

**MATERIAL SAFETY DATA SHEET**

## 1. IDENTIFICATION OF PRODUCT AND COMPANY

Product: Ronabond PU 55  
Company: Ronacrete (Far East) Ltd., 16/F, No. 3 Lockhart Rd,  
Wanchai, Hong Kong SAR  
Tel/Fax: +852 2865 5872 / +852 2865 5568

## 2. COMPOSITION

Ingredient	CAS number	Proportion
Polymeric Diphenylmethane-4,4-diisocyanate	9016-87-9	LOW
Prepolymers of Diphenylmethane-4,4-diisocyanate	mixture	HIGH
Benzoyl chloride	98-88-4	VLOW
Di-basic ester	-	MED

Proportion (% weight/weight): VHIGH >60, HIGH 30 – 60, MED 10 – 29, LOW 1 – 9, VLOW <1

## 3. HAZARDS IDENTIFICATION

Hazardous according to criteria of Worksafe Australia.

**UN number:** 3082  
**Hazchem code:** Xn Harmful  
**Class:** 9 Miscellaneous Dangerous Goods  
**Packing group:** III  
**Correct shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

## 4. FIRST AID MEASURES

**Notes to physician:** Treat symptomatically. Effects may be delayed. Following exposure the patient should be kept under medical supervision for at least 48 hours.

**Ingestion:** Rinse mouth with water. Give water to drink. DO NOT induce vomiting. Seek immediate medical assistance.

**Inhalation:** Remove victim from exposure. Keep warm. Keep at rest until fully recovered. If breathing becomes laboured and patient is cyanotic (blue), ensure airways are clear and have qualified person give oxygen. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. Seek immediate medical attention.

**Skin contact:** Wash contaminated skin with plenty of soap and water. Remove contaminated clothing and wash before re-use. If swelling, redness, blistering or irritation occurs seek medical advice.

**Eye contact:** Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Urgently seek medical assistance.

## 5. FIRE FIGHTING MEASURES

**Specific hazards:** Will emit toxic fumes on burning including those of carbon oxides, nitrogen oxides, isocyanate vapours and hydrogen cyanide. Due to reaction with water producing CO<sub>2</sub>-gas, do not re-seal contaminated containers.

**Suitable extinguishing media:** Foam, carbon dioxide and chemical powder. Water fog) of if unavailable fine water spray) may be used if no other media is available, and then only in copious quantities. The reaction between water and hot isocyanate may be vigorous.

**Required special equipment for fire fighters:** Self-contained breathing apparatus.

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### 6. ACCIDENTAL RELEASE MEASURES

**For minor spillage:**

1. Wear skin and eye protection.
2. Treat spillage with solid media (eg sand, sawdust or chemical binder).
3. Remove and dispose of residues according to local authority regulations.

**For major spillage:**

1. Clear area of all unprotected personnel
2. Wear full protective equipment including splash suit, air supplied mask, gloves, boots and eye protection.
3. Prevent run off into drains and waterways. Cover with wet soil, wet sand or solid decontaminant.
4. Let material react for 10 minutes.
5. Shovel into open top drums for further decontamination if necessary.
6. Wash down area with excess water.
7. Ventilate the area well before allowing unprotected personnel to re-enter the area.

### 7. HANDLING AND STORAGE

**Storage:** Store indoors in a dry, well-ventilated area. Recommended storage temperature 10 – 35°C.

**Materials to avoid:** Water, alcohols, amines, acids, alkalis, organic compounds containing active hydrogen groups, foodstuffs and sources of ignition.

**Unsuitable containers:** Copper, copper alloys and galvanised surfaces.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National occupational exposure limits:

No values assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia).

However for the constituent;

Material	TWA ppm	Mg/m <sup>3</sup>	STEL ppm	Mg/m <sup>3</sup>	Notices
Isocyanates, all (as –NCO)	-	0.02	-	0.07	‘Sen’

TWA – the Time-Weighted Average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term exposure limit) – the average airborne concentration over a 15 minute period which not be exceeded at any time during a normal eight hour workday. According to current knowledge these concentrations should neither impair the health of, nor cause undue discomfort to, nearly all workers.

‘sen’ notice – sensitiser. The substance can cause a specific immune response in some people. An affected individual may subsequently react to exposure to minute levels of that substance.

**Personal protection:** Avoid inhalation of fumes, use with local exhaust ventilation or while wearing an air-supplied mask. Avoid contact with skin. Wear eye protection.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour:	Clear to straw coloured liquid
Specific gravity:	1.1 – 1.5
Viscosity:	600 - 800cps
pH:	Not applicable
Solubility in water:	< 1%; miscible with water in wet state

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Boiling point (°C):	230
Flash point (°C):	220
Flammability limits (%):	Not Available
Autoignition Temp (°C):	Not Available
Vapour pressure (20 °C):	1x10 <sup>-6</sup> kPa (MDI)
Vapour density:	Not Available
Melting point (°C):	Not Available
Decomposition point (°C):	Not Available
Sublimation point (°C):	Not applicable
Evaporation rate:	Not applicable
VOC:	< 420 grams per litre

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**10. STABILITY AND REACTIVITY**

**Materials to avoid:** Water, alcohols, amines, acids, alkalis, organic compounds containing active hydrogen groups, foodstuffs and sources of ignition.

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**11. TOXICOLOGICAL INFORMATION**

**Eye contact:** Vapour and liquid can cause severe eye irritation, may cause chemical conjunctivitis.

**Skin contact:** Contact will result in moderate irritation. May cause sensitisation in some individuals. Repeated or prolonged contact may result in allergic contact dermatitis.

**Inhalation:** Vapour is an irritant to mucous membranes and respiratory tract. Inhalation of vapour can result in irritation to eyes, nose, throat and lungs, combined with dryness of the throat, tightness of the chest and difficulty breathing. A respiratory sensitiser. The onset of respiratory symptoms may be delayed for several hours after exposure.

**Ingestion:** May cause nausea, vomiting and irritation to the gastrointestinal tract.

**Long-term effects:** Available evidence indicates that repeated or prolonged exposure to the constituent MDI may result in permanent decreases in lung function and may cause aggravation to individuals with existing respiratory diseases.

**Acute toxicity / Chronic toxicity:** No LD50 data available for this product. However for the constituent MDI:

Oral LD50 (rat): >5000mg/kg.

Inhalation LC50 (rat) – 4 hour: 490 mg/m<sup>3</sup>.

Skin: Moderate irritant dermal LD50 (rabbit) - >5000mg/kg).

Eyes: irritant (human).

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**12. ECOLOGICAL INFORMATION**

Immiscible with water but will react with water to produce inert and non-biodegradable solids. Material is practically non-toxic to aquatic organisms on an acute basis ( LC50 >100mg/l in most sensitive species).

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**13. DISPOSAL CONSIDERATIONS**

Refer to Local authority. Empty containers must be filled with liquid decontaminant and left to stand unsealed for 24 hours. Empty the drums and recycle by through approved reconditioner. Reuse the decontaminant 5 to 10 times.

Liquid decontaminant:

Water 90 – 95%

Sodium carbonate 5 – 10%

Liquid detergent 0.2 – 0.5%

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## 14. TRANSPORT INFORMATION

Not considered as dangerous goods for transport regulations.

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## 15. REGULATORY INFORMATION

## R-phrases

R20 Harmful by inhalation.  
R36/37/38 Irritating to eyes, respiratory system and skin.  
R42 May cause sensitisation by inhalation.

## S-phrases

S26 In case of contact with skin, wash immediately with plenty of water and seek medical advice.  
S28 After contact with skin, wash immediately with plenty of soap and water.  
S38 In case of insufficient ventilation, wear suitable respiratory equipment.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

Type of Regulated Paint under the Air Pollution Control (Volatile Organic Compounds) Regulation of Hong Kong: Other sealants

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## 16. OTHER INFORMATION

This MSDS summarises at the date of issue our best knowledge of health and safety hazard information for this product, and in particular how to safely handle and use the product in the workplace. Each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

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