

DESMODUR RC
Supersedes Date: 23-Dec-2015Revision Date 06-Oct-2016
Version 1**Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product Identifier**Product Name DESMODUR RC
Pure substance/mixture Mixture**1.2. Relevant identified uses of the substance or mixture and uses advised against**Recommended use Hardener.
Uses advised against None known.**1.3. Details of the supplier of the safety data sheet****Company Name**Bostik SA
Immeuble "Le Jade"
253 Avenue du President Wilson
93211 La Plaine Saint Denis
France
Tel: +33 (0)1 55 99 90 00
Fax: +33 (0)1 55 99 90 01

E-mail address SDS.box-EU@bostik.com

1.4. Emergency telephone number

Emergency Telephone No information available

Section 2: HAZARD IDENTIFICATION**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Acute toxicity - Inhalation (Vapours)	Category 4 - (H332)
Serious eye damage/eye irritation	Category 2 - (H319)
Respiratory sensitisation	Category 1 - (H334)
Skin sensitisation	Category 1 - (H317)
Specific target organ toxicity (single exposure)	Category 3 - (H336)
Flammable Liquids	Category 2 - (H225)

Unknown acute toxicity 35 % of the mixture consists of ingredient(s) of unknown toxicity
Unknown aquatic toxicity Contains 0 % of components with unknown hazards to the aquatic environment**2.2. Label Elements****Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Contains Toluene diisocyanate, Benzene, 1,3-diisocyanatomethyl-, homopolymer, Benzene, 2,4-diisocyanato-1-methyl-, homopolymer, Ethyl acetate

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Signal Word
DANGER

Hazard statements

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
H336 - May cause drowsiness or dizziness
H225 - Highly flammable liquid and vapour
EUH066 - Repeated exposure may cause skin dryness or cracking
EUH204 - Contains isocyanates. May produce an allergic reaction

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves and eye/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant

Special provisions concerning the labelling of certain mixtures

This product requires tactile warnings if supplied to the general public

2.3. Other Hazards

General Hazards

In use may form flammable/explosive vapour-air mixture.

PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

This product is a mixture. Health hazard information is based on its components.

3.2 Mixtures

Chemical Name	EC No	CAS No.	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Ethyl acetate	205-500-4	141-78-6	40 - <80	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225) (EUH066)	01-2119475103-46-XXXX
Benzene, 1,3-diisocyanatomethyl-, homopolymer	-	9017-01-0	20 - 25	Skin Sens. 1 (H317)	No Data Available
Benzene, 2,4-diisocyanato-1-methyl-, homopolymer	-	26006-20-2	10 - <20	Eye Irrit. 2 (H319) Skin Sens. 1 (H317)	No Data Available
Toluene diisocyanate	247-722-4	26471-62-5	0.1- <1	Acute Tox. 1 (H330)	01-2119454791-34-XXXX

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				Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Carc. 2 (H351) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	
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Full text of H- and EUH-phrases: see section 16

Note: ^ indicates not classified, however, the substance is listed in section 3 as it has an OEL.

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice	If medical advice is needed, have product container or label at hand.
Inhalation	Remove to fresh air.
Skin Contact	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing. Call a doctor immediately.
Ingestion	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
Self-protection of the first aider	Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

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

Symptoms None known.

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

Note to doctors Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Use CO₂, dry chemical, or foam.

Unsuitable Extinguishing Media
Use water spray or fog; do not use straight streams

5.2. Special hazards arising from the substance or mixture

Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

5.3. Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Section 6: ACCIDENTAL RELEASE MEASURES

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6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions

Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas.

Water spray may reduce vapour; but may not prevent ignition in closed spaces.

For emergency responders

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. Environmental precautions

Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.

6.3. Methods and material for containment and cleaning up

Methods for Containment

Dyke far ahead of spill; use dry sand to contain the flow of material. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up

Use clean non-sparking tools to collect absorbed material. Dyke far ahead of liquid spill for later disposal.

6.4. Reference to other sections

Reference to other sections

See Section 12: ECOLOGICAL INFORMATION
Section 7: HANDLING AND STORAGE
Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Take precautionary measures against static charges. Use explosion-proof electrical/ventilating/lighting /equipment.

General Hygiene Considerations

Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep only in the original container/package in a cool well-ventilated place.

7.3. Specific end use(s)

Specific Use(s)

Hardener.

Other Information

Recommendation(s); Observe technical data sheet

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Only European Community Occupational Exposure Limits will be shown in this document. Please refer to regional SDS for further information.

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Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls Ensure adequate ventilation, especially in confined areas. Vapours/aerosols must be exhausted directly at the point of origin.

Personal Protective Equipment

Eye/Face Protection

Hand Protection

Tight sealing safety goggles. Face protection shield.
Wear suitable gloves. Gloves must conform to standard EN 374. Recommended Use: Nitrile rubber. Viton™. Unsuitable protective clothing. NR (Natural rubber). Disposable gloves. Break through time. The breakthrough time of the gloves depends on the material and the thickness as well as the temperature. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The breakthrough time for the mentioned glove material is in general greater than 480 min.

Skin and Body Protection

Antistatic footwear. Wear fire/flamm resistant/retardant clothing. Gloves made of plastic or rubber. Suitable protective clothing. Apron.

Respiratory Protection

In case of inadequate ventilation wear respiratory protection. During spraying wear suitable respiratory equipment. For short term use: Filtering device (DIN EN 147).

Recommended Filter type:

Wear a respirator conforming to EN 140 with Type A/P2 filter or better.

Environmental Exposure Controls Do not allow into any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Liquid
Colour	Colourless to pale yellow
Odour	Solvent
Odour Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	Not applicable
Melting point/freezing point	No information available	
Boiling Point	77 °C / 170.6 °F	
Flash Point	-4 °C / 24.8 °F	DIN 51755 Part 1
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	Not applicable for liquids
Flammability Limit in Air		
Upper Flammability Limit	11.5%	
Lower Flammability Limit	9.5	
Vapour Pressure	97	hPa @ 20 °C
Vapour Density	No information available	
Specific Gravity	No information available	
Water Solubility	Immiscible in water	
Solubility in Other Solvents	Ethyl acetate < 85 g/1000ml @ 20 °C	
Partition Coefficient	No information available	
Autoignition Temperature	460 °C / 860 °F	
Decomposition Temperature	No information available	
Explosive Properties	No information available	
Explosive Limits	No information available	
Upper	No information available	
Lower	No information available	
Oxidising Properties	No information available	
Kinematic Viscosity	No information available	

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Dynamic Viscosity 3 mPa s @ 20 °C

9.2. Other information

Softening Point	No information available
Molecular Weight	No information available
Solvent content (%)	No information available
Solid content (%)	No information available
Density	1.01 g/cm ³
Bulk Density	No Data Available
VOC content (%)	

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge May be ignited by friction, heat, sparks or flames.

10.3. Possibility of hazardous reactions

Possibility of Hazardous Reactions

Exothermic reaction with. Amines. Acids. Bases. Reacts with water. Contact with water (moisture) liberates carbon dioxide, which causes pressure increase in closed containers.

10.4. Conditions to avoid

Keep away from heat, sparks and flames.

10.5. Incompatible materials

Strong acids and bases.

10.6. Hazardous decomposition products

None under normal use and recommended storage conditions.

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Product Information

No information or data specific to the product on this toxicological (health) effect is available.

Inhalation	No Data Available.
Eye contact	No Data Available.
Skin Contact	No Data Available.
Ingestion	No Data Available.
Sensitisation	May cause sensitisation by inhalation and skin contact. May cause sensitisation of susceptible persons.

Skin Corrosion/Irritation Substance may cause slight skin irritation.

Serious eye damage/eye irritation May cause eye irritation.

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Sensitisation Not applicable.

Germ Cell Mutagenicity Not applicable.

Carcinogenicity The following substance(s) are classified in Annex VI CLP (1272/2008) as carcinogenic.

Chemical Name	European Union
Toluene diisocyanate	Carc. 2

Reproductive Toxicity No information available.

STOT - Single Exposure No information available.

STOT - Repeated Exposure No information available.

Target Organ Effects Eyes, Respiratory system, Skin.

Aspiration Hazard Not applicable.

Numerical measures of toxicity

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document mg/kg ppm mg/l
ATEmix (inhalation-vapour) 17.39 mg/l

Unknown acute toxicity 35 % of the mixture consists of ingredient(s) of unknown toxicity.
0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
35 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
35 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
35 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapour).
25 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Component Information

Toxicity Data No information available

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl acetate	= 5620 mg/kg (Rat)	> 20 mL/kg (Rabbit) > 18000 mg/kg (Rabbit)	LC0 29.3 mg/l air
Benzene, 1,3-diisocyanatomethyl-, homopolymer	-	-	LC50 (4h) dust/mist > 1.839 mg/l Rat
Benzene, 2,4-diisocyanato-1-methyl-, homopolymer	LD50 >5000 mg/Kg (Rat)	-	LC50 (4h) dust/mist >3.003 mg/l Rat
Toluene diisocyanate	= 3060 mg/kg (Rat)	= 10000 mg/kg (Rabbit)	= 0.107 mg/L (Rat) 4 h (Vapour)

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Classification is shown in section 2 of this SDS

Component Information

Data obtained on the component(s) include

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Ethyl acetate	EC50 48 h = 3300 mg/L (Desmodesmus subspicatus)	LC50 96 h 220 - 250 mg/L (Pimephales promelas flow-through) LC50 96 h = 484 mg/L (Oncorhynchus mykiss flow-through) LC50 96 h 352 - 500	EC50 48 h = 560 mg/L (Daphnia magna Static)

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		mg/L (Oncorhynchus mykiss semi-static)	
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12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Partition coefficient No information available

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

The components in this formulation do not meet the criteria for classification as PBT or vPvB.

12.6. Other Adverse Effects

No information available

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Improper disposal or reuse of this container may be dangerous and illegal.

European Waste Catalogue 08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances

Other Information Waste codes should be assigned by the user based on the application for which the product was used.

Section 14: TRANSPORTATION INFORMATION

ADR

14.1 UN/ID no	UN1866
14.2 Proper Shipping Name	Resin solution
14.3 Hazard Class	3
Hazard Labels	3
14.4 Packing Group	II
Description	UN1866, Resin solution, 3, II
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	640C
Classification Code	F1
Tunnel restriction code	(D/E)
Limited Quantity (LQ)	5 L
ADR Hazard Id (Kemmler Number)	33

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IMDG

14.1 UN/ID no	UN1866
14.2 Proper Shipping Name	Resin solution
14.3 Hazard Class	3
14.4 Packing Group	II
Description	UN1866, Resin solution, 3, II, (-4°C c.c.)
14.5 Marine Pollutant	Np
14.6 Special Provisions	None
Limited Quantity (LQ)	5 L
EmS-No	F-E, S-E
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

RID

14.1 UN/ID no	UN1866
14.2 Proper Shipping Name	Resin solution
14.3 Hazard Class	3
14.4 Packing Group	II
Description	UN1866, Resin solution, 3, II
14.5 Environmental Hazard Classification Code	Not applicable F1
14.6 Special Provisions	None
Limited Quantity (LQ)	5 L

ICAO (air)

14.1 UN/ID no	UN1866
14.2 Proper Shipping Name	Resin solution
14.3 Hazard Class	3
14.4 Packing Group	II
Description	UN1866, Resin solution, 3, II
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	A3

IATA

14.1 UN/ID no	UN1866
14.2 Proper Shipping Name	Resin solution
14.3 Hazard Class	3
14.4 Packing Group	II
Description	UN1866, Resin solution, 3, II
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	A3
Limited Quantity (LQ)	1 L
ERG Code	3L

Section 15: REGULATORY INFORMATION

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

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Check whether measures in accordance with Directive 94/33/EC for the protection of young people at work must be taken.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work

Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006)

EU-REACH (1907/2006) - Candidate List of Substances of Very High Concern (SVHC) for Authorization in accordance with Article 59

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No.

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1907/2006 (REACH), Article 59)

EU-REACH (1907/2006) - Annex XVII - Substances subject to Restriction

This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

EU-REACH (1907/2006) - Annex XIV - List of substances subject to Authorization

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

Dangerous substance category per Seveso Directive (2012/18/EU)

P5a - FLAMMABLE LIQUIDS

or

P5b - FLAMMABLE LIQUIDS

or

P5c - FLAMMABLE LIQUIDS

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

Persistent Organic Pollutants

Not applicable

National Regulations

France

Occupational Illnesses (R-463-3, France)

Chemical Name	French RG number
Ethyl acetate 141-78-6	RG 84
Toluene diisocyanate 26471-62-5	RG 62

Germany

Ordinance on Industrial Safety and Health - Germany - BetrSichV

Flammable liquid (R11), EEC: refer to Annex III No. 1 (fire and explosion hazards) and § 7 paragraph 4

Netherlands

List of Carcinogenic, mutagenic and reproductive toxin substances in accordance with Inspectorate SZW (Netherlands)

Not Listed

15.2. Chemical safety assessment

No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

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H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H225 - Highly flammable liquid and vapour
H317 - May cause an allergic skin reaction
H330 - Fatal if inhaled
H315 - Causes skin irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H351 - Suspected of causing cancer if inhaled
H335 - May cause respiratory irritation
H412 - Harmful to aquatic life with long lasting effects
EUH066 - Repeated exposure may cause skin dryness or cracking

Legend

SVHC: Substances of Very High Concern for Authorisation:

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

PBT Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
STOT (RE): Specific target organ toxicity - Repeated exposure
STOT (SE): Specific target organ toxicity - Single exposure
EWC: European Waste Catalogue

Key literature references and sources for data

Classification and labeling data calculated from data received from raw material suppliers

Prepared By Product Safety & Regulatory Affairs

Revision Date 06-Oct-2016

Indication of changes

Revision Note SDS sections updated: 14, 15.

Training Advice Provide adequate information, instruction, and training for operator

Additional information No information available

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet