



# SAFETY DATA SHEET

according to 1907/2006/EC, Article 31

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## RIW 44: RIW Flexiseal Pro Hardener

Revision 0

Revision date 2015-10-30

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

#### 1.1. Product identifier

Product name	RIW 44: RIW Flexiseal Pro Hardener
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#### 1.3. Details of the supplier of the safety data sheet

Company	RIW Limited
Address	Arc House Terrace Road South Binfield, Bracknell Berkshire RG42 4PZ
Web	www.riw.co.uk
Telephone	01344 397788
Fax	01344 862010
Email	enquiries@riw.co.uk
Email address of the competent person	enquiries@riw.co.uk

#### 1.4. Emergency telephone number

Emergency telephone number	01344 397788
Company	RIW Limited 0800 - 1700 Monday - Friday

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

2.1.1. Classification - 1999/45/EC	C; R34 Xn; R20/22-62 Xi; R43 R52/53 Symbols: C: Corrosive.
Main hazards	Harmful by inhalation and if swallowed. Causes burns. May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of impaired fertility.
2.1.2. Classification - EC 1272/2008	Skin Corr. 1B: H314; Skin Sens. 1: H317; Repr. 2: H361f; Aquatic Chronic 3: H412;

#### 2.2. Label elements

Hazard pictograms	
Signal Word	Danger
Hazard Statement	Skin Corr. 1B: H314 - Causes severe skin burns and eye damage. Skin Sens. 1: H317 - May cause an allergic skin reaction. Repr. 2: H361f - Suspected of damaging fertility. Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.

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## 2.2. Label elements

<b>Precautionary Statement: Prevention</b>	<p>P201 - Obtain special instructions before use.</p> <p>P202 - Do not handle until all safety precautions have been read and understood.</p> <p>P260 - Do not breathe dust/fume/gas/mist/vapours/spray.</p> <p>P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.</p> <p>P264 - Wash thoroughly after handling.</p> <p>P272 - Contaminated work clothing should not be allowed out of the workplace.</p> <p>P273 - Avoid release to the environment.</p> <p>P280 - Wear protective gloves/protective clothing/eye protection/face protection.</p>
<b>Precautionary Statement: Response</b>	<p>P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.</p> <p>P302+P352 - IF ON SKIN: Wash with plenty of water/ .</p> <p>P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308+P313 - IF exposed or concerned: Get medical advice/attention.</p> <p>P310 - Immediately call a POISON CENTER/doctor/ .</p> <p>P321 - Specific treatment (see on this label).</p> <p>P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.</p> <p>P363 - Wash contaminated clothing before reuse.</p>
<b>Precautionary Statement: Storage</b>	P405 - Store locked up.
<b>Precautionary Statement: Disposal</b>	P501 - Dispose of contents/container to licensed waste disposal site

## 2.3. Other hazards

<b>Other hazards</b>	None known.
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## SECTION 3: Composition/information on ingredients

## 3.2. Mixtures

67/548/EEC / 1999/45/EC

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with teta		68082-29-1	500-191-5		10 - 20%	Xi; R36/38-43 R52/53	
Benzyl alcohol	603-057-00-5	100-51-6	202-859-9		10 - 20%	Xn; R20/22	
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	612-067-00-9	2855-13-2	220-666-8		1 - 10%	Xn; R21/22 C; R34 R43 R52/53	
m-phenylenebis(methylamine)		1477-55-0	216-032-5		1 - 10%	C; R34 Xn; R20/22 Xi; R43 R52/53	
4,4'-Isopropylidenediphenol (Bisphenol A inhalable dust)	604-030-00-0	80-05-7	201-245-8		1 - 10%	Repr. Cat. 3; R62 Xi; R37-41 R43 R52	
2,4,6-Tris(dimethylaminomethyl)phenol	603-069-00-0	90-72-2	202-013-9		1 - 10%	Xn; R22 Xi; R36/38	
N,N-Dimethyl-1,3-diaminopropane	612-061-00-6	109-55-7	203-680-9		1 - 10%	R10 Xn; R22 C; R34 R43	
Tetraethylenepentamine	612-060-00-0	112-57-2	203-986-2		0 - 0.5%	Xn; R21/22 C; R34 R43 N; R51/53	

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## 3.2. Mixtures

## EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification	M-factor.
Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with teta		68082-29-1	500-191-5		10 - 20%	Skin Irrit. 2: H315; Skin Sens. 1: H317; Eye Irrit. 2: H319; Aquatic Chronic 3: H412;	
Fatty acids, tall-oil, reaction products with teta		68155-17-9	268-945-3		10 - 20%	Eye Irrit. 2: H319;	
Benzyl alcohol	603-057-00-5	100-51-6	202-859-9		10 - 20%	Acute Tox. 4: H332; Acute Tox. 4: H302;	
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	612-067-00-9	2855-13-2	220-666-8		1 - 10%	Acute Tox. 4: H312; Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 3: H412;	
m-phenylenebis(methylamine)		1477-55-0	216-032-5		1 - 10%	Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Acute Tox. 4: H332; Aquatic Chronic 3: H412;	
4,4'-Isopropylidenediphenol (Bisphenol A inhalable dust)	604-030-00-0	80-05-7	201-245-8		1 - 10%	Repr. 2: H361f; STOT SE 3: H335; Eye Dam. 1: H318; Skin Sens. 1: H317;	
2,4,6-Tris(dimethylaminomethyl)phenol	603-069-00-0	90-72-2	202-013-9		1 - 10%	Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315;	
N,N-Dimethyl-1,3-diaminopropane	612-061-00-6	109-55-7	203-680-9		1 - 10%	Flam. Liq. 3: H226; Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317;	
Tetraethylenepentamine	612-060-00-0	112-57-2	203-986-2		0 - 0.5%	Acute Tox. 4: H312; Acute Tox. 4: H302; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 2: H411;	
triethylenetetramin		90640-67-8	292-588-2		0 - 0.5%	Acute Tox. 4: H302; Acute Tox. 4: H312; Skin Corr. 1B: H314; Skin Sens. 1: H317; Aquatic Chronic 3: H412;	

## SECTION 4: First aid measures

## 4.1. Description of first aid measures

Inhalation	Inhalation of vapour may cause shortness of breath. Move the exposed person to fresh air. Seek medical attention.
Eye contact	Causes burns. Causes severe inflammation and may damage the cornea. Seek medical attention.
Skin contact	Causes burns. Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.
Ingestion	Ingestion causes burns to the respiratory tract. DO NOT INDUCE VOMITING. If swallowed, seek medical advice immediately and show this container or label.

## SECTION 5: Firefighting measures

## 5.1. Extinguishing media

	Use as appropriate: Carbon dioxide (CO2), Dry chemical, Foam.
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## 5.2. Special hazards arising from the substance or mixture

	Corrosive. Burning produces irritating, toxic and obnoxious fumes.
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## 5.3. Advice for firefighters

	Wear suitable respiratory equipment when necessary.
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## SECTION 6: Accidental release measures

## 6.1. Personal precautions, protective equipment and emergency procedures

	Ensure adequate ventilation of the working area. Evacuate personnel to a safe area. Wear suitable protective equipment.
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## 6.2. Environmental precautions

	Do not allow product to enter drains. Prevent further spillage if safe.
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## 6.3. Methods and material for containment and cleaning up

Absorb with inert, absorbent material. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.

## 6.4. Reference to other sections

SECTION 13: Disposal considerations. SECTION 14: Transport information. SECTION 8: Exposure controls/personal protection.

## SECTION 7: Handling and storage

## 7.1. Precautions for safe handling

Avoid contact with eyes and skin. Ensure adequate ventilation of the working area.

## 7.2. Conditions for safe storage, including any incompatibilities

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

## SECTION 8: Exposure controls/personal protection

## 8.1. Control parameters

## 8.1.1. Exposure Limit Values

4,4'-Isopropylidenediphenol (Bisphenol A inhalable dust)	WEL 8-hr limit ppm: -	WEL 8-hr limit mg/m3: 10
	WEL 15 min limit ppm: -	WEL 15 min limit mg/m3: -
	WEL 8-hr limit mg/m3 total inhalable dust: -	WEL 15 min limit mg/m3 total inhalable dust: -
	WEL 8-hr limit mg/m3 total respirable dust: -	WEL 15 min limit mg/m3 total respirable dust: -

DNEL: Derived no-effect level.

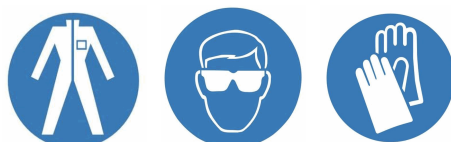
## Exposure Pattern - Workers

Benzyl alcohol	Acute dermal - Local effects 47 mg/kg
	Long-term - dermal - Systemic effects 9.5 mg/kg
Tetraethylenepentamine	Long-term - dermal - Systemic effects 0.74 mg/kg

## Exposure Pattern - General population

Benzyl alcohol	Acute oral - Systemic effects 25 mg/kg	
	Long-term - oral - Systemic effects 5 mg/kg	
Tetraethylenepentamine	Acute dermal - Systemic effects 10 mg/kg	Long-term - dermal - Systemic effects 0.32 mg/kg
	Long-term - inhalation - Systemic effects 0.53 mg/kg	

## 8.2. Exposure controls



## 8.2.1. Appropriate engineering controls

Ensure adequate ventilation of the working area.

## 8.2.2. Individual protection measures

Wear chemical protective clothing.

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## 8.2. Exposure controls

Eye / face protection	Approved safety goggles.
Skin protection - Handprotection	Chemical resistant gloves (PVC).
Respiratory protection	Wear.: Self-contained breathing apparatus.

## SECTION 9: Physical and chemical properties

## 9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Amber
Odour	Characteristic
Melting point	Not relevant
Freezing Point	Not relevant
Initial boiling point	> 136 °C
Flash point	> 100 °C
Relative density	1.01 (H <sub>2</sub> O = 1 @ 20 °C)
Fat Solubility	No data available
Soluble in	Not determined
Autoignition temperature	Not determined
Viscosity	> 200 cPs (BS EN brookfield)
Explosive properties	Not applicable.
Oxidising properties	Not determined
Solubility	Insoluble in water

## SECTION 10: Stability and reactivity

## 10.2. Chemical stability

	Stable under normal conditions.
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## 10.3. Possibility of hazardous reactions

	Alkali metals. Strong acids. Strong exothermic reaction in contact with acids. Strong oxidising agents.
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## SECTION 11: Toxicological information

## 11.1. Information on toxicological effects

Skin corrosion/irritation	CAUSES SEVERE EYE BURNS. CAUSES SEVERE SKIN BURNS.
Serious eye damage/irritation	Strong irritant with the danger of severe eye damage.
Respiratory or skin sensitisation	May cause sensitisation by skin contact.
Germ cell mutagenicity	No data is available on this product.
Carcinogenicity	No carcinogenic effects reported.
Reproductive toxicity	Possible risk of harm to the unborn child. Possible risk of impaired fertility.

## 11.1.4. Toxicological Information

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## 11.1.4. Toxicological Information

2,4,6-Tris(dimethylaminomethyl) phenol	Dermal Rat LD50: 1280 mg / kg	Oral Rat LD50: 1200 mg / kg
3-Aminomethyl-3,5,5-trimethylcy clohexylamine	Oral Rat LD50: 1030 mg/kg	
4,4'-Isopropylidenediphenol	Oral Rat LD50: 4040 mg / kg	Dermal Rabbit LD50: 3000 mg / kg
Benzyl alcohol	Dermal Rat LD50: 2000 mg / kg Inhalation Rat LC50/4 h: >4178 mg/m3	Oral Rat LD50: 1620 mg/kg
Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with teta	Oral Rat LD50: >16000 mg/kg	
m-phenylenebis(methylamine)	Inhalation Rat LC50/2.6 mg / kg 4 h:	Oral Rat LD50: 1040 mg / kg
Tetraethylenepentamine	Oral Rat LD50: 3250 mg/kg	Dermal Rabbit LD50: >1000 mg/kg

## SECTION 12: Ecological information

## 12.1. Toxicity

3-Aminomethyl-3,5,5-trimethylcy clohexylamine	Daphnia EC50/48h: 23.0000 mg/l Fish LC50/96h: 110.0000 mg/l	Algae IC50/72h: 50 mg/l
Benzyl alcohol	Daphnia EC50/48h: 230.0000 mg/l Fish LC50/96h: 460 mg/l	Algae IC50/72h: 700.0000 mg/l
Fatty acids, C18-unsaturated, dimers, oligomeric reaction products with teta	Fish LC50/96h: 10 mg/l	
m-phenylenebis(methylamine)	Daphnia EC50/48h: 16.0000 mg/l Fish LC50/96h: 87.6 mg/l	Algae IC50/72h: 20.3000 mg/l
N,N-Dimethyl-1,3-diaminopropan e	Daphnia EC50/48h: 59.5000 mg/l Fish LC50/96h: 122.0000 mg/l	Algae IC50/72h: 53.5 mg/l

## 12.2. Persistence and degradability

No data is available on this product.

## 12.4. Mobility in soil

No data is available on this product.

## 12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

## Further information

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

## SECTION 13: Disposal considerations

## General information

Dispose of in compliance with all local and national regulations.

## Disposal methods

Dispose of this material and its container to hazardous or special waste collection point.

## Disposal of packaging

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free).

## SECTION 14: Transport information

## Hazard pictograms

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## Hazard pictograms



## 14.1. UN number

UN2735

## 14.2. UN proper shipping name

AMINES, LIQUID, CORROSIVE N.O.S.

## 14.3. Transport hazard class(es)

ADR/RID	8
Subsidiary risk	-
IMDG	8
Subsidiary risk	-
IATA	8
Subsidiary risk	-

## 14.4. Packing group

Packing group	II
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## 14.5. Environmental hazards

Environmental hazards	No
Marine pollutant	No

## ADR/RID

Hazard ID	80
Tunnel Category	(E)

## IMDG

EmS Code	F-A S-B
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## IATA

Packing Instruction (Cargo)	855
Maximum quantity	30 L
Packing Instruction (Passenger)	851
Maximum quantity	1 L

## SECTION 15: Regulatory information

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

Regulations	COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.
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**SECTION 16: Other information****Other information**

<b>Data sources</b>	Data extracted from individual component Safety Data Sheets.
<b>Text of risk phrases in Section 3</b>	<p>R10 - Flammable</p> <p>R20/22 - Harmful by inhalation and if swallowed.</p> <p>R21/22 - Harmful in contact with skin and if swallowed.</p> <p>R22 - Harmful if swallowed.</p> <p>R34 - Causes burns.</p> <p>R36/38 - Irritating to eyes and skin.</p> <p>R37 - Irritating to respiratory system.</p> <p>R41 - Risk of serious damage to eyes.</p> <p>R43 - May cause sensitisation by skin contact.</p> <p>R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p> <p>R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p> <p>R52 - Harmful to aquatic organisms.</p> <p>R62 - Possible risk of impaired fertility.</p>
<b>Text of Hazard Statements in Section 3</b>	<p>Skin Irrit. 2: H315 - Causes skin irritation.</p> <p>Skin Sens. 1: H317 - May cause an allergic skin reaction.</p> <p>Eye Irrit. 2: H319 - Causes serious eye irritation.</p> <p>Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.</p> <p>Acute Tox. 4: H302 - Harmful if swallowed.</p> <p>Acute Tox. 4: H332 - Harmful if inhaled.</p> <p>Acute Tox. 4: H312 - Harmful in contact with skin.</p> <p>Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.</p> <p>Eye Dam. 1: H318 - Causes serious eye damage.</p> <p>STOT SE 3: H335 - May cause respiratory irritation.</p> <p>Repr. 2: H361f - Suspected of damaging fertility.</p> <p>Flam. Liq. 3: H226 - Flammable liquid and vapour.</p> <p>Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.</p> <p>Acute Tox. 4: H302+H312 - Harmful if swallowed or in contact with skin</p>

**Further information**

	The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This 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 other process.
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