

Page 1 of 20

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 05.02.2018 / 0002

Replacing version dated / version: 15.02.2017 / 0001

Valid from: 05.02.2018

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PU Bond 30 Sec / PU Bond 90 Sec / PU Bond 210 Sec

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

1.1 Product identifier

PU Bond 30 Sec/ PU Bond 90 Sec/ PU Bond 210 Sec Part A

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

Relevant identified uses of the substance or mixture:

Adhesive

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

Central Solutions (GB) Ltd, Sol-X House, Windmill Lane,
Norton, DN6 9AT, Phone:+ 44 (0)1302 708895

Qualified person's e-mail address: info@solxsolutions.com

1.4 Emergency telephone number

Emergency information services / official advisory body:

Telephone number of the company in case of emergencies:

+ 44 (0)1302 708895 (9:00 - 17:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (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

Labeling according to Regulation (EC) 1272/2008 (CLP)

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 05.02.2018 / 0002

Replacing version dated / version: 15.02.2017 / 0001

Valid from: 05.02.2018

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PU Bond 30 Sec / PU Bond 90 Sec / PU Bond 210 Sec



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 an allergic skin reaction. 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 vapours 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, isomeres 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 %).

SECTION 3: Composition/information on ingredients

3.1 Substance

n.a.

3.2 Mixture

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 tract) (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.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!

Never pour anything into the mouth of an unconscious person!

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.

Skin 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

Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water - call doctor immediately, have Data Sheet available.

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.

SECTION 5: Firefighting measures

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 respirator 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.

SECTION 6: Accidental release measures

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.

Page 5 of 20
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 05.02.2018 / 0002
 Replacing version dated / version: 15.02.2017 / 0001
 Valid from: 05.02.2018
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 PU Bond 30 Sec/ PU Bond 90 Sec/ PU Bond 210 Sec

Do not close packing drum.
 CO2 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.

SECTION 7: Handling and storage

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 vapours.
 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 und 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 unauthorised 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 50°C.
 Store at room temperature.
 Store in a dry place.

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Chemical Name	Diphenylmethanediisocyanate, isomeres 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, posttask)	Other information: Sen (Isocyanates, all (as - NCO))		

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: 1 µmol urinary diamine/mol creatinine in urine (Isocyanate, post task)	Other information: ---		

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-methoxyphenyl)piperazine and liquid chromatography) - 2001			

MDHS 25/3 (Organic isocyanates in air – Laboratory method using sampling either onto 2-(1- methoxyphenyl)piperazine 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))

Ⓢ Chemical Name	Talc	Content %:
WEL-TWA: 1 mg/m3 (res. dust)	WEL-STEL: ---	---
Monitoring procedures: ---		
BMGV: ---	Other information: ---	

Ⓢ 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: ---	

Ⓢ WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (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	Note
Consumer	Human - oral	Short term, systemic effects	DNEL	20	mg/kg bw/day	
Consumer	Human - dermal	Short term, local effects	DNEL	17,2	mg/cm2	
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	Short 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	

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 05.02.2018 / 0002

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PU Bond 30 Sec/ PU Bond 90 Sec/ PU Bond 210 Sec

8.2.1 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.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. BS EN 14042.

BS 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 obtained 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.

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 05.02.2018 / 0002

Replacing version dated / version: 15.02.2017 / 0001

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PDF print date: 05.02.2018

PU Bond 30 Sec/ PU Bond 90 Sec/ PU Bond 210 Sec

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/cm ³
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:	~60000 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

SECTION 10: Stability and reactivity

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.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

PLASTGRIP 30 IK / PLASTGRIP 90 IK / PLASTGRIP 210 IK

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:	ATE	4,29	mg/l/4h			calculated value, Aerosol
Acute toxicity, by inhalation:	ATE	31,47	mg/l/4h			calculated value, Vapours
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 (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Diphenylmethanediisocyanate, isomeres 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/4h	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 sensitisation:				Guinea pig		Yes (inhalation)
Respiratory or skin sensitisation:				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 (Combined Chronic Toxicity/Carcinogenicity Studies)	Aerosol, Limited evidence of a carcinogenic effect.

Reproductive toxicity:	NOAEL	4	mg/m3	Rat	OECD 414 (Prenatal Developmental 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/4h	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 Irritation/Corrosion)	Irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Sensitising (inhalation and skin contact)
Germ 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
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Page 11 of 20
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 05.02.2018 / 0002
 Replacing version dated / version: 15.02.2017 / 0001
 Valid from: 05.02.2018
 PDF print date: 05.02.2018
PU Bond 30 Sec/ PU Bond 90 Sec/ PU Bond 210 Sec

Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat		Analogous conclusion Richtlinie 84/449/EWG, B1
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/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Analogous conclusion Prüfatmosfera: 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 sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	Negative Verursacht keine Hautsensibilisierung
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	Positive Sensibilisierung durch Hautkontakt möglich
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 carcinogenic 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

Page 12 of 20
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 05.02.2018 / 0002
 Replacing version dated / version: 15.02.2017 / 0001
 Valid from: 05.02.2018
 PDF print date: 05.02.2018
 PU Bond 30 Sec/ PU Bond 90 Sec/ PU Bond 210 Sec

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 conclusionExpositionsdauer: 2 a
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 conclusionExpositionsdauer: 2 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 sensitisation:						Not sensitizing
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/4h	Rat		
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Serious eye damage/irritation:				Rabbit	OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

PLASTGRIP 30 IK / PLASTGRIP 90 IK / PLASTGRIP 210 IK

Toxicity to bacteria:	EC50	3h	>100	mg/l	activated sludge	OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))	
Toxicity to annelids:	NOEC/NOEL	14d	>1000	mg/kg	Lumbricus terrestris	OECD 207 (Earthworm, Acute Toxicity Tests)	

Methylenediphenyl diisocyanate, modified

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l		OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	>10	mg/l	Daphnia magna	OECD 211 (Daphnia magna Reproduction Test)	
12.1. Toxicity to algae:	EC50	72h	>1640	mg/l		OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	0	%		OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	Not biodegradable
12.3. 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 / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	Analogous conclusion
12.1. Toxicity to daphnia:	EC50	24h	> 1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion

Page 15 of 20
 Safety data sheet according to Regulation (EC) No 1907/2006, Annex II
 Revision date / version: 05.02.2018 / 0002
 Replacing version dated / version: 15.02.2017 / 0001
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 PDF print date: 05.02.2018
 PU Bond 30 Sec/ PU Bond 90 Sec/ PU Bond 210 Sec

12.1. Toxicity to daphnia:	NOEC/NOEL	21d	> 10	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	Analogous conclusion
12.1. Toxicity to algae:	ErC50	72h	> 1640	mg/l	Scenedesmus subspicatus	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion
12.2. Persistence and degradability:		28d	0	%		OECD 302 C (Inherent Biodegradability - Modified MITI Test (II))	Analogous conclusion
12.3. 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 / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	>10000	mg/l	Brachydanio rerio	OECD 203 (Fish, Acute Toxicity Test)	
12.2. Persistence and degradability:							Not biodegradable

SECTION 13: Disposal considerations

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 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

SECTION 14: Transport information

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.

SECTION 15: Regulatory information

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.

SECTION 16: Other information

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

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. et cetera

EU European Union

EWG 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

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.