



## PRODUCT DATA SHEET

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### UrePac® Cryo 65 55

#### System Description

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Urepac™ Rigid 65 55 is a two component pour/ injection PUR / PIR foam based on polyether / polyester polyols and MDI isocyanate. The system has been developed for the insulation of valves and pipe work for low boiling liquids such as LNG, LPG and Ammonia.

UrePac™ 60 55 has a low viscosity and long cream time so that it can be dispensed through low and high pressure equipment or hand mixed.

UrePac™ 60 55 has been formulated using non halogen containing fire retardants, zero ODP blowing agents, no CFC or HCFC, it can be used over a broad range of application conditions including areas of high relative humidity and high ambient temperature.

UrePac™ 60 55 can also be formulated using blowing agents that have zero ODP and a very low GWP, where low GWP is specified.

#### Product Description and Features.

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The system has been developed with excellent insulation and fast reaction properties for use in hot water or refrigeration applications.

- Exceptional Insulation for cryogenic applications
- 1:1 Mix ratio
- Excellent flow

#### UrePac Cryo 65 55 (Polyol) Specification:

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**Specific Gravity (22°C):** 1.10 +- 0.02 g/ml

**Viscosity (Brookfield) (22°C):** 300 +- 100 m.Pas

*Spindle 1 Speed 50*

**Appearance:** Clear straw liquid

#### UrePac 2001 (Isocyanate) Specification:

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**Specific Gravity (22°C):** 1.23 +- 0.02 g/ml

**Viscosity (Brookfield) (22°C):** 210 +- 70 m.Pas

*Spindle 1 Speed 50*

**Appearance:** Clear Brown liquid

#### Mixed System Specification

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**Mix Ratio:** By Weight 100 Polyol (Part A): 110 Isocyanate (Part B)

By Volume 100 Polyol (Part A): 100 Isocyanate (Part B)

**Cream Time (22°C):** 65+-5 seconds

*Time from when mixing commences till the liquid starts to expand.*

**String time (22°C):** 210+-10 seconds

*Time from when mixing commences till "strings can be pulled from the surface of the rising foam.*

**Rise time (22°C):** 320+-20 seconds

*Time from when mixing commences till the foam finishes expanding.*

**Free Rise Density (22°C):** 55+-2 Kg/m<sup>3</sup>

*(Obtained from Laboratory 50g cup test, results will vary depending on mix quantities)*

### Packaging Options:

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Packaging	Component A (Polyol)	Component B (Isocyanate)
23L White Open top pail	<b>20kg</b>	<b>22kg</b>
60L Open Top Drum	<b>60kg</b>	<b>66kg</b>
205L Closed Head Drum	<b>210kg</b>	<b>250kg</b>
1000L IBC	<b>1050kg</b>	<b>1250kg</b>

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## Typical Cured Foam Properties

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After 7 days cure @ 22°C unless otherwise specified.

Core Density:	ASTM D1622	45+-2 Kg/m <sup>3</sup>
Dimensional Stability (70°C)	+5% (@ 24 hours)	Pass
Closed Cell Content:	ASTM D6226	90-95%
Leachable Halides	ASTM C871	25 ppm
K Value (Initial):	ASTM C518	0.0195 W/mK
K Value (Aged):	ASTM C518	0.0230 W/mK
Compressive Strength 22°C:	ASTM D1621	250+-10 KPa
Compressive Strength -165°C:	ASTM D1621	280+-10 KPa
Tensile Strength 22°C:	ASTM D1623	0.33 MPa
Tensile Strength -165°C:	ASTM D1623	0.25 MPa
Water Absorption	ASTM D8242	1.35%
Horizontal Burn	ISO 3582	
Burn Time:		5 sec
Burn Length:		15 mm
Burn Rate:		0.23 mm/sec
Spread of Flame	ASTM E84	25-50

## Storage

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**Component A** should be stored in closed containers under dry conditions out of direct sunlight between 18 and 25°C.

**Component B** should be stored separately from *Component A*, but under the same conditions.

Both products will have a minimum shelf life of six months when stored under these conditions.

**Cured Product:** Like all polyurethanes based on aromatic isocyanates this foam is **not** UV stable and will have surface discolouration and degradation if exposed to UV radiation and sunlight. Please speak to our technical consultants regarding your options if this product is required for use in external applications.

## Processing Conditions:

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### Component Preparation

**Component A** (polyol) It is recommended that the polyol is mixed each day prior to use. If this component is held in day tanks they should be continuously agitated to prevent any separation during production.

**Component B** (isocyanate) does not need to be mixed prior to use.

Both Components should be preconditioned to 22-25°C to ensure that the components will have consistent reactivity and performance. If processing in a machine this usually requires recirculation for at least an hour prior to production commencing.

### Clean Up

It is essential that any liquid spills are cleaned up immediately, as the isocyanate (which reacts with atmospheric moisture) and reacting urethane is very difficult to remove once it has fully cured. For liquid spills we recommend using UrePac+7102 which is a non flammable, quick drying solvent. For cleaning of cured urethane from small utensils we recommend using UrePac+ 7108 heated to 70°C in a deep fryer for 1-2 hours.

## Safety Requirements:

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### PPSE



We recommend the use of eye protection and latex or nitrile gloves when processing any polyurethane systems. We would also recommend the use of disposable overalls as splashing of the isocyanate can cause temporary staining of the skin, and some individuals can become sensitized to isocyanates with skin contact. In normal use the isocyanates will generally remain below the allowable exposure limits, however if they are heated or dispensed as an aerosol into the atmosphere then a respirator with organic vapour filter is essential.

## Transport (Dangerous Goods) Classification

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Component A: None

Component B: None

### Isocyanates

Classified as Hazardous according to Worksafe Australia

HARMFUL VAPOUR

SKIN AND EYE IRRITANT

## SKIN AND RESPIRATORY SENSITISER

### FIRST AID

If inhaled: remove from exposure. For all but the most minor symptoms arrange for a doctor or transport to the nearest hospital.

In case of eye contact: immediately flush eyes with plenty of water for at least 15 minutes. Contact medical attention.

In case of skin contact: immediately wash skin with soap and plenty of water. Get medical attention immediately if symptoms occur. Remove contaminated clothing Wash clothes before re-use.

Other information: Never give fluids or induce vomiting

Advice to Doctor: May cause respiratory sensitisation or asthma-like symptoms. Bronchodilators, expectorants and anti tussives may be of help. Respiratory Symptoms, including pulmonary oedema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. No specific antidote. Treatment based on judgement of the physician in response to reactions of the patient.

### WATER CONTAMINATION CAUSES DANGEROUS PRESSURE

Store in a DRY place. The combined evolution of CO<sub>2</sub> and heat can produce sufficient pressure to rupture a closed container.

IN CASE OF FIRE: use CO<sub>2</sub>, dry chemical or foam extinguishers. If water is used it should be in very LARGE quantity. The reaction between water and hot isocyanate may be vigorous. Wear a positive pressure self-contained breathing apparatus.

IN CASE OF SPILL OR LEAK: evacuate and ventilate spill area. Do not use water. Dyke to prevent entry into waterways. If temporary control of isocyanate vapour is required, a blanket of foam may be placed over the spill. Use appropriate safety equipment including respiratory protection during clean up. Soak up with sawdust or other absorbent. Shovel into suitable open-top containers. Do not make pressure tight.

Remove from the area for decontamination. Use a solution of 3-8% ammonia in water or 5-10% sodium carbonate at about a 10 to 1 ratio to isocyanate. Detergent may be added to facilitate wetting of ammonia solution. Let stand 1-2 days before disposal in approved manner.

### EMERGENCY RESPONSE (All Hours)

1800 033 882 (Australia Only)

### *Disposal*

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**Liquid Systems:** Liquid polyurethanes should be disposed of with an EPA approved industrial waste company which meet all applicable federal, state and local laws and regulations.

**Cured Urethanes:** Fully reacted and cured polyurethanes are inert and can be disposed of as normal landfill.

**Container:** Dispose of decontaminated drums in accordance with all applicable federal, state and local laws and regulations.

Do Not Re-use Empty Container.

Do Not Cut or Weld Empty Container.

## *Disclaimer*

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This information is given in good faith but without warranty and is supplied to users based on our general experience and, where applicable, on the results of tests on samples of typical manufacture.

However, because of the many factors which are outside our knowledge and control that can affect the use of these products, it is imperative that the end user is satisfied that the material will meet their individual processing and performance requirements. Pacific Urethanes Pty Ltd cannot accept liability for any injury, loss or damage resulting from reliance upon this information.

All sales of this product shall be subject to Pacific Urethanes' Terms and Conditions of Sale. For a copy of these terms please contact us at [info@pacificurethanes.com](mailto:info@pacificurethanes.com).

For additional information, consult the Material Safety Data Sheet for this product.