



## Flexible Roofing Membrane (FRM)

### DESCRIPTION

Richco Flexible Roofing Membrane (FRM) is a high solids, liquid applied roofing coating, which provides a seamless, flexible waterproofing system.

Richco FRM cures by reaction with atmospheric moisture to produce a flexible, elastomeric membrane with good adhesion to a variety of substrates. It is cold applied by brush, roller or airless spray and contains no tar, therefore presents minimal hazard in use.

### INTENDED USES

Richco FRM can be used as a solar-reflective/ waterproofing membrane on most roofing substrates including; roofing felt, asphalt & bitumen, corrugated asbestos sheet, slates, tiles, concrete, brick, wood, glass, ferrous metals, lead and copper.

### APPEARANCE

Three grades of Richco FRM are available - Black, Aluminium (solar reflective) or Grey.

### THICKNESS

The minimum membrane thickness should be 1.0mm. This is achieved by applying 2 coats at 0.5mm (ensuring the second coat is applied within 24hrs). Alternatively one coat can be applied at 1.0mm.

### SURFACE PREPARATION

Proper preparation must be carried out to ensure that the substrate is clean, dry and free of loose and friable material.

### PRIMING

Porous substrates must be primed / sealed with Richco Roofing Primer.

### APPLICATION TECHNIQUE

Richco FRM can be applied by brush, roller or airless spray.

NOTE: stir before using.

### OVERCOATING INTERVAL

If two coats of Richco FRM are applied, please ensure the second coat is applied within 24hrs of application - to ensure good inter-coat adhesion. If the recoat time is exceeded, the cured membrane must be primed with Richco Roofing Primer before recoating.

### PACKAGING

Richco FRM is available in 20kg and 5kg units.

### STORAGE

Richco FRM should be stored in a covered area above 5°C and below 30°C. and will have a shelf life of at least six months under these conditions.

### TRANSPORTATION

Richco FRM is classified as harmful for use but is not considered hazardous for transportation.

### TECHNICAL DATA

Colour	Black	Aluminium	Grey
Viscosity @ 25°C (cps)	5000-9000	5000-9000	5000-9000
Specific Gravity	1.25	1.25	1.25
Tensile Strength (N/mm <sup>2</sup> )*	3	2	2.5
Elongation (%)*	450	350	450

\*after 5 days at 20°C - properties will improve up to 28 days after application

### HEALTH AND SAFETY

Good standards of industrial hygiene should be observed when handling all components. The use of protective gloves is highly recommended and users should consider the use of goggles if splashing during use is a possibility.

Please read specific health and safety data sheet for this product.

### TECHNICAL ADVICE

For further information on this or any other Richco product, please contact us on: 01268 495730.

### DISCLAIMER

The information contained herein is to the best of our knowledge true and accurate and is given in good faith but without warranty. The user will be deemed to have satisfied him/herself independently as to the suitability of our products for his/her own particular purpose. In no event shall Richco Limited be liable for consequential or incidental damages.



## Flexible Roofing Membrane (FRM)

### 1) IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

PRODUCT NAME: Richco FRM  
 SUPPLIER: Richco Ltd  
 TEL: 01268 495730

### 2) HAZARDS IDENTIFICATION

May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful: may cause lung damage if swallowed.

### 3) FIRST AID MEASURES

**GENERAL:** If you feel unwell, seek medical advice (show the label where possible). Keep the affected person warm and at rest. Remove contaminated clothing. Wash all contaminated clothing before reuse.

**INHALATION:** Move the exposed person to fresh air. Seek medical attention.

**INGESTION:** DO NOT INDUCE VOMITING! Drink 1 to 2 glasses of water. Seek medical attention.

**SKIN:** Wash off immediately with plenty of soap and water. Remove contaminated clothing.

**EYES:** Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention.

### 4) FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:** Use extinguishing media appropriate to the surrounding fire conditions.

**PROTECTIVE EQUIPMENT:**  
 Wear: Self contained breathing apparatus.

### 5) ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS:**  
 Ensure adequate ventilation of the working area. Keep personnel away from spill. Evacuate personnel to a safe area.

**ENVIRONMENTAL PRECAUTIONS:**  
 Do not allow product to enter drains.

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

### 6) HANDLING AND STORAGE

<b>HANDLING</b>	Wear suitable protective equipment. Do not breathe gas/fumes/vapour/spray. Use in a well ventilated area.
<b>STORAGE</b>	Keep in a cool, dry, well ventilated area. Keep containers tightly closed.

### 7) EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING MEASURES:** Ensure adequate ventilation of the working area.

**RESPIRATORY PROTECTION:** Wear: Suitable respiratory equipment. Wear: Self-contained breathing apparatus.

**HAND PROTECTION:** Chemical resistant gloves (PVC).

**EYE PROTECTION:** Approved safety goggles. Avoid contact with eyes.

**PROTECTIVE EQUIPMENT:** Avoid contact with eyes and skin. Adopt best Manual Handling considerations when handling, carrying and dispensing. Apron (Plastic or Rubber). Rubber boots.

### 8) PHYSICAL AND CHEMICAL PROPERTIES

<b>DESCRIPTION</b>	Liquid
<b>FLASH POINT</b>	56° C
<b>WEAR SOLUBILITY</b>	Slightly soluble in water. Soluble in alcohol & ether.

### 9) STABILITY AND REACTIVITY

<b>STABILITY</b>	Stable under normal conditions.
<b>CONDITIONS TO AVOID</b>	Heat, sparks and open flames
<b>MATERIALS TO AVOID</b>	Oxidising agents
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	None.

### 10) TOXICOLOGICAL INFORMATION

<b>ACUTE TOXICITY</b>	Harmful if swallowed
<b>CORROSIVITY</b>	May cause irritation to skin
<b>REPEATED OR PROLONGED EXPOSURE</b>	Prolonged or repeated exposure may cause irritation to skin and mucous membranes

### 11) ECOLOGICAL INFORMATION

**ECOTOXICITY:** No data is available on this product.

### 12) DISPOSAL CONSIDERATIONS

**FURTHER INFORMATION:** Can be incinerated if in compliance with local and nation regulations. Dispose of in compliance with all local and national regulations.



# Flexible Roofing Membrane (FRM)

**DISPOSAL OF PACKAGING:** Empty containers can be sent for disposal or recycling.

## 13) TRANSPORT INFORMATION

<b>LABELLING</b>	The product is classified in accordance with 67/548/EEC
<b>SYMBOLS</b>	Xn - Harmful

## 14) REGULATORY INFORMATION

**RISK PHRASES:** Not Classified

**SAFETY PHRASES:**

<b>P-4</b>	Contains isocyanates. See information supplied by the manufacturer.
<b>S-24</b>	Avoid contact with skin.
<b>S-37</b>	Wear suitable gloves
<b>s-62</b>	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

**RISK PHRASES:**

<b>R-43</b>	May cause sensitisation by skin contact
<b>R52/53</b>	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>R-65</b>	Harmful: may cause lung damage if swallowed.

## 17) EXPOSURE LIMITS

Xylene, O-,m-, -p-or mixed isomers	WEL 8-hr limit ppm: 50	WEL 8hr limit mg/m <sup>3</sup> :220
	WEL 15 min limit ppm:100	WEL 15min limited mg/m <sup>3</sup> :441

## 18) COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CONC.	CAS No	EINECS	RISK (R No)
XYLENE	1-10%	1330-20-7	215-535-7	xN, R20/21-38
1,2,4 - Trimethylbenzene	1-10%	95-63-6	202-436-9	R10 Xn; R20 Xi; R36 Xi; R37 Xi; R38 N; R51-53
Solvent Naphtha (petroleum), Light Aromatic	10-20%	64742-95-6		R10 N; R51-53 Xn; R65 Xi;R66 R67

## 15) OTHER INFORMATION

**R-PHRASES (Full Text):**

<b>R-10</b>	Flammable
<b>R-20</b>	Harmful by inhalation
<b>R20/21</b>	Harmful by inhalation and in contact with skin.
<b>R36</b>	Irritating to eyes
<b>R37</b>	Irritating to respiratory system
<b>R38</b>	Irritating to skin
<b>R51-53</b>	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>R65</b>	Harmful: may cause lung damage if swallowed.
<b>R66</b>	Repeated exposure may cause skin dryness or cracking.
<b>R67</b>	Vapours may cause drowsiness and dizziness.

## 16) 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 and to the best of our knowledge.



## Richco Deck-a-Grip

### DESCRIPTION

Richco Deck-a-grip is a three-component, all liquid, polyurea system specially formulated for surfacing and binding applications. When cured, Richco Deck-a-grip has excellent adhesion to bituminous, cementitious, wood and metal surfaces and to most aggregates, aggregate chippings or pebbles, including calcined bauxite, granite, limestone, marble, Derbyshire spar, gritstone, basalt, silica sand, flint, calcined flint, rounded gravel and Bridport stone. Richco Deck-a-grip performs particularly well on concrete surfaces where, as with the other surfaces above, no primer is necessary. The system is supplied as three components: Part A is a coloured mixture containing hydroxy-functional materials blended with a special mix of pigments and fillers. Part B is a slightly milky aqueous dispersion. Part C is a modified isocyanate with low viscosity. Richco Deck-a-grip is supplied in the following colours; buff, terra cotta, red (bright), olive green, green (bright), yellow, blue, grey or black, with other colours available to special order.

### PREPARATION

The substrate should be clean, sound, and free of friable material, preferably dry, but certainly to the extent that moisture does not glisten on the surface, and the substrate temperature should be between 5°C and 25°C. A suitable area for mixing should be set aside and protected from splash and spillage with plastic sheet. All free edges, fixtures, drainage gullies and gratings etc should be taped over to mask edges, prevent accidental ingress of resin and especially aggregate. The kits of Richco resin should be mixed singly as they are required. Do not mix a number of kits at once to leave them standing in readiness. A low speed (300-500 rpm) high torque drill & paddle should be used to mix the material by first stirring the A-component (20 lt bucket) to redispense any settlement. The B & C-components (2.5 lt plastic jerrys) should then be added to the A-component together and the material mixed until homogeneous - this will take about 60 seconds under normal conditions.

### APPLICATION

The complete mix should be emptied onto the area (Do not leave material in bulk in the bucket as this will only shorten the pot-life) and spread evenly using a serrated squeegee to achieve a uniform thickness governed by the aggregate size. As soon as the resin has been spread uniformly, the aggregate must be applied to the resin surface, blinding it to excess to ensure complete coverage. Once the resin has cured, the excess aggregate can be swept or vacuumed off and reused if clean and uncontaminated. Tape should be removed when the resin has started its initial cure and no longer flows, but before full cure is reached. It is usually safe to remove the tape 30 minutes after resin application unless the ambient temperature is very cold in which case it will be longer.

### APPLICATION

Richco Deck-a-grip can be applied by a specially designed, three component, metering machine, but

is more often mixed using a vigorous mixer/stirrer in 20kg 'kits' then being spread using a brush or squeegee. Mixing should take place by vigorous stirring of the 'A' component for one minute, stopping stirring, adding the other two components and continuing to stir until mixed. Full mixing should take no more than 30 seconds with the correct equipment. The mixed material remains in a mobile, liquid form for approximately 10 minutes, after which a light gel is formed (lasting approximately 15 minutes). The material then sets into a soft solid. Excess material can be removed whilst in the gel form. The material is fit for traffic after approximately 2 hours but may increase in properties over a period of a few days. Aggregate should be broadcast into the material in its liquid state.

### PACKAGING

Richco Deck-a-Grip is available as a 20kg kit containing 14.1kg Part A, 2.66kg Part B, and 3.25kg Part C.

### HANDLING AND STORAGE

Parts A and B should be stored in a covered areas above 5°C and are non-hazardous. Part C should be stored in dry conditions between 15°C and 25°C, part C is classified as harmful by inhalation but is not considered hazardous for transportation. Good standards of industrial hygiene should be observed when handling all components. The use of protective gloves is highly recommended and users should consider the use of goggles if splashing during mixing is a possibility. The recommendations made in the Health and Safety data sheet for this product should be observed at all times.

### TECHNICAL INFORMATION TECHNICAL DATA

	Part A	Part B	Part C
Viscosity @ 25°C (cps)	20000max	200max	200max
Specific Gravity	1.8	1.01	1.21

Colours: Red, green, buff, grey, blue, yellow, terracotta, olive green, black, white or brown

### CURED MATERIAL

Hardness	Shore D	75
Compressive strength at first failure	N/mm	2 20
Compressive strength at 40% compression	N/mm	2 45
Deflection at failure	%	10
Compressed cylinder (edge) break	N/mm	2 6
Compressed cylinder (edge crack propagation)	N/mm	2 6
Compressed cylinder (edge) deflection at break	%	10



## Richco Deck-a-Grip

### PART A

#### 1) IDENTIFICATION OF SUBSTANCE

Product Details - Part A  
Trade Names - Richco Deck-a-Grip  
Supplier - Richco Ltd ( Tel 01268 495730)  
Information - Technical Department

#### 2) COMPONENT COMPOSITION INFORMATION

A Polyol dispersion with fillers. Not classified as hazardous.

#### 3) HAZARD IDENTIFICATION

Not regarded as a health hazard under current legislation.

#### 4) FIRST AID MEASURES

**GENERAL:** No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY! CAUTION! Some medical advisors recommend against induction of vomiting! Do not give victim anything to drink if he is unconscious.

**INHALATION:** Not Relevant

**INGESTION:** NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! DO NOT induce vomiting. Get medical attention immediately.

**SKIN:** Wash the skin immediately with soap and water.

**EYES:** Promptly wash eyes with plenty of water while lifting the eyelids. Continue to rinse for at least 15 minutes and get medical attention.

#### 5) FIRE FIGHTING MEASURES

**EXTINGUISHING FOAM:** Carbon dioxide (CO<sub>2</sub>). Dry chemicals, sand, dolomite etc.

**MEDIA:** Alcohol resistant foam. Water. Inert gas.  
Unusual fire & Explosion: No unusual fire or explosion hazards noted.

**HAZARDS:** Hazardous Decomposition

**PRODUCTS:** Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO)

#### 6) ACCIDENTAL RELEASE MEASURES

Spill cleanup

**METHODS:** Non-hazardous substance.  
Absorb in vermiculite, dry sand or earth and  
Place into containers. Keep upright.

#### 7) HANDLING AND STORAGE

**USAGE PRECAUTIONS:** Avoid spilling, skin and eye contact

**STORAGE PRECAUTIONS:** Chemical storage

#### 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

**PROTECTIVE EQUIPMENT:** Gloves, goggles

**VENTILATION:** No particular ventilation requirements

**RESPIRATORS:** Not relevant.

**PROTECTIVE GLOVES:** Protective gloves should be used if there is a risk of direct contact or splash.

**EYE PROTECTION:** Wear approved, tight fitting safety glasses where splashing is probable.

**OTHER PROTECTION:** Wear appropriate clothing to prevent repeated or prolonged skin contact.

**HYGIENIC WORK ROUTINE:** Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes wet. Promptly remove non-impervious clothing that becomes wet or contaminated.

#### 9) PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Opaque
Colour	Buff, Green, Black or Red
Odour/Taste	No characteristic odour
Solubility Description	Form an emulsion with water
Melting point	0
Specific Gravity	(water=1) 1.8 @ 20degrees C
Viscosity	-20000 cps @ 25degrees C
Flash point	-110
Flash point Method	Sh CC (Setaflash closed cup)
Auto ignition Temperature	>400

#### 10) STABILITY AND REACTIVITY

**STABILITY:** No particular stability concerns.  
Conditions to avoid: Not relevant

**HAZARDOUS POLYMERISATION:** N/A

**MATERIALS TO AVOID:** Water reactive material

**HAZARDOUS DECOMPOSITION PRODUCTS:**  
Fire Creates: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO)

#### 11) TOXICOLOGICAL INFORMATION

**INHALATION:** No specific health warnings noted.

**SKIN:** Liquid may irritate skin.

**EYES:** No specific health warnings noted

**HEALTH WARNINGS:** This product has low toxicity. Only large volumes may have adverse impact on human health.  
Medical Considerations: No notation of medical conditions generally aggravated by exposure.

#### 12) ECOLOGICAL EFFECTS

**ACUTE TOXICITY:** No data



## Richco Deck-a-Grip

### 13) DISPOSAL CONSIDERATIONS

**DISPOSAL METHODS:** Do not allow runoff to sewer, waterway or ground. Absorb in vermiculite or dry sand, dispose in licensed special waste.

### 14) TRANSPORT INFORMATION

No transport warning sign required.

### 15) REGULATORY INFORMATION

**STATUTORY INSTRUMENTS:** Chemicals (Hazard Information and Packaging) Regulations. Control of Substances Hazardous to Health.

**APPROVED CODE OF PRACTICE:** Classification and Labelling of Substances and Preparations Dangerous for Supply.

**GUIDANCE NOTES:** CHIP for everyone HSG (108)

### 16) OTHER INFORMATION

This Material Safety Data Sheet conforms to EC Directives 91/155/EEC and 93/112/EC. The information given here is to the best of our knowledge true and accurate and is provided solely for making safety assessments. It is not a sales specification or an indication of suitability for a particular use.



## Richco Deck-a-Grip

### PART B

#### 1) IDENTIFICATION OF SUBSTANCE

Product Details - Part B

Trade Names - Richco Deck-A-Grip

Supplier - Richco Ltd ( Tel 01268 459730)

Information - Technical Department

#### 2) COMPONENT COMPOSITION INFORMATION

A Polyol dispersion with fillers. Not classified as hazardous.

#### 3) HAZARD IDENTIFICATION

Not regarded as a health hazard under current legislation.

#### 4) FIRST AID MEASURES

**GENERAL:** No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY! CAUTION! Some medical advisors recommend against induction of vomiting! Do not give victim anything to drink if he is unconscious.

**INHALATION:** Not Relevant

**INGESTION:** NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! DO NOT induce vomiting. Get medical attention immediately.

**SKIN:** Wash the skin immediately with soap and water.

**EYES:** Promptly wash eyes with plenty of water while lifting the eyelids. Continue to rinse for at least 15 minutes and get medical attention.

#### 5) FIRE FIGHTING MEASURES

Extinguishing Foam. Carbon dioxide (CO<sub>2</sub>). Dry chemicals, sand, dolomite etc.

**MEDIA:** Alcohol resistant foam. Water. Inert gas. No unusual fire or explosion hazards noted.

**HAZARDS:** Hazardous Decomposition

**PRODUCTS:** Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO)

#### 6) ACCIDENTAL RELEASE MEASURES

**SPILL CLEANUP METHODS:** Non-hazardous substance. Absorb in vermiculite, dry sand or earth and Place into containers. Keep upright.

#### 7) HANDLING AND STORAGE

**USAGE PRECAUTIONS:** Avoid spilling, skin and eye contact

**STORAGE PRECAUTIONS:** Chemical storage

#### 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

**PROTECTIVE EQUIPMENT:** Gloves, goggles

**VENTILATION:** No particular ventilation requirements  
Respirators: Not relevant.

**PROTECTIVE GLOVES:** Protective gloves should be used if there

is a risk of direct contact or splash.

**EYE PROTECTION:** Wear approved, tight fitting safety glasses where splashing is probable.

**OTHER PROTECTION:** Wear appropriate clothing to prevent repeated or prolonged skin contact.

**HYGIENIC WORK ROUTINE:** Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes wet. Promptly remove non-impervious clothing that becomes wet or contaminated.

#### 9) PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Opaque Emulsion
Colour	Milky
Odour/Taste	No characteristic odour
Solubility Description Form	an emulsion with water
Melting point	0
Boiling point	100
Specific Gravity	(water=1) 1 @ 20degrees C
Viscosity	-60 cps @ 25degrees C
Flash point	>100
Flash point Method	Sh CC (Setaflash closed cup)
Auto ignition Temperature	>100

#### 10) STABILITY AND REACTIVITY

**STABILITY:** No particular stability concerns.

**CONDITIONS TO AVOID:** Not relevant

**HAZARDOUS:** polymerisation N/A

**MATERIALS TO AVOID:** Water reactive material

#### HAZARDOUS DECOMPOSITION PRODUCTS:

Fire creates: Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO)

#### 11) TOXICOLOGICAL INFORMATION

**INHALATION:** No specific health warnings noted.

**SKIN:** Liquid may irritate skin.

**EYES:** No specific health warnings noted

**HEALTH WARNINGS:** This product has low toxicity. Only large volumes may have adverse impact on human health. Medical Considerations: No notation of medical conditions generally aggravated by exposure.

#### 12) ECOLOGICAL EFFECTS

**ACUTE TOXICITY:** No data



## Richco Deck-a-Grip

### 13) DISPOSAL CONSIDERATIONS

**DISPOSAL METHODS:** Do not allow runoff to sewer, waterway or ground. Absorb in vermiculite or dry sand, dispose in licensed special waste.

### 14) TRANSPORT INFORMATION

No transport warning sign required.

### 15) REGULATORY INFORMATION

**STATUTORY INSTRUMENTS:** Chemicals (Hazard Information and Packaging) Regulations. Control of Substances Hazardous to Health.

**APPROVED CODE OF PRACTICE:** Classification and Labelling of Substances and Preparations Dangerous for Supply.  
Guidance notes: CHIP for everyone HSG (108)

### 16) OTHER INFORMATION

This Material Safety Data Sheet conforms to EC Directives 91/155/EEC and 93/112/EC. The information given here is to the best of our knowledge true and accurate and is provided solely for making safety assessments. It is not a sales specification or an indication of suitability for a particular use.



## Richco Deck-a-Grip

### PART C

#### 1) IDENTIFICATION OF SUBSTANCE

Product Details - Part C

Trade Names - Richco Deck-a-Grip

Supplier - Richco Ltd ( Tel 01268 495730)

Information - Technical Department

#### 2) COMPONENT COMPOSITION INFORMATION

DIPJENYLMETHANEDIISOCYANAGE

Isomers & homologues

CAS No CONTENTS HEALTH RISK

(Class) (R No.)

9016-87-96 0-100%

9016-87-10 Xn 20,36/37/38,42

#### 3) HAZARD IDENTIFICATION

Harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitisation by inhalation.

#### 4) FIRST AID MEASURES

**GENERAL:** NOTE! Effects may be delayed. Keep affected person under observation. Remove victim immediately from source of exposure.

**INHALATION:** Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. When breathing is difficult, properly trained personnel may assist affected person by administering 100% oxygen. Keep the affected person warm and at rest. Get prompt medical attention.

**INGESTION:** NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! DO NOT induce vomiting. Get medical attention immediately.

**SKIN:** Remove affected person from source of contamination. Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Get medical attention if irritation persists after washing.

**EYES:** Promptly wash eyes with plenty of water while lifting the eyelids. Continue to rinse for at least 15 minutes and get medical attention.

#### 5) FIRE FIGHTING MEASURES

**EXTINGUISHING:** Water spray, fog or mist. Foam. Carbon dioxide (CO<sub>2</sub>). Dry Chemicals, Media sand, dolomite etc. Alcohol resistant foam.

**SPECIAL FIRE PRECAUTIONS:** Cool containers exposed to flames with water until well after the fire Fighting is out. NOTE! Use air-supplied respirators to protect against gases.

**PROCEDURES:** fumes. Avoid breathing fire vapour. Hazardous Decomposition

**FIRE CREATES:** Toxic gases/vapours/fumes. Carbon dioxide (CO<sub>2</sub>). Carbon

**PRODUCTS:** monoxide (CO). Hydrogen cyanide (HCN). Nitrous gases (Nox)

#### 6) ACCIDENTAL RELEASE MEASURES

**SPILL CLEANUP:** Provide ventilation and confine spill. Do not allow runoff to sewer.

**METHODS:** Clean-up personnel should use respiratory and/or liquid contact

**PROTECTION:** Collect with non-combustible absorbent material. Flush with water. Dike for large spills. Avoid contact with skin or inhalation of spillage, dust or vapour.

#### 7) HANDLING AND STORAGE

**USAGE:** Avoid spilling, skin and eye contact. Ventilate well, avoid breathing

**PRECAUTIONS VAPOURS:** Use approved respirator if air contamination is above accepted level. Read and follow manufacturer's recommendations. Avoid contact with water, alcohols, amines and other materials that may react with isocyanate. Persons with impaired lung functions should not handle this preparation. Persons susceptible for allergic reactions should not handle this product. Avoid inhalation of vapours. Use mechanical ventilation in case of handling, which causes formation of vapour.

**STORAGE PRECAUTIONS:** Keep in cool, dry, ventilated storage and closed containers. Keep upright. Store above freezing Storage Criteria: Chemical Storage.

#### 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

**PROTECTIVE EQUIPMENT:** Gloves, goggles

**VENTILATION:** Provide adequate general and exhaust ventilation.

**RESPIRATORS:** If ventilation is insufficient, suitable respiratory protection must be provided.

**PROTECTIVE:** Use protective gloves made of Rubber or Plastic Gloves

**EYE PROTECTION:** Wear splash-proof eye goggles to prevent any possibility of eye contact.

**OTHER PROTECTION:** Use engineering controls to reduce air contamination of permissible exposure. Provide eyewash, quick drench. Wear appropriate clothing to prevent any possibility of skin contact.

**HYGIENIC WORK ROUTINE:** Wash as the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes wet. Promptly remove non-impervious clothing that becomes wet or contaminated. Contaminated clothing to be placed in closed container until disposal or decontamination. Warn cleaning personnel of chemical's hazardous properties. DO NOT SMOKE IN WORK AREA!



# Richco Deck-a-Grip

## 9) PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Light viscous liquid
Colour	Dark amber
Odour/Taste Characteristic.	Musty (mouldy)
Solubility Description	Immiscible with water
Melting point	5
Specific Gravity	(water=1) 1.21 @ 20degrees C
Vapour Density	8.5<0001mmHg@25degrees C
Volatility Description	Emits vapours if heated
Viscosity	<60 cps @25degreesC
Flash point	>200
Flash point Method	Method Sh CC (Setaflash closed cup)
Auto ignition Temperature	>400

## 10) STABILITY AND REACTIVITY

Stability Normally stable Avoid Moisture

**CONDITIONS TO AVOID:** Polymerises when heated.

**HAZARDOUS:** polymerisation N/A

**MATERIALS TO AVOID:** Strong acids. Strong alkalis. Amines. Alcohols, glycols.

## HAZARDOUS DECOMPOSITION PRODUCTS:

Fire creates: Toxic gases/vapours/fumes of: Caron dioxide (CO2). Nitrous gases (Nox). Hydrogen cyanide (HCN)

## 11) TOXICOLOGICAL INFORMATION

Toxicological Data

Acute toxicity:

LD50 Oral Rat >10000mg/kg

Toxic DOSE1-LD50: >500mg (skn-rbt)

Toxic CONC-LD50: -500ppm/4h (inh-rat)

**INHALATION:** Harmful by inhalation. May cause sensitisation by inhalation.

**SKIN:** May cause sensitisation by skin contact. Liquid may irritate skin.

**EYES:** Irritation of eyes and mucous membranes. May cause sever irritation to eyes.

**HEALTH WARNINGS:** Vapour from this chemical can be hazardous when inhaled. This chemical may cause skin/eye irritation. May cause irritation to the respiratory system. May cause respiratory allergy. Prolonged or repeated exposure may cause sever irritation. Asthma, pulmonary sensitisation. Coughing and shortness of breath. Prolonged exposure may lead to reduced tolerance, resulting in asthma-like response to low concentration exposure.

Route of entry Inhalation. Skin absorption. Ingestion skin and/ or eye contact.

Target organs Respiratory system, lungs. Eyes. Skin. Mucous

membranes.

**MEDICAL SYMPTOMS:** Upper respiratory irritation. Coughing, chest tightness, feeling of chest pressure. Delayed, often serious breathing problems. Difficulty in breathing. Medical Considerations Chronic respiratory and obstructive airway diseases, Allergies.

## 12) ECOLOGICAL EFFECTS

Acute toxicity LC50 24 hours Daphnia >500mg/l  
LC40 96 HRS FISH (mg/Kg) 1000

## 13) DISPOSAL CONSIDERATIONS

Disposal methods Dike far ahead of spill for later disposal. Do no allow runoff to sewer, waterway or ground. Dispose of in accordance with Local Authority requirements. Absorb in vermiculite or dry sand, dispose in licensed special waste.

## 14) TRANSPORT INFORMATION

No transport warning sign required.

## 15) REGULATORY INFORMATION

Harmful label.

Risk phrases

R-20	Harmful by inhalation.
R-36/37/38	Irritating to eyes, respiratory system and skin.
R-42	May cause sensitisation by inhalation

## Safety phrases

S-26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S-38	In case of insufficient ventilation, wear suitable respiratory equipment.
S-24/25	Avoid contact with skin and eyes. P-4 Contains isocyanates. See information supplied by the Manufacturer.
S-23A	Do not breathe gas/fumes/vapour/ spray

UK Regulatory References The Control of Substances. Hazardous to Health Regulations 1988.

Chemicals (Hazard Information & Packaging) Regulations 1993. Statutory instruments: Control of Substances Hazardous to Health.

Chemicals (Hazard Information and Packaging) Regulations. Approved code of practice Classification and Labelling of Substances and Preparations Dangerous for Supply. Guidance notes CHIP for everyone HSG (108) Isocyanates toxic hazards and precautions EH16.

## 16) OTHER INFORMATION

This Material Safety Data Sheet conforms to EC Directives 91/155/EEC and 93/112/EC. The information given here is to the best of our knowledge true and accurate and is provided solely for making safety assessments. It is not a sales specification or an indication of suitability for a particular use.