

DESMODUR RFE
 Revision Number 3

Revision date 29-Jul-2019
 Supersedes Date: 06-Aug-2017

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product Identifier

Product Name DESMODUR RFE
 Pure substance/mixture Mixture

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

Recommended use Contact adhesives.
 Uses advised against Consumer use.

1.3. Details of the supplier of the safety data sheet

Company Name

Bostik New Zealand Limited
 19 Eastern Hutt Road Wingate,
 Lower Hutt, New Zealand
 Tel: 04-567 5119
 Fax: 04-567 5412

1.4. Emergency telephone number

Emergency Telephone 24 Hr: 0800 243 622
 +64 4 917 9888
 Poison Centre : 0800 764 766

E-mail address SDS.AP@Bostik.com

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Skin corrosion/irritation	Category 3 (6.3B)
Serious eye damage/eye irritation	Category 2A (6.4A)
Specific target organ toxicity - Single exposure	Category 3 (1)
Flammable liquids	Category 2 (3.1B)

2.2. Label Elements



Signal word Danger

Hazard statements

H316 - Causes mild skin irritation
 H319 - Causes serious eye irritation
 H336 - May cause drowsiness or dizziness
 H225 - Highly flammable liquid and vapor

Prevention

P264 - Wash face, hands and any exposed skin thoroughly after handling
 P280 - Wear protective gloves/protective clothing/eye protection/face protection

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P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical/ ventilating / lighting/ .? / equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P235 - Keep cool

Inhalation

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTER or doctor/physician if you feel unwell

Skin

P332 + P313 - If skin irritation occurs: Get medical advice/attention
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Eyes

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

Fire

P370 + P378 - In case of fire: Use dry chemical, CO₂, water spray or alcohol-resistant foam to extinguish

Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

2.3. Other Hazards

- May be harmful if swallowed

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Mixture

3.2 Mixtures

Chemical name	CAS No.	Weight-%
Ethyl acetate	141-78-6	40 - <80
Phenol, 4-isocyanato-, phosphorothioate (3:1) (ester)	4151-51-3	20- <40
Chlorobenzene	108-90-7	1 - <3

*** Any remaining ingredients are not hazardous

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Remove/Take off immediately all contaminated clothing. If medical advice is needed, have product container or label at hand.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Hold eyelids apart and consult an physician.

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Ingestion If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. If swallowed, rinse mouth with water (only if the person is conscious).

Self-protection of the first aider First aider: Pay attention to self-protection!

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

Symptoms Inhalation of vapors in high concentration: May cause allergy or asthma symptoms or breathing difficulties if inhaled. Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours. Subsequent observance for pneumonia and lung oedema.

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

Note to physicians Treat symptomatically.

4.4. Reference to Other Sections

Reference to other sections Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION. Section 11: TOXICOLOGY INFORMATION.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media Carbon dioxide (CO₂). Extinguishing powder. Water spray or fog. Alcohol resistant foam.

Unsuitable extinguishing media No information available.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Thermal decomposition can lead to release of toxic/corrosive gases and vapors. Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x). Isocyanates. Traces of Hydrogen cyanide.

5.3. Advice for firefighters

Special protective equipment for fire-fighters In case of fire: Wear self-contained breathing apparatus. Do not allow run-off from fire-fighting to enter drains or water courses.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas. Use personal protection equipment. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing.

6.2. Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

Methods for containment Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep wetted with water. Place in appropriate chemical waste container. Do NOT close container (evolution of carbon dioxide - CO₂). Keep wet and put outdoors in a secured place for a few days. Then dispose to of according to local / national regulations (see Section 13). Protect from moisture.

Methods for cleaning up Pick up and transfer to properly labeled containers. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Soak up with inert absorbent material.

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6.4. Reference to other sections

Reference to other sections Section 7: HANDLING AND STORAGE
Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
Section 13: DISPOSAL CONSIDERATIONS

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Use only in well-ventilated areas. Avoid generation of dust and aerosols. Do not breathe vapor or mist. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Fire prevention measures. No special measures are necessary.

7.2. Conditions for safe storage, including any incompatibilities

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse.

Storage Conditions Protect from moisture. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from food, drink and animal feeding stuffs. Recommended storage temperature. 50 - 95 °F. Keep from freezing. Protect from direct contact with water or excessive moisture.

Incompatible materials No information available

7.3. Specific end use(s)

Specific Use(s) Hardener.

Other information No information available.

7.4. References to Other Sections

Reference to other sections Section 13: DISPOSAL CONSIDERATIONS. Section 10: STABILITY AND REACTIVITY.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	New Zealand	Australia	European Union
Ethyl acetate 141-78-6	TWA: 200 ppm TWA: 720 mg/m ³	200 ppm TWA 720 mg/m ³ TWA 400 ppm STEL 1440 mg/m ³ STEL	-
Phenol, 4-isocyanato-, phosphorothioate (3:1) (ester) 4151-51-3	TWA: 0.02 mg/m ³ STEL: 0.07 mg/m ³	0.02 mg/m ³ TWA 0.07 mg/m ³ STEL	-
Chlorobenzene 108-90-7	TWA: 10 ppm TWA: 46 mg/m ³	10 ppm TWA 46 mg/m ³ TWA	TWA: 5 ppm TWA: 23 mg/m ³

Chemical name	ACGIH TLV	NIOSH IDLH	OSHA PEL
Ethyl acetate 141-78-6	TWA: 400 ppm	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m ³	TWA: 400 ppm TWA: 1400 mg/m ³
Chlorobenzene 108-90-7	TWA: 10 ppm	IDLH: 1000 ppm	TWA: 75 ppm TWA: 350 mg/m ³

Derived No Effect Level (DNEL) No information available

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Predicted No Effect Concentration (PNEC) No information available

OTHER INFORMATION No information available

8.2. Exposure controls

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

PPE - Personal Protection Equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Wear suitable protective clothing. No special technical protective measures are necessary under normal conditions.
Hand protection	Wear suitable chemical resistant gloves. The selection of suitable gloves does not only depend on the material, but also on further marks of quality and various manufacturers.
Respiratory protection	No protective equipment is needed under normal use conditions. Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of professional filter is recommended.
General hygiene considerations	Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse.

Environmental exposure controls Do not allow uncontrolled discharge of product into the environment.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Color	Light yellow or brown
Odor	Ester
Odor threshold	No information available

Property	Values	Remarks • Method
pH	No data available	
Melting point / freezing point	No data available	
Boiling point / boiling range	77 °C	
Flash point	-4 °C	
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits	11.5	
Lower flammability or explosive limits	2.2	
Vapor pressure	No data available	
Vapor density	No data available	
Relative density	No data available	
Water solubility	No data available	
Solubility(ies)	No data available	
Partition coefficient	No data available	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Kinematic viscosity	No data available	
Dynamic viscosity	approx. 3 Pa.s	
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

Softening Point	No information available
Molecular weight	No information available

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Solvent content (%) No information available
Solid content (%) approx. 28
Density 1 g/cm³
Bulk density No information available
VOC Content (%) < 500 g/L

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity Product cures with moisture.

10.2. Chemical stability

Stability Stable under normal conditions

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.

Hazardous polymerization None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Hazardous polymerization may occur. Do not expose to temperatures exceeding 200 °C/392 °F. Protect from moisture.

10.5. Incompatible materials

Incompatible materials No information available.

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions.

Section 11: TOXICOLOGY INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation No data available.
Eye contact No data available.
Skin contact No data available.
Ingestion No data available.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Ethyl acetate 141-78-6	= 5620 mg/kg (Rat)	> 18000 mg/kg (Rabbit) > 20 mL/kg (Rabbit)	LC0 29.3 mg/l air
Phenol, 4-isocyanato-, phosphorothioate (3:1) (ester) 4151-51-3	-	-	5721 mg/l , 4h (dust/mist)
Chlorobenzene 108-90-7	2000 - 4000 mg/kg (Rat)	> 7940 mg/kg (Rabbit)	= 13.5 mg/L (Rat) 7 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

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Serious eye damage/eye irritation	No information available.
Sensitization	May cause sensitization by inhalation and skin contact. May cause sensitization of susceptible persons.
Germ cell mutagenicity	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target organ effects	liver, Eyes, blood, retina, Skin.
Aspiration hazard	Not applicable.
Carcinogenicity	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity

Product Information

None known.

Component Information

Data obtained on the component(s) include

Chemical name	Algae/aquatic plants	Fish	Crustacea
Ethyl acetate 141-78-6	EC50: ≈3300mg/L (48h, Desmodesmus subspicatus)	LC50: ≈484mg/L (96h, Oncorhynchus mykiss) LC50: 220 - 250mg/L (96h, Pimephales promelas) LC50: 352 - 500mg/L (96h, Oncorhynchus mykiss)	EC50: ≈560mg/L (48h, Daphnia magna)
Phenol, 4-isocyanato-, phosphorothioate (3:1) (ester) 4151-51-3	-	LC50 (96h) >100 mg/L Fish (Brachydanio rerio) Static	EC50 (48h) >100 mg/L Daphnia (Daphnia magna) Static
Chlorobenzene 108-90-7	EC50: 2.55 - 420mg/L (96h, Pseudokirchneriella subcapitata) EC50: ≈12.5mg/L (96h, Pseudokirchneriella subcapitata)	LC50 96 h 4.1 - 4.9 mg/L (Lepomis macrochirus static) LC50 96 h = 4.5 mg/L (Pimephales promelas static) LC50 96 h 4.1 - 5.3 mg/L (Oncorhynchus mykiss flow-through)	EC50: ≈0.59mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical name	Partition coefficient	Bioconcentration factor (BCF)
Ethyl acetate 141-78-6	0.6	30
Phenol, 4-isocyanato-, phosphorothioate (3:1) (ester) 4151-51-3	8.26	-
Chlorobenzene 108-90-7	2.8	-

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

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

Chemical name	PBT and vPvB assessment
Ethyl acetate 141-78-6	The substance is not PBT / vPvB PBT assessment does not apply
Phenol, 4-isocyanato-, phosphorothioate (3:1) (ester) 4151-51-3	The substance is not PBT / vPvB
Chlorobenzene 108-90-7	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

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 Handle contaminated packages in the same way as the product itself.

Section 14: TRANSPORT INFORMATION

IMDG

UN number UN1173
Proper Shipping Name Ethyl acetate solution
Transport hazard class(es) 3
Packing group II
Marine Pollutant Np
EmS-No. F-E, S-D
Limited Quantity (LQ) 1 L
Description UN1173, Ethyl acetate, 3, II, (-4°C c.c.)

IATA

UN number UN1173
Proper Shipping Name Ethyl acetate solution
Transport hazard class(es) 3
Packing group II
ERG Code 3L
Limited Quantity (LQ) 1 L
Description UN1173, Ethyl acetate, 3, II

ADR

UN Number UN1173
Proper Shipping Name Ethyl acetate
Transport hazard class(es) 3
Labels 3
Packing Group II
Description UN1173, Ethyl acetate, 3, II, (D/E)
Limited Quantity (LQ) 1 L
Classification Code F1
Tunnel Restriction Code (D/E)

Section 15: REGULATORY INFORMATION

National Regulations

ERMA Group HSR002662

Section 16: OTHER INFORMATION

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

No information available

Key Literature References and Sources for Data

No information available

Prepared By	Product Safety & Regulatory Affairs
Revision date	29-Jul-2019
Revision note	Not applicable.
Training Advice	When working with hazardous materials, regular training of operators is required by law

Disclaimer

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End of Safety Data Sheet