

## MATERIAL SAFETY DATA SHEET

### 1. IDENTIFICATION OF PRODUCT AND COMPANY

Product: RonaFloor SL  
 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

A 3 pack system comprising resin, hardener and aggregate which are supplied in separate containers to be mixed together at the site of application.

	% By weight	CAS No	Hazard	R-phrases	Symbols
Composition of Resin:					
Epoxy resin	5-20%	68609-97-2	Xi,	N	R36/38,43,51/53
Epoxy resin	10-35%	9003-36-5	Xi,	N	R36/38,43,51/53
Epoxy resin	10-35%	25068-38-6	Xi,	N	R36/38,43,51/53
Non-toxic additives and pigments.					
Epoxide derivatives	5-15%				
Combination of high bonding solvents	4-10%		Xi,	N	R36/R38-43,51,53
	<1%				R37-43,50-53
Composition of Hardener:					
Benzyl Alcohol	25-50%	100-51-6	Xn		R20,22
Isophoronediamine	10-30%	2855-13-2	C		R21,22,34,43
4-Tert-butylphenol	<10%	98-54-4	Xi		R36,37,38,42,43
Nonylphenol	<5	25154-52-3	C	N	R22,34,50,53
n-Xylenediamine	10-25%	1477-55-0	C		R20/21,31,45

#### Composition of Aggregate:

Natural aggregates, which are produced from naturally occurring rock and gravel deposits and consist of combinations of various minerals including silica.

### 3. HAZARDS IDENTIFICATION

#### Resin:

- Hazard Designation
  - I Irritant
  - N Dangerous to the environment
- Information pertaining to particular dangers for man and environment.
  - R36/38 Irritating to eyes and skin.
  - R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
  - R43 May cause sensitisation by skin contact.
  - Contains epoxy constituents.

#### Hardener:

- Hazard Designation
  - C Corrosive
- Information pertaining to particular dangers for man and environment
  - R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
  - R34 Causes burns
  - R43 May cause sensitisation by skin contact.

#### Aggregate:

Dust inhaled over a prolonged period can be hazardous to health. When the respirable dust contains silica, the risks are increased. Advice on the silica content on individual aggregates is available on request.

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### 4. FIRST AID MEASURES

Eye Contact:	Rinse immediately with water, continuing for 15 minutes. Seek medical attention.
Skin Contact:	Rinse immediately with plenty of soap and water. Remove contaminated clothing. In case of persistent irritation, or if a rash develops, seek medical attention.
Inhalation:	Remove the affected person to fresh air and allow to rest. In case of breathing difficulty, or distress, seek medical attention.
Ingestion:	Immediately rinse mouth with water and seek medical attention. If this is not immediately available, drink 1 or 2 pints of water.
Aggregate:	
Eye Contact:	Wash with copious amounts of water and seek medical advice.
Skin Contact:	Wash with water.
Inhalation:	Remove from exposure to a ventilated area.
Ingestion:	Remove from exposure to a ventilated area.

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### 5. FIRE FIGHTING MEASURES

Special hazards:	If involved in a fire, may generate noxious or toxic vapours.
Protective equipment:	Wear full protective suit. Fire fighters wear self-contained breathing apparatus.
Extinguishing agents:	Foam, dry powder, CO2 or water spray.
Aggregate:	None needed.

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### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear full protective clothing when dealing with a spillage. Keep unprotected persons away.
Environmental precautions:	Prevent from entering sewer system, surface water, or soil.
Methods for cleaning up:	Absorb with earth, sand or other absorbent materials. Dispose of contaminated material as waste according to item 13.
Aggregate:	
Personal precautions:	In the event of a spillage avoid breathing dust. Wear dust mask/respirator and goggles as per section 8.
Environmental precautions:	Releasing the dust into the environment does not constitute a significant hazard.
Methods for cleaning up:	Vacuum cleaning, dampen area avoid brushing dry dust where possible.

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### 7. HANDLING AND STORAGE

- Handling:	
- Information for safe handling:	Ensure good ventilation/exhaustion at the work place. Wear goggles or a face shield, impervious gloves and protective clothing.
- Information about protection against explosion and fires:	No special measures required.
- Storage:	
- Requirements to be met by storerooms and containers:	Prevent any penetration into the ground.
- Further information about storage conditions:	Store in cool, dry conditions in well-sealed containers.
Aggregate:	
The product should be stored in such a way as to reduce airborne dust. When bagged the material should be kept dry and palletised.	

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## MATERIAL SAFETY DATA SHEET

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

During application: Wear goggles or a face shield, impervious gloves and protective clothing. Apply in a well-ventilated area.

Aggregate:

Occupational exposure levels.

Total inhalable dust 10mg/m<sup>3</sup> OES

Respirable dust 4mg/m<sup>3</sup> OES

Respirable dust silica 0.3mg/m<sup>3</sup>

Wear goggles or a face shield, abrasive resistant gloves and protective clothing. Apply in a well-ventilated area.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Resin: Physical state: pigment dispersion in liquid resin.  
Colour: varies according to shade of finish required.  
Odour: weak odour.  
Vapour pressure: <0.01kPa at 20°C.  
Boiling point: >200°C.  
Flash point: >250°C.  
Density: 1.20 at 20°C.  
Solubility (water) insoluble.  
Viscosity: 1000cPs at 25°C.

Hardener: Physical state: liquid.  
Colour: pale yellow.  
Odour: amine-like.  
Vapour pressure: 0.28mbar at 20°C.  
Boiling point: >200°C.  
Flash point: >100°C.  
Density: 1.05g/cm<sup>3</sup> at 20°C.  
Solubility: slightly soluble.  
Viscosity: 400cPs at 25°C.

Aggregate: Odourless solid particles of crushed stone gravel with various colours.  
Chemical properties not applicable.

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### 10. STABILITY AND REACTIVITY

Resin: May react exothermally with amines and mercaptans, also with acids.  
In case of a fire, carbon monoxide, carbon dioxide and other harmful gases may be formed.

Hardener: Reacts exothermally with acids. Liberates ammonia when heated. In case of a fire, toxic fumes of nitrogen oxides, amines and carbon monoxide may be formed. Nitrogen oxide can react with water vapours to form corrosive nitric acid.

Aggregate: Not applicable.

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### 11. TOXICOLOGICAL INFORMATION

Resin: LD50 oral, rat: >5000mg/kg.  
Epoxy resins such as contained in this product have been shown to cause irritation in humans on skin and eyes.  
Sensitisation by skin contact may also occur.

Hardener: LD50 oral, rat: >1620mg/kg.  
The amine/diamine constituents of this product are irritant to skin and mucous membranes, irritant to eyes, and may cause sensitisation.

Aggregate: May cause transient irritation to eyes.  
Inhalation of large quantities of respirable silica may lead to progressive lung damage.  
Chronic exposure to high levels of silica may cause progressive silicosis.

## MATERIAL SAFETY DATA SHEET

**12. ECOLOGICAL INFORMATION**

Environmental precautions: Prevent from entering sewer system, surface water or soil.  
 Aggregate: No adverse effect foreseen.

**13. DISPOSAL CONSIDERATIONS**

Waste: Remove according to local authority recommendations, e.g. Convey to a licensed incinerator.  
 Do not re-use containers.  
 Aggregate: Non hazardous.

**14. TRANSPORT INFORMATION**
**Resin:**
**Land Transport ADR/RID (Cross-border)**

ADR/RID Class: 9 Various dangerous materials and objects.  
 Number/Letter: 11c)  
 Hazard Index Number: 90  
 Substance Index Number: 3082  
 Designation of goods: 3082

**Maritime transport IMDG**

IMDG Class: 9  
 Page: 9082  
 UN Number: 3082  
 Packaging group: III  
 EMS Number: -  
 MFAG: -

Correct technical name: Environmentally hazardous substance, liquid, n.o.s. (epoxide derivative)

Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class: 9  
 UN/ID Number: 3082  
 Packaging group: III

Correct technical name: Environmentally hazardous substance, liquid, n.o.s. (epoxide derivative)

Transport/Additional Information No dangerous goods according to international transport regulations.

**Hardener:**
**Land transport ADR/RID (Cross-border)**

ADR/RID Class: 8 Corrosive materials.  
 Number/Letter: 53c)  
 Hazard index number: 80  
 Substance index number: 2735  
 Label: 8  
 Designation of goods: Polyamines, liquid, corrosive, n.o.s. (isophoronediamine)

**Maritime transport IMDG**

IMDG Class: 8  
 Page: 8109-2  
 UN Number: 2735  
 Packaging group: III  
 MFAG: 320  
 Marine pollutant: -

Correct technical name: Polyamines, liquid, corrosive, n.o.s. (isophoronediamine)

**MATERIAL SAFETY DATA SHEET**

Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class: 8  
UN/ID Number: 2735  
Packaging group: III  
Correct technical name: Polyamines, liquid, corrosive,  
n.o.s. (isophoronediamine)

Aggregate: Non hazardous, no transport labelling required.

## 15. REGULATORY INFORMATION

Resin: Hazard labels: Xi Irritant.  
N Dangerous for the environment.

R-phrases: 51/53 toxic to aquatic organisms.  
R36/38 Irritating to eyes and skin.  
R43 May cause sensitisation by skin contact.

S-phrases: S26 In case of contact with eyes, rinse immediately with plenty of  
water and seek medical advice.  
S28 After contact with skin, wash immediately with plenty of soap  
and water.  
S36 Wear suitable protective clothing.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face  
protection.  
S45 In case of accident or if you feel unwell, seek medical advice  
immediately.  
S61 Avoid release to environment. Refer to special instructions.

Hardener: Hazard labels: C Corrosive.

R-phrases: R20/21/22 Harmful by inhalation, in contact with skin and if  
swallowed.  
R34/R35 Causes burns.  
R43 May cause sensitisation by skin contact.

S-phrases: S26 In case of contact with eyes, rinse immediately with plenty of  
water and seek medical advice.  
S28 After contact with skin, wash immediately with plenty of  
soap and water.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face  
protection.  
S45 In case of accident or if you feel unwell, seek medical advice  
immediately.

Aggregate: Not classified as dangerous for supply within the UK.

## 16. OTHER INFORMATION

The above information and advice are given when the material is used as intended.  
If purchasing on behalf of a third party, it is your duty to take all necessary steps to secure that the person  
handling or using the material is provided with the information in the data sheet.  
All the foregoing information should be regarded as being applicable to the finished paint as well as to the  
individual components.

## MATERIAL SAFETY DATA SHEET

### 1. IDENTIFICATION OF PRODUCT AND COMPANY

Product: RonaFloor Epoxy Primer  
 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

A 2 pack system comprising resin and hardener which are supplied in separate containers to be mixed together at the site of application.

	% By weight	CAS No	Hazard	R-phrases	Symbols
Composition of Resin:					
Epoxy resin	5-20%	68609-97-2	Xi,	N	R36/38,43,51/53
Epoxy resin	10-42%	9003-36-5	Xi,	N	R36/38,43,51/53
Epoxy resin	10-42%	25068-38-6	Xi,	N	R36/38,43,51/53
Non-toxic additives	< 1%				
Epoxide derivatives	4-10%		Xi,	N	R36/R38-43,51,53
Combination of high bonding solvents	<1%				R37-43,50-53
Composition of Hardener:					
Benzyl Alcohol	25-50%	100-51-6	Xn		R20,22
Isophoronediamine	10-30%	2855-13-2	C		R21,22,34,43
4-Tert-butylphenol	<10%	98-54-4	Xi		R36,37,38,42,43
Nonylphenol	<5	25154-52-3	C,	N	R22,34,50,53
n-Xylenediamine	10-25%	1477-55-0	C		R20/21,31,45

### 3. HAZARDS IDENTIFICATION

Resin:

- Hazard Designation

I Irritant

N Dangerous to the environment

- Information pertaining to particular dangers for man and environment.

R36/38 Irritating to eyes and skin.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R43 May cause sensitisation by skin contact.

Contains epoxy constituents.

Hardener:

- Hazard Designation

C Corrosive

- Information pertaining to particular dangers for man and environment

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R34 Causes burns

R43 May cause sensitisation by skin contact.

### 4. FIRST AID MEASURES

Eye Contact: Rinse immediately with water, continuing for 15 minutes.  
 Seek medical attention.

Skin Contact: Rinse immediately with plenty of soap and water.  
 Remove contaminated clothing.

Inhalation: In case of persistent irritation, or if a rash develops, seek medical attention.

Remove the affected person to fresh air and allow to rest.

Ingestion: In case of breathing difficulty, or distress, seek medical attention.

Immediately rinse mouth with water and seek medical attention. If this is not immediately available, drink 1 or 2 pints of water.

## MATERIAL SAFETY DATA SHEET

### 5. FIRE FIGHTING MEASURES

Special hazards:	If involved in a fire, may generate noxious or toxic vapours.
Protective equipment:	Wear full protective suit. Fire fighters wear self-contained breathing apparatus.
Extinguishing agents:	Foam, dry powder, CO <sub>2</sub> or water spray.

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### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear full protective clothing when dealing with a spillage. Keep unprotected persons away.
Environmental precautions:	Prevent from entering sewer system, surface water, or soil.
Methods for cleaning up:	Absorb with earth, sand or other absorbent materials. Dispose of contaminated material as waste according to item 13.

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### 7. HANDLING AND STORAGE

- Handling:
    - Information for safe handling.  
Ensure good ventilation/exhaustion at the work place.  
Wear goggles or a face shield, impervious gloves and protective clothing.
    - Information about protection against explosion and fires.  
No special measures required.
  - Storage:
    - Requirements to be met by storerooms and containers.  
Prevent any penetration into the ground.
    - Further information about storage conditions.  
Store in cool, dry conditions in well-sealed containers.
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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

During application:	Wear goggles or a face shield, impervious gloves and protective clothing. Apply in a well-ventilated area.
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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Resin:	Physical state:	liquid resin.
	Colour:	pale yellow, slightly milky.
	Odour:	weak odour.
	Vapour pressure:	<0.01kPa at 20 °C.
	Boiling point:	>200 °C.
	Flash point:	>250 °C.
	Density:	1.10 at 20oC.
	Solubility (water)	insoluble
Hardener:	Viscosity:	700cPs at 25oC.
	Physical state:	liquid.
	Colour:	pale yellow.
	Odour:	amine-like.
	Vapour pressure:	0.28mbar at 20oC.
	Boiling point:	>200 °C.
	Flash point:	>100 °C.
	Density:	1.05g/cm <sup>3</sup> at 20 °C.
Solubility:	slightly soluble.	
Viscosity:	400cPs at 25oC.	

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## MATERIAL SAFETY DATA SHEET

### 10. STABILITY AND REACTIVITY

Resin: May react exothermally with amines and mercaptans, also with acids. In case of a fire, carbon monoxide, carbon dioxide and other harmful gases may be formed.

Hardener: Reacts exothermally with acids. Liberates ammonia when heated. In case of a fire, toxic fumes of nitrogen oxides, amines and carbon monoxide may be formed. Nitrogen oxide can react with water vapours to form corrosive nitric acid.

### 11. TOXICOLOGICAL INFORMATION

Resin: LD50 oral, rat: >5000mg/kg.  
Epoxy resins such as contained in this product have been shown to cause irritation in humans on skin and eyes.  
Sensitisation by skin contact may also occur.

Hardener: LD50 oral, rat: >1620mg/kg.  
The amine/diamine constituents of this product are irritant to skin and mucous membranes, irritant to eyes, and may cause sensitisation.

### 12. ECOLOGICAL INFORMATION

Environmental precautions: Prevent from entering sewer system, surface water or soil.

### 13. DISPOSAL CONSIDERATIONS

Waste: Remove according to local authority recommendations, e.g. Convey to a licensed incinerator.  
Do not re-use containers.

### 14. TRANSPORT INFORMATION

Resin:  
Land Transport ADR/RID (Cross-border)

ADR/RID Class:	9	Various dangerous materials and objects.
Number/Letter:	11c)	
Hazard Index Number:	90	
Substance Index Number:	3082	
Designation of goods:	3082	

Maritime transport IMDG

IMDG Class:	9	
Page:	9082	
UN Number:	3082	
Packaging group:	III	
EMS Number:	-	
MFAG:	-	
Correct technical name:	Environmentally hazardous substance, liquid, n.o.s. (epoxide derivative)	

Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class:	9	
UN/ID Number:	3082	
Packaging group:	III	
Correct technical name:	Environmentally hazardous substance, liquid, n.o.s. (epoxide derivative)	

Transport/Additional Information No dangerous goods according to international transport regulations.



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## Hardener:

## Land transport ADR/RID (Cross-border)

ADR/RID Class: 8 Corrosive materials.  
Number/Letter: 53c)  
Hazard index number: 80  
Substance index number: 2735  
Label: 8  
Designation of goods: Polyamines, liquid, corrosive,  
n.o.s. (isophoronediamine)

## Maritime transport IMDG

IMDG Class: 8  
Page: 8109-2  
UN Number: 2735  
Packaging group: III  
MFAG: 320  
Marine pollutant: -  
Correct technical name: Polyamines, liquid, corrosive, n.o.s.  
(isophoronediamine)

## Air transport ICAO-TI and IATA-DGR

ICAO/IATA Class: 8  
UN/ID Number: 2735  
Packaging group: III  
Correct technical name: Polyamines, liquid, corrosive,  
n.o.s. (isophoronediamine)

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17. REGULATORY INFORMATION

Resin: Hazard labels: Xi Irritant.  
N Dangerous for the environment.

R-phrases: 51/53 toxic to aquatic organisms.  
R36/38 Irritating to eyes and skin.  
R43 May cause sensitisation by skin contact.

S-phrases: S26 In case of contact with eyes, rinse immediately with plenty of  
water and seek medical advice.  
S28 After contact with skin, wash immediately with plenty of soap  
and water.  
S36 Wear suitable protective clothing.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face  
protection.  
S45 In case of accident or if you feel unwell, seek medical advice  
immediately.  
S61 Avoid release to environment. Refer to special instructions.

Hardener: Hazard labels: C Corrosive.

R-phrases: R20/21/22 Harmful by inhalation, in contact with skin and if  
swallowed.  
R34/R35 Causes burns.  
R43 May cause sensitisation by skin contact.

S-phrases: S26 In case of contact with eyes, rinse immediately with plenty of  
water and seek medical advice.  
S28 After contact with skin, wash immediately with plenty of  
soap and water.  
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protection.  
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## 18. OTHER INFORMATION

The above information and advice are given when the material is used as intended.

If purchasing on behalf of a third party, it is your duty to take all necessary steps to secure that the person handling or using the material is provided with the information in the data sheet.

All the foregoing information should be regarded as being applicable to the finished paint as well as to the individual components.

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*MSDS-RonaFloor SL Issue 1 29.07.2011*