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H351 Suspected of causing cancer.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
 P501 Dispose of contents/container to in accordance with local and national regulations.

Special labelling of certain mixtures

EUH204 Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Adhesive of polyurethane

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
5873-54-1	Diphenylmethane-2,4'-diisocyanate			1 - < 5 %
	227-534-9	615-005-00-9	01-2119480143-45	
	Carc. 2, Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, STOT SE 3, STOT RE 2; H351 H332 H315 H319 H334 H317 H335 H373			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated soaked clothing immediately.
 In the event of persistent symptoms receive medical treatment.

After inhalation

Ensure of fresh air.
 Consult a physician.
 In case of the person being unconscious put him/her in a stable side position.

After contact with skin

Wash off immediately with plenty of water for at least 15 minutes.
 After contact with molten product, cool skin area rapidly with cold water.
 Do not take off solidified product from skin.
 Consult a physician.

After contact with eyes

Rinse thoroughly with plenty of water, also under the eyelids.
 Consult a physician.

After ingestion

In the event of persistent symptoms receive medical treatment.



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

Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.

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

Treat symptoms.
Symptoms of poisoning may not occur for hours, therefore medical supervision for at least 48 hours necessary.

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

carbon dioxide (CO₂), Dry powder, water spray jet.
Use in case of large fire: water spray jet, Alcohol-resistant foam.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Fire may produce: carbon dioxide (CO₂), Carbon monoxide (CO), nitrous oxides (NO_x), Hydrogen cyanide (HCN).
In case of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.
Cool containers at risk with water spray jet.

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

Use personal protective clothing.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/ground water.
Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Allow to solidify.
Take up mechanically and collect in suitable container for disposal.

6.4. Reference to other sections

Information for safe handling look up section 7.
Information for personal protective equipment look up chapter 8.
Information for disposal see section 13.

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

Care for suitable extraction / ventilation at processing machines.
Store in cool, dry place in tightly closed containers.
When using do not eat, drink or smoke.
Use only in thoroughly ventilated areas.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

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Requirements for storage rooms and vessels

Keep containers tightly closed in a cool, well-ventilated place.
Keep in a dry place.

Further information on storage conditions

Protect from atmospheric moisture and water.
Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
5873-54-1	Diphenylmethane-2,4'-diisocyanate			
Worker DNEL, acute		dermal	systemic	50 mg/kg bw/day
Worker DNEL, acute		inhalation	systemic	0,1 mg/m ³
Worker DNEL, acute		dermal	local	28,7 mg/cm ²
Worker DNEL, acute		inhalation	local	0,1 mg/m ³
Worker DNEL, long-term		dermal	systemic	0 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	0,05 mg/m ³
Worker DNEL, long-term		dermal	local	0 mg/cm ²
Consumer DNEL, acute		dermal	systemic	25 mg/kg bw/day
Consumer DNEL, acute		inhalation	systemic	0,05 mg/m ³
Consumer DNEL, acute		oral	systemic	20 mg/kg bw/day
Consumer DNEL, acute		dermal	local	17,2 mg/cm ²
Consumer DNEL, long-term		dermal	local	0 mg/cm ²
Consumer DNEL, long-term		dermal	systemic	0 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,025 mg/m ³
Consumer DNEL, long-term		oral	systemic	0 mg/kg bw/day
Consumer DNEL, long-term		inhalation	local	0,025 mg/m ³
Worker DNEL, long-term		inhalation	local	0,05 mg/m ³

PNEC values

CAS No	Substance	Value
5873-54-1	Diphenylmethane-2,4'-diisocyanate	
Freshwater		> 1 mg/l
Marine water		> 0,1 mg/l
Micro-organisms in sewage treatment plants (STP)		> 1 mg/l
Soil		> 1 mg/kg

Additional advice on limit values

No data available



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8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Protective and hygiene measures

Handle in accordance with good industrial hygiene and safety practices.

Keep away from food, drink and animal feeding stuffs.

Remove contaminated soaked clothing immediately.

Wash hands before breaks and immediately after handling the product.

Clean contaminated clothes by vacuuming them, do not scrub or brush them.

Melt: Avoid contact with the skin.

When using do not eat, drink or smoke.

Do not inhale gases/vapours/aerosols.

Eye/face protection

Tightly fitting goggles (EN 166).

Hand protection

Protective gloves (EN 374): leather, Thick fabric.

When handling hot melt, wear heat-proof protective gloves.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Skin protection

Long sleeved clothing (DIN EN ISO 6530)

Respiratory protection

Use suitable breathing apparatus if there is inadequate ventilation. (A/B/P2)

Use protective face mask (EN 149).

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Solid
Colour:	according to product specification
Odour:	characteristic
pH-Value:	Not applicable.

Changes in the physical state

Melting point:	Not determined.
Initial boiling point and boiling range:	> 230 °C
Flash point:	> 200 °C
Sustaining combustion:	No data available

Flammability

Solid:	Not determined.
Gas:	Not determined.

Explosive properties

The product is not explosive.

Lower explosion limits:	Not determined.
Upper explosion limits:	Not determined.
Ignition temperature:	345 °C

Auto-ignition temperature

Solid: The product is not self-igniting



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Gas: The product is not self-igniting
 Decomposition temperature: > 220 °C

Oxidizing properties

No information available.

Vapour pressure: (at 20 °C) 0 hPa

Density (at 20 °C): 1,3 g/cm³

Water solubility: insoluble

Solubility in other solvents

No information available.

Partition coefficient: Not determined.

Viscosity / dynamic: Not applicable.

Viscosity / kinematic: Not applicable.

Vapour density: Not applicable.

Evaporation rate: Not applicable.

Solvent content: Organic solvent: 0,0%

9.2. Other information

Solid content: 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

No decomposition if used as directed.
 To avoid thermal decomposition, do not overheat.

10.3. Possibility of hazardous reactions

If product is heated above decomposition temperature toxic vapours may be released.
 Reactions with water.
 Reacts with: Humid air.

10.4. Conditions to avoid

To avoid thermal decomposition, do not overheat.

10.5. Incompatible materials

Reacts with: Water, Humid air.

10.6. Hazardous decomposition products

nitrous oxides (NOx), Hydrogen cyanide (HCN), Isocyanates, Carbon monoxide (CO), carbon dioxide (CO₂).
 Risk of formation of toxic pyrolysis products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if inhaled.



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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
5873-54-1	Diphenylmethane-2,4'-diisocyanate				
	oral	LD50 > 2000 mg/kg	Rat	OECD 401	
	dermal	LD50 > 9400 mg/kg	Rabbit	OECD 404	
	inhalation vapour	ATE 11 mg/l			
	inhalation (4 h) aerosol	LC50 0,31 mg/l	Rat	OECD 403	

Irritation and corrosivity

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

Sensitising effects

Contains isocyanates. May produce an allergic reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Diphenylmethane-2,4'-diisocyanate)

May cause an allergic skin reaction. (Diphenylmethane-2,4'-diisocyanate)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (Diphenylmethane-2,4'-diisocyanate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Additional information on tests

Classification in compliance with the assessment procedure specified in the Regulation (EC) no 1272/2008.

SECTION 12: Ecological information

12.1. Toxicity

The product has not been tested.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
5873-54-1	Diphenylmethane-2,4'-diisocyanate					
	Acute fish toxicity	LC50 > 1000 mg/l	96 h	Brachydanio rerio	OECD 203	
	Acute algae toxicity	ErC50 > 1640 mg/l	72 h	Scenedesmus subspicatus	OECD 201	
	Acute crustacea toxicity	EC50 > 1000 mg/l	48 h	Daphnia magna	OECD 202	
	Acute bacteria toxicity	(> 100 mg/l)	3 h	Activated sludge	OECD 209	

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available



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12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6. Other adverse effects

Low hazard to waters.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Where possible recycling is preferred to disposal.

Waste disposal according to local regulations.

List of Wastes Code - residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

200128 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); paint, inks, adhesives and resins other than those mentioned in 20 01 27

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

Untampered packaging may be taken for recycling.

Waste disposal according to local regulations.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)



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- 14.1. UN number:** No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

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

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 56: Diphenylmethane-2,4'-diisocyanate

2004/42/EC (VOC): EU: 0,00 %
 Switzerland: 0,00 %
 USA: 0,0 g/l (0,00 lb/gl)

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions: Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes

Changes in chapter: UFI

Abbreviations and acronyms

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intéri
 IMDG = International Maritime Code for Dangerous Goods
 IATA/ICAO = International Air Transport Association / International Civil Aviation Organization
 MARPOL = International Convention for the Prevention of Pollution from Ships
 IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 REACH = Registration, Evaluation, Authorization and Restriction of Chemicals
 CAS = Chemical Abstract Service
 EN = European norm
 ISO = International Organization for Standardization
 DIN = Deutsche Industrie Norm
 PBT = Persistent Bioaccumulative and Toxic
 vPvB = Very Persistent and very Bio-accumulative



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LD = Lethal dose
 LC = Lethal concentration
 EC = Effect concentration
 IC = Median immobilisation concentration or median inhibitory concentration

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H332	
Resp. Sens. 1; H334	Calculation method
Skin Sens. 1; H317	Calculation method
Carc. 2; H351	Calculation method

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
EUH204	Contains isocyanates. May produce an allergic reaction.

Further Information

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

