol, Does not conform with EU classification
Skin corrosion/irritation				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion))	Irritant
Serious eye damage/irritation				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Irritant, Analogous conclusion
Respiratory or skin sensitization				Guinea pig		Yes (inhalation)
Respiratory or skin sensitization				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Sensitising, Analogous conclusion
Germ cell mutagenicity				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Carcinogenicity				Rat	OECD 453	Aerosol, Limited

					(Combined Chronic Toxicity /Carcinogenicity Studies)	evidence of a carcinogenic effect
Reproductive toxicity	NOAEL	4	Mg/m3	Rat	OECD 414 (Prenatal Development Toxicity Study)	Aerosol, negative
Specific target organ toxicity – repeated exposure (STOT-RE)	LOAEL	1		Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol Analogous conclusion
Specific target organ toxicity- repeated exposure (STOT-RE)	NOAEL	0,2		Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, analogous conclusion
Aspiration hazard						Negative
Specific target organ toxicity-single exposure (STOT-SE). inhalative						Target organ(s): respiratory system, May cause respiratory irritation
Specific target organ toxicity- repeated exposure (STOT-RE), INHALAT						Target organ(s): respiratory system, Positive
Methylenediphenyl diisocyanate, modified						
Toxicity/effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route	LD50	>5000	Mg/kg	Rat		
Acute toxicity, by dermal route	LD50	>9400	Mg/kg	Rabbit		
Acute toxicity, by inhalation	LC50	0,49	Mg/l/4 h	Rat		Aerosol, Does not conform with EU classification
Skin corrosion/irritation				Rabbit	OECD 404 (Acute dermal irritation/corrosion)	Irritant
Serious eye damage/irritation				Rabbit	OECD 405 (Acute Eye	Irritant

					Irritation/Corrosion)	
Respiratory or skin sensitization				Guinea pig	OECD 406 (Skin sensitization)	Sentisitising (inhalation and skin contact)
Gem cell mutagenicity					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Aspiration hazard:						No
Symptoms:						Watering eyes, breathing difficulties, asthmatic, symptoms, coughing
Specific target organ toxicity-single exposure (STOT-SE), inhalative						Irritation of the respiratory tract
4,4'-methylenediphenyl diisocyanate						
Toxicity/effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route	LD50	>2000	Mg/kg	Rat		Analogous conclusion Richlinie 84/449/EWG,B 1
Acute toxicity, by dermal route	LD50	>9400	Mg/kg	Rabbit	OECD 402 (Acute dermal toxicity)	Analogous conclusion
Acute toxicity, by inhalation	LC50	0,368	Mg/l/4 h	Rat	OECD 403 (Acute Inhalation toxicity)	Analogous conclusion. Prüfatmosphäre: Staub/Nebel
Skin corrosion/irritation				Rabbit	OECD 404 (Acute dermal irritation/corrosion)	Irritant, analogous conclusion
Serious eye damage/irritation				Rabbit	OECD 405 (Acute eye irritation/corrosion)	Not irritant, analogous conclusion
Respiratory or skin sensitization				Mouse	OECD 429 (Skin Sensitisation – Local Lymph Node Assay)	Positive Sensibilisierung durch Hautkontakt möglich
Respiratory or skin				Guinea	OECD 406	Negative

sensitisation				pig	(Skin sensitisation)	Verursacht keine Hautsensibilisierung
Germ cell mutagenicity				Rat	In vivo	Negative
Germ cell mutagenicity				Salmonella typhimurium	In vitro	Negative, analogous conclusion
Carcinogenicity				Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Studies on carcinogeneric effects in animal experiments. Analogous conclusion"
Reproductive toxicity	NOAEL	4	Mg/m3	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Analogous conclusion, Aerosol
Reproductive toxicity (Developmental toxicity)	NOAEL	0,004	Mg/l	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Analogous conclusion, Aerosol
Reproductive toxicity (Effects on fertility)	NOAEL	12		Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Analogous conclusion, Aerosol
Specific target organ toxicity- single exposure (STOT-SE) INHALATIVE						May cause respiratory irritation
Specific target organ toxicity-repeated exposure (STOT-RE), inhalat						Target organ(s): respiratory system, Acute Tox.4
Specific target organ toxicity-repeated exposure (STOT-RE), inhalat	LOAEL	1	Mg/m3	Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Target organ(s): respiratory system, irritation of the respiratory tract, Aerosol, Analogous conclusion Expositionsdauer:2a

Specific target organ toxicity-repeated exposure (STOT-RE), inhalat:	NOAEL	0,2	Mg/m3	Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Target organ(s): respiratory system, irritation of the respiratory tract. Aerosol, Analogous conclusion Expositionsdauer:2a
Talc						
Toxicity/effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Skin corrosion/irritation						Not irritant
Serious eye damage/irritation						Not irritant
Respiratory or skin sensitization						Not sensitizising
Germ cell mutagenicity						Negative
Carcinogenicity						Negative
Reproductive toxicity				Rat		Negative
Symptoms						Mucous membrane irritation
Silica, amorphous						
Toxicity/effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Acute toxicity, by oral route	LD50	>5000	Mg/kg	Rat		
Acute toxicity, by oral route	LD50	>1000	Mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	Maximum achievable concentration.
Acute toxicity, by dermal route	LD50	>2000	Mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation	LC50	>0,691	Mg/l/4 h	Rat		
Skin corrosion/irritation				Rabbit	OECD 404 (Acute dermal irritation/corrosion)	Not irritant
Serious eye damage / irritation				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion(	Nor irritant
Germ cell mutagenicity					OECD 471 (Bacterial Reverse Mutation Test)	Negative

B COMPONENT

11.1 Information on toxicological effects

Toxicity/effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route						Calculated value
Acute toxicity, by dermal route:	ATE	>2000	Mg/kg			Calculated value
Acute toxicity, by inhalation:	ATE	>20	Mg/l/4 h			Calculated value, vapours
Acute toxicity, by inhalation:	ATE	>5	Mg/l/4 h			Calculated value, aerosol
Skin corrosion/irritation:						n.d.a
Serious eye damage/irritation:						n.d.a
Respiratory or skin sensitisation:						n.d.a
Germ cell mutagenicity:						n.d.a
Carcinogenicity:						n.d.a
Reproductive toxicity:						n.d.a
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a
Specific target organ toxicity - repeated exposure (STOTRE):						n.d.a
Aspiration hazard:						n.d.a
Symptoms						n.d.a
Talc						
Toxicity/effect	**Endpoint**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Skin corrosion/irritation						Not irritant
Serious eye damage/irritation						Not irritant
Respiratory or skin sensitization						Not sensitizising
Germ cell mutagenicity						Negative
Carcinogenicity						Negative
Reproductive toxicity				Rat		Negative
Symptoms						Mucous membrane irritation
Silica, amorphous						
Acute toxicity, by oral route	LD50	>5000	Mg/kg	Rat		
Acute toxicity, by dermal route	LD50	>2000	Mg/kg	Rat	OECD 402 (Acute Dermal	

					Toxicity)	
Acute toxicity, by inhalation	LC50	>0,691	Mg/l/4 h	Rat		
Skin corrosion/irritation					OECD 404 (Acute dermal Irritation/ Corrosion	Not irritant
Serious eye damage/irritation						Not irritant
Germ cell mutagenicity					OECD 471 (Bacterial Reverse Mutation Test)	Negative

12. ECOLOGICAL INFORMATION

A COMPONENT

Toxicity to fish	n.d.a
Toxicity to daphnia	n.d.a
Toxicity to algae	n.d.a
Persistence and degradability	With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (polycarbamide). According to experience available to date, polycarbamide is inert and non-degradable.
Bioaccumulative potential	n.d.a
Mobility in soil	n.d.a
Results of PBT and vPvB assessment	n.d.a
Other adverse effects	n.d.a

Diphenylmethanediisocyanate, isomers and homologues							
Toxicity/effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Toxicity to fish	LC50	96h	>1000	Mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
Toxicity to daphnia	EC50	24H	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to daphnia	NOEC/NOEL	21d	>10	Mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	
Toxicity to algae	ErC50	72h	>1640	Mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth inhibition test)	
Persistence and degradability		28 d	0	%	Activated sludge	OECD 302C (Inherent Biodegradability- Modified MITI Test (II)	Not readily biodegradable

Bioaccumulative potential	BCF	42d	<14		Cyprinus caprio	OECD 305 (Bioconcentration-Flow-Through Fish test)	No significant biodegradation is expected.
Results of PBT and vPvB assessment							Negative
Toxicity to bacteria	EC50	3h	>100	Mg/l	Activated sludge	OECD 209 (Activated Sludgee, Respiration Inhibition Test (Carbon and ammonium oxidation))	
Toxicity to annelids	NOEC/NOEL	14d	>1000	Mg/kg	Lumbriucus terrestris	OECD 207 (Earthworm, acute toxicity tests)	
Methylenediphenyl diisocyanate, modified							
Toxicity to fish	LC50	96H	>1000	Mg/l		OECD 203 (Fish, acute toxicity test)	
Toxicity to daphnia	NOEC/NOEL	21d	>10	Mg/l	Daphnia magna	OECD 211 (Daphnia magna reproduction test)	
Toxicity to algae	EC50	72h	>1640	Mg/l		OECD 201 (Alga, growth inhibition test)	
Persistence and degradability		28d	0	%		OECD 302 C (Inherent Biodegradability-Modified MITI Test (II))	Not biodegradable
Bioaccumulative potential	BCF		200				High
Toxicity to bacteria	EC50	3h	>100	Mg/l		OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Other information	AOX						Contains organically bound halogens, which may contribute to the AOX value in wastewater.
4,4'-methylenediphenyl diisocyanate							
Toxicity to fish	LC50	96h	>1000	Mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
Toxicity to daphnia	EC50	24h	>1000	Mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion

Toxicity to daphnia	NOEC/NOEL	21 D	>10	Mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
Toxicity to algae	ErC50	72h	>1640	Mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion
Persistence and degradability		28d	0	%		OECD 302 C (Inherent Biodegradability- Modified MITI Test (II))	Analogous conclusion
Bioaccumulative potential	BCF	28d	0,00008		Cyprinus caprio	OECD 305 (Bioconcentration- Flow-Through Fish Test)	
Toxicity to bacteria	EC50	3h	>100	Mg/l	Activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	Analogous conclusion
Toxicity to annelids	NOEC/NOEL	14d	>1000	Mg/kg	Lumbricus terrestris	OECD 207 (Earthworm, Acute Toxicity Tests)	Analogous conclusion
Water solubility							According to experience available to date, polycarbamide is inert and non-degradable. With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (polycarbamide)
Talc							
Toxicity/effect	**Endpoint**	**Time**	**Value**	**Unit**	**Organism**	**Test method**	**Notes**
Water solubility			<0,1	%			
Silica, amorphous							
Toxicity to fish	LC50	96h	>10000	Mg/l	Brachydanio rerio	OECD 203 (Fish, acute toxicity test)	
Persistence and degradability							Not biodegradable

B COMPONENT

Toxicity/effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
Toxicity to fish							n.d.a
Toxicity to daphnia							n.d.a
Toxicity to algae							n.d.a
Persistence and degradability							n.d.a
Bioaccumulative potential							n.d.a
Mobility in soil							n.d.a
Results of PBT and vPvB assessment							n.d.a
Other adverse effects							n.d.a
Other information							According to the recipe, contains no AOX.
Talc							
Water solubility			<0,1	%			

13. DISPOSAL CONSIDERATIONS

A COMPONENT

13.1. Waste treatment methods
EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
08 04 09 waste adhesives and sealants containing organic solvents or other hazardous substances
08 05 01 waste isocyanates
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant.
Hardened product:
E.g. dispose at suitable refuse site.
For contaminated packing material
Pay attention to local and national official regulations.
Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.
15 01 10 packaging containing residues of or contaminated by hazardous substances

B COMPONENT

13.1. Waste treatment methods
For the substance / mixture / residual amounts:
EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant.
E.g. dispose at suitable refuse site
For contaminated packing material:
Pay attention to local and national official regulations.
Empty container completely.
Uncontaminated packaging can be recycled.

14. TRANSPORT INFORMATION

A COMPONENT

General statements

14.1. UN number:	n.a.

Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:	
14.3. Transport hazard class(es):	n.a.
14.4. Packing group:	n.a.
Classification code:	n.a.
LQ:	n.a.
14.5. Environmental hazards:	Not applicable
Tunnel restriction code:	

Transport by sea (IMDG-code)

14.2. UN proper shipping name:	
14.3. Transport hazard class(es):	n.a.
14.4. Packing group:	n.a.
Marine Pollutant:	n.a
14.5. Environmental hazards:	Not applicable

Transport by air (IATA)

14.2. UN proper shipping name:	
14.3. Transport hazard class(es):	n.a.
14.4. Packing group:	n.a.
14.5. Environmental hazards:	Not applicable

14.6. Special precautions for user
Unless specified otherwise, general measures for safe transport must be followed.
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
Non-dangerous material according to Transport Regulations.

B COMPONENT

General statements

14.1. UN number:	n.a.

Transport by road/by rail (ADR/RID)

UN proper shipping name:	
Transport hazar class(es):	n.a
Packing group:	n.a
Classification code:	n.a
LQ (ADR 2015):	n.a
Environmental hazards	Not applicable

Tunnel restriction code:

Transport by sea (IMDG-code)

UN proper shipping name

Transport hazard class(es):	n.a
Packing group:	n.a.
Marine pollutant:	n.a.
Environmental hazards:	Not applicable

Transport by air (IATA):

UN proper shipping name:

Transport hazard class(es):	n.a.
Packing group:	n.a.
Environmental hazards:	Not applicable

14.6. Special precautions for user

Unless specified otherwise, general measures for safe transport must be followed.

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

Non-dangerous material according to Transport Regulations.

15. REGULATORY INFORMATION

A COMPONENT

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

Observe restrictions:

Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!

Regulation (EC) No 1907/2006, Annex XVII

4,4'-methylenediphenyl diisocyanate

Diphenylmethanediisocyanate, isomeres and homologues

Methylenediphenyl diisocyanate, modified

Comply with trade association/occupational health regulations.

Directive 2010/75/EU (VOC): 0 %

15.2. Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

B COMPONENT

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

For classification and labelling see Section 2.

Observe restrictions:

General hygiene measures for the handling of chemicals are applicable.

Directive 2010/75/EU (VOC): 5,99 %

15.2. Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

16. OTHER INFORMATION

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A COMPONENT

Revised sections: 4, 11, 12, 15

These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Acute Tox. 4, H332	Classification according to calculation procedure.
Eye Irrit. 2, H319	Classification according to calculation procedure.
STOT SE 3, H335	Classification according to calculation procedure.
Skin Irrit. 2, H315	Classification according to calculation procedure.
Resp. Sens. 1, H334	Classification according to calculation procedure.
Skin Sens. 1, H317	Classification according to calculation procedure.
Carc. 2, H351	Classification according to calculation procedure.
STOT RE 2, H373	Classification according to calculation procedure.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).
H373 May cause damage to organs through prolonged or repeated exposure by inhalation.
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.

Acute Tox. — Acute toxicity - inhalation
Eye Irrit. — Eye irritation
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
Skin Irrit. — Skin irritation
Resp. Sens. — Respiratory sensitization
Skin Sens. — Skin sensitization
Carc. — Carcinogenicity
STOT RE — Specific target organ toxicity - repeated exposure

16.2 Abbreviations and acronyms
AC Article Categories
acc., acc. to according, according to
ACGIH American Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Absorbable organic halogen compounds
approx.approximately
Art., Art. no. Article number
ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
BMGV Biological monitoring guidance value (EH40, UK)
BOD Biochemical oxygen demand
BSEF Bromine Science and Environmental Forum
bw body weight
CAS Chemical Abstracts Service
CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC Collaborative International Pesticides Analytical Council
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
COD Chemical oxygen demand
CTFA Cosmetic, Toiletry, and Fragrance Association
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
DT50 Dwell Time - 50% reduction of start concentration
DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
EEA European Economic Area
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
ERC Environmental Release Categories
ES Exposure scenario
etc. etcetera
EU European Union
EWC European Waste Catalogue
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
HET-CAM Hen's Egg Test - Chorionallantoic Membrane
HGWP Halocarbon Global Warming Potential
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Container.
IBC (Code) International Bulk Chemical (Code)
IC Inhibitory concentration

IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform ChemicaL Information Database
LC lethal concentration
LC50 lethal concentration 50 percent kill
LCLo lowest published lethal concentration
LD Lethal Dose of a chemical
LD50 Lethal Dose, 50% kill
LDLo Lethal Dose Low
LOAEL Lowest Observed Adverse Effect Level
LOEC Lowest Observed Effect Concentration
LOEL Lowest Observed Effect Level
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America)
NOAEC No Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level
NOEC No Observed Effect Concentration
NOEL No Observed Effect Level
ODP Ozone Depletion Potential
OECD Organisation for Economic Co-operation and Development
org. organic
PAH polycyclic aromatic hydrocarbon
PBT persistent, bioaccumulative and toxic
PC Chemical product category
PE Polyethylene
PNEC Predicted No Effect Concentration
POCP Photochemical ozone creation potential
Ppm parts per million
PROC Process category
PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via
REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SADT Self-Accelerating Decomposition Temperature
SAR Structure Activity Relationship
SU Sector of use
SVHC Substances of Very High Concern
Tel. Telephone
ThOD Theoretical oxygen demand
TOC Total organic carbon
TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period)
(EH40, UK).
WHO World Health Organization
Wwt wet weight

B COMPONENT

16.1. Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

16.2 Any abbreviations and acronyms used in this document:

AC Article Categories
acc., acc. to according, according to
ACGIH American Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
BMGV Biological monitoring guidance value (EH40, UK)
BOD Biochemical oxygen demand
BSEF Bromine Science and Environmental Forum
bw body weight
CAS Chemical Abstracts Service
CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC Collaborative International Pesticides Analytical Council
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
COD Chemical oxygen demand
CTFA Cosmetic, Toiletry, and Fragrance Association
DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level
DOC Dissolved organic carbon
DT50 Dwell Time - 50% reduction of start concentration
DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
EEA European Economic Area
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
ERC Environmental Release Categories
ES Exposure scenario
etc. etcetera
EU European Union
EWC European Waste Catalogue
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
HET-CAM Hen's Egg Test - Chorionallantoic Membrane
HGWP Halocarbon Global Warming Potential
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Container
IBC (Code) International Bulk Chemical (Code)
IC Inhibitory concentration
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform ChemicaL Information Database
LC lethal concentration
LC50 lethal concentration 50 percent kill
LCLo lowest published lethal concentration
LD Lethal Dose of a chemical
LD50 Lethal Dose, 50% kill
LDLo Lethal Dose Low
LOAEL Lowest Observed Adverse Effect Level
LOEC Lowest Observed Effect Concentration
LOEL Lowest Observed Effect Level
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
NIOSH National Institute of Occupational Safety and Health (United States of America)
NOAEC No Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level
NOEC No Observed Effect Concentration

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NOEL No Observed Effect Level
ODP Ozone Depletion Potential
OECD Organisation for Economic Co-operation and Development
org. organic
PAH polycyclic aromatic hydrocarbon
PBT persistent, bioaccumulative and toxic
PC Chemical product category
PE Polyethylene
PNEC Predicted No Effect Concentration
POCP Photochemical ozone creation potential
ppm parts per million
PROC Process category
PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
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REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SADT Self-Accelerating Decomposition Temperature
SAR Structure Activity Relationship
SU Sector of use
SVHC Substances of Very High Concern
Tel. Telephone
ThOD Theoretical oxygen demand
TOC Total organic carbon
TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period)
(EH40, UK).
WHO World Health Organization
Wwt wet weight