

SAFETY DATA SHEET

SECTION 1 – IDENTIFICATION: PRODUCT IDENTIFIER/CHEMICAL IDENTITY

1.1 PRODUCT IDENTIFIER: Bona R540

1.2 PRODUCT CODE: Not applicable

1.3 RELEVANT IDENTIFIED USES OF THE MIXTURE AND USES ADVISED AGAINST:

RELEVANT IDENTIFIED USES: Adhesive moisture barrier / primer

RESTRICTIONS ON USE: None known.

1.4 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

SUPPLIER NAME: Ezi Floor Products (VIC) Pty Ltd (ABN: 2208 758 1520),

ADDRESS: Unit 9, Wareca Business Park
1866 Princes Highway, Clayton, Victoria, 3168

E-MAIL: info@bona.net.au

TELEPHONE NUMBER: 03 9543 4399

1.5 EMERGENCY TEL. NUMBER: Business Hours 03 9543 4399 (After Hours
National Chemical Emergency Centre Europe 18000 74234.)

SECTION 2 – HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE HAZARDOUS CHEMICAL:

GHS CLASSIFICATION HAZARD

CLASS & CATEGORY: The product is a mixture and has been assessed under the Model Work Health and Safety Regulations with the following Classification:
Skin Corrosion/Irritation - Category 2
Sensitisation - Skin - Category 1
Serious Eye Damage/Irritation - Category 2A
Acute Toxicity - Inhalation - Category 2
Sensitisation - Respiratory - Category 1
Specific Target Organ Toxicity (Single Exposure) - Category 3
Carcinogenicity - Category 2
Specific Target Organ Toxicity (Repeated Exposure) - Category 1.

2.2 LABEL ELEMENTS INCLUDING PRECAUTIONARY STATEMENTS:

SIGNAL WORD: Danger

PICTOGRAMS:



HAZARD STATEMENTS: H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H330 - Fatal if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.
H351 - Suspected of causing cancer.
H372 - Causes damage to organs through prolonged or repeated exposure through inhalation.

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SECTION 2 – HAZARD(S) IDENTIFICATION - Continued

PRECAUTIONARY STATEMENTS:

PREVENTION:

- P102 - Keep out of reach of children.
- P103 - Read label before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P260 - Do not breathe mist/vapour/spray.
- P264 - Wash hands thoroughly with soap and water after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P284 - Wear respiratory protection.

RESPONSE:

- P101 - If medical advice is needed, have product container or label at hand.
- P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
- P304+P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P311 - Immediately call a POISON CENTRE or doctor/physician.
- P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
- P362 - Take off contaminated clothing and wash before reuse.

STORAGE:

- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.

DISPOSAL:

- P501 - Dispose of contents/container in accordance with local regulations.

2.3 OTHER HAZARDS:

This product contains isocyanate components and based upon these types of compounds the product may cause sensitisation of the respiratory system leading to an asthmatic condition, wheezing and tightness of the chest. People previously sensitised to isocyanates may exhibit asthmatic symptoms well below the nominated Occupational Exposure Level. As for all chemical products, persons should not expose open wounds, cuts, abrasions or irritated skin to this material. Please note that this product contains isocyanate compounds. Isocyanate compounds are Hazardous chemicals that require Health Monitoring under Safety Regulations.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS	CAS NUMBER	Concentration % W/W	GHS Classification*
Benzene, 1,1'-methylenebis [4-isocyanato- (4,4'-Methylenediphenyl) Diisocyanate or 4,4'-MDI)	101-68-8	≥30% - <55%	Skin Irrit 2 - H315 Skin Sen 1 - H317 Eye Irrit 2A - H319 Acute Tox 2 - H330 Resp Sen 1 - H334 STOT SE 3 - H335 Carc 2 - H351 STOT RE 1 - H372

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SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS - Cont'd

INGREDIENTS	CAS NUMBER	Concentration % W/W	GHS Classification*
Benzene, 1-isocyanato-2- [(4-isocyanatophenyl)methyl]- (2,4'-Diphenylmethane Diisocyanate or 2,4'-MDI)	5873-54-1	≥10% - <30%	Skin Irrit 2 - H315 Skin Sen 1 - H317 Eye Irrit 2A - H319 Acute Tox 2 - H330 Resp Sen 1 - H334 STOT SE 3 - H335 Carc 2 - H351 STOT RE 1 - H372
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, methyloxirane and 1,2-propanediol	67815-87-6	≥10% - <25%	Skin Irrit 2 - H315 Skin Sen 1 - H317 Eye Irrit 2A - H319 Acute Tox 4 - H332 Resp Sen 1 - H334 STOT SE 3 - H335 STOT RE 2 - H373
1,2-Propanediol, polymer with 1-isocyanato-2-[(4-isocyanatophenyl)methyl]benzene, 1,1'-methylenebis [4-isocyanatobenzene], methyloxirane and oxirane	72088-97-2	≥10% - <25%	Skin Sen 1 - H317 Resp Sen 1 - H334
Petroleum Resins (Hydrocarbon resin, postpolymerised with maleic anhydride)	64742-16-1	≥5% - <10%	Skin Sen 1 - H317 Chron Aq Tox 3 - H412
Isocyanic acid, polymethylene polyphenylene ester (Polymeric Diphenyl Methylene Diisocyanate or Polymeric MDI)	9016-87-9	≥3% - <5%	Skin Irrit 2 - H315 Skin Sen 1 - H317 Eye Irrit 2A - H319 Acute Tox 2 - H330 Resp Sen 1 - H334 STOT SE 3 - H335 Carc 2 - H351 STOT RE 1 - H372
Benzene, 1,1'-methylenebis [2-isocyanato- (2,2'-Methylenediphenyl) Diisocyanate or 2,2'-MDI)	2536-05-2	≥3% - <5%	Skin Irrit 2 - H315 Skin Sen 1 - H317 Eye Irrit 2A - H319 Acute Tox 2 - H330 Resp Sen 1 - H334 STOT SE 3 - H335 Carc 2 - H351 STOT RE 1 - H372
Other non-hazardous ingredients	-	To 100%	Not Applicable

* Please see Section 15 of this SDS for the full text description of the Label Elements.

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SECTION 4 – FIRST AID MEASURES

4.1 DESCRIPTION OF NECESSARY FIRST AID MEASURES:

INGESTION:

Rinse mouth out with water. Due to the blend of ingredients present, the manufacturer recommends that if swallowed, do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. If irritation develops or persists or vomiting has occurred after ingestion, seek medical assistance. As the product contains isocyanate components, within 6 hours of ingestion, if delayed symptoms, such as a fever greater than 38.3°C, shortness of breath, chest congestion or continued coughing/wheezing occurs transport immediately to a medical facility. For advice, contact the Poisons Information Centre (phone Australia 131 126; New Zealand 0800 764 766) or a doctor at once.

EYE:

If in eyes, hold eyelids apart and flush the eye immediately with large amounts of running water. Continue flushing for at least 15 minutes or until advised to stop by a Doctor. Check for contact lenses. If there are contact lenses, these should be removed after several minutes of rinsing by the exposed person or medical personnel if it can be done easily. As the product is rated as Causes serious eye irritation, after flushing, if irritation persists, seek medical assistance.

SKIN CONTACT:

If skin or hair contact has occurred remove any contaminated clothing and footwear, wash skin or hair thoroughly with soap and water. Do NOT use solvent and/or thinners. As the product is rated as Causes skin irritation and sensitisation, after flushing, if irritation occurs and persists or a rash occurs, seek medical assistance.

INHALATION:

The product is rated as Toxic if inhaled, May cause allergy or asthma symptoms or breathing difficulties if inhaled and May cause respiratory irritation. If affected, remove the patient from further exposure into fresh air, if safe to do so. If providing assistance, avoid exposure to yourself - only enter contaminated environments with adequate respiratory equipment. Once removed, lay patient down in a well-ventilated area and reassure them whilst waiting for medical assistance. Contact the Poisons Information Centre (phone Australia 131 126; New Zealand 0800 764 766). If not breathing, provide artificial respiration and seek immediate medical assistance. If unconscious, place in a recovery position and seek immediate medical assistance. If irritation develops or persists, consult a Doctor. Respiratory effects may be delayed resulting in symptoms occurring at night or several hours after working with isocyanates.

PROTECTION FOR FIRST AIDERS:

No personnel shall place themselves in a situation that is potentially hazardous to themselves. Assess the scenario for PPE requirements before entering. Do not enter contaminated area without a respirator or Self Contained Breathing Apparatus once you have assessed the environment. As the product contains isocyanate components, if the person has ingested the product, do not use direct mouth-to-mouth resuscitation techniques. Always ensure that you are wearing gloves when dealing with first aid procedures involving chemicals and/or blood.

FIRST AID FACILITIES:

Eye wash fountain and safety showers are recommended in the area where the product is used. As a minimum a source of flowing, potable water should be available.

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SECTION 4 – FIRST AID MEASURES - Continued

4.2 MOST IMPORTANT SYMPTOMS & EFFECTS, BOTH ACUTE & DELAYED, CAUSED BY EXPOSURE:

ACUTE: Ingestion or inhalation of vapours may lead to irritation of the mouth and respiratory tract. Symptoms may include an intense burning sensation in the nose, throat and respiratory tract, coughing or difficulty breathing. Ingestion may lead to nausea or vomiting. Eye contact may lead to localised burning, redness and tearing. Skin contact may lead to redness or itching.

CHRONIC: Based upon the properties of the isocyanate components and considering toxicological data on similar preparations, the manufacturer nominates after prolonged or repeated over-exposure, that the preparation may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the nominated Exposure Levels. Repeated exposure may lead to permanent respiratory disability. Skin contact may aggravate/exacerbate existing skin conditions, such as dermatitis. The product contains components that may cause an allergic skin reaction. Repeated or prolonged contact with the preparation may cause removal of the natural fats and oils from the skin. Continued contact may lead to non-allergic contact dermatitis and absorption through the skin.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NECESSARY:

ADVICE TO DOCTOR: Treat symptomatically. The manufacturer recommends that if large quantities have been ingested or inhaled a Poisons Specialists should be contacted immediately as a precaution.

SECTION 5 – FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

SUITABLE MEDIA: Use extinguishing media appropriate for surrounding fire. Use carbon dioxide, alcohol resistant foam, dry chemical or water spray. Spray down fumes resulting from fire.

UNSUITABLE MEDIA: Avoid using full water jet directed at residual material that may be burning. Water may cause splattering on hot residues.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

COMBUSTION HAZARDS: This product contains isocyanate components. These materials may decompose and release toxic substances. Combustion may produce oxides of carbon and nitrogen, and the materials may decompose and release dense black smoke and toxic substances such as hydrogen cyanide and monomeric isocyanate components. The decomposition and combustion products could therefore present as a health hazard.

5.3 ADVICE FOR FIREFIGHTERS:

FIRE: This product is not flammable under conditions of use, however it is combustible viscous liquid that will ignite if pre-heated. Please note that this product contains isocyanate components. In the event of a fire this material may decompose and release toxic substances. Keep storage tanks and fire exposed surfaces, etc, cool with water spray. Do not allow runoff from a fire to enter drains, sewers or waterways.

HAZCHEM CODE: Not applicable.

EXPLOSION: No information to indicate that the product is an explosion hazard. Extinguish all sources of flame or spark. Closed containers may explode when exposed to extreme heat.

PROTECTIVE EQUIPMENT: In the event of a fire, wear full protective clothing and self-contained breathing equipment with full-face piece operated in the pressure demand or other positive pressure mode.

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SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

PERSONAL PROTECTION: For spills, wear Nitrile Rubber gloves, glasses/goggles, boots and full-length clothing. During routine operation for a small spill a respirator is not required. However, if mists or vapours are generated, an approved organic vapour/particulate respirator is required. For large spills, or in confined spaces, a full chemically resistant body-suit and self-contained breathing apparatus or an air fed respirator should be used. Only persons trained in isocyanate spill and clean-up operations should deal with spills of more than one container.

CONTROL MEASURES: Ventilate area and extinguish and/or remove all sources of ignition. **CAUTION:** Never enter a spill area unless you know the vapours have dissipated to make the area safe. Stop the leak if safe to do so. **CAUTION:** The spilled product will be slippery. Avoid contact with the spilled material.

EMERGENCY PROCEDURES: In the event of a spill or accidental release, notify the relevant authorities in accordance with all applicable regulations.

6.2 ENVIRONMENTAL PRECAUTIONS:

SPILL ADVICE: Do not allow product to enter drains, surface water, sewers or watercourses - inform local authorities if this occurs.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:

CONTAINMENT: For large spills, evacuate or isolate the spill area according to your local emergency plan. Note: Spills of more than one container should be dealt with by people trained in the clean-up procedures as per AS4081. Contain the spill and absorb with solid decontaminant as per AS4081. Place used absorbent in suitable containers; add an equal quantity of the isocyanate decontamination solution described in "Cleaning Procedures" below. Leave the container open for at least 24 hours in a well-ventilated area to allow complete reaction of the material. Sealing of a container with unreacted isocyanates leads to the liberation of CO₂, which can cause overpressure in the container. **Caution:** Reacting isocyanate will pressurise sealed containers. Follow state or local regulations for the disposal of isocyanate waste. Self-contained breathing apparatus or air supplied respirators must be used. Do not allow the spilled product to enter drains, sewers or watercourses - inform local authorities if this occurs.

CLEANING PROCEDURES: Having contained the spill, collect all material quickly as mentioned above. Personnel must wear safety glasses/goggles, gloves, respirators and full-length protective clothing during cleaning procedures. For large spill clean-up operations personnel must wear self-contained breathing apparatus or air supplied respirators. After removing the absorbent, the spill surface should be cleaned with an isocyanate decontamination solution. AS4081 recommends a mixture of 90% water, 2% non-ionic surfactant and 8% concentrated aqueous ammonium hydroxide (0.880 ammonia). Follow the detergent wash with a water rinse. Do not allow the wash or rinse to enter drains, sewers or watercourses - inform local authorities if this occurs. [The manufacturer recommends an alternative decontaminant solution (by volume) of 45 parts water: 50 parts ethanol or isopropyl alcohol: 5 parts concentrated ammonia solution(d:0.880). Please note that this solution is flammable due to the alcohol component. Another non-flammable decontaminant recommended by the manufacturer is 5 parts sodium bicarbonate: 95 parts water].

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SECTION 7 – HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

7.1 PRECAUTIONS FOR SAFE HANDLING:

SAFE HANDLING: Avoid inhalation of vapours. The material should be used in a well-ventilated area to minimise the potential for the build-up of vapours. Forced ventilation should be used if there is the potential for vapours to accumulate. Avoid contact with the product by using appropriate protective equipment such as gloves, glasses or goggles and full-length clothing. A full-face shield should be used if there is the potential for the product to enter the eye via processes such as mixing or stirring. An approved respirator for isocyanates should be used if there is the potential for inhaling vapours during the process. Prevent small spills and leakage. Eating, drinking, and smoking should be prohibited in the area where this material is handled, stored and processed. Workers should follow good personal hygiene practices, such as washing hands before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Keep containers tightly closed when not in use. Care should be used when re-opening partially used containers. Precautions should be taken to minimise exposure to atmospheric moisture or water. The presence of moisture will lead to the production of carbon dioxide which may lead to pressurisation of the container. Prevent material from entering waterways, drains or sewers - inform local authorities if this occurs. **Caution:** Persons with a history of asthma, atopic conditions, hay fever, recurrent acute bronchitis, interstitial pulmonary fibrosis, occupational chest disease or impaired lung function should be advised against risking exposure to isocyanates. Persons with these types of ailments should not be employed in any process in which this product is used. Persons with proven isocyanate sensitivity must not be further exposed to isocyanates.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

SAFE STORAGE: Store in a well ventilated, frost-free area away from direct sunlight, ignition sources, oxidising agents, strong acids and alkalis, foodstuffs and clothing. Keep containers closed when not in use. Always keep in containers made of the same material as the original one. Only personnel with authorised access should enter a store containing isocyanates. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Protect the packaging from damage. When the packaged material is intact the product is deemed to be of limited hazard. Label precautions must be followed at all times.

INCOMPATIBILITIES: Avoid oxidising agents, including strong acids as well as strong alkalis.

SECTION 8 – EXPOSURE CONTROLS & PERSONAL PROTECTION

8.1 EXPOSURE CONTROL MEASURES:

EXPOSURE LIMIT VALUES: Exposure standards for the product have not been established. Therefore, the following Exposure Standard should be considered:

Isocyanate, all (as -NCO):

TWA: 0.02mg/m³. STEL: 0.07mg/m³.

8.2 BIOLOGICAL MONITORING: No data available.

8.3 CONTROL BANDING: No data available.

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SECTION 8 – EXPOSURE CONTROLS & PERSONAL PROTECTION Cont'd

8.4 ENGINEERING CONTROLS:

ENGINEERING CONTROLS: Use product in a well-ventilated area. Where reasonably practical this should be achieved by the use of local exhaust ventilation and good general extraction. Special ventilation is not normally required. However, in the operation of certain equipment or at elevated temperatures, mists and vapours may be generated and exhaust ventilation should be provided to maintain airborne concentration levels below the nominated exposure standard and at an acceptable level that does not cause irritation.

8.5 INDIVIDUAL PROTECTION MEASURES:

EYE & FACE PROTECTION: Wear safety glasses/goggles to avoid eye contact when handling. If when mixing or stirring, there is a risk of splashing, a full-face shield is recommended. Use eye protection in accordance with AS 1336 and AS 1337.

SKIN (HAND) PROTECTION: Wear gloves to provide hand protection at all times when handling the material. Nitrile rubber gloves are recommended.

SKIN (CLOTHING) PROTECTION: During normal operating procedures, long sleeved clothing is recommended to avoid skin contact. Soiled clothing should be washed with detergent prior to re-use.

RESPIRATORY PROTECTION: Use only in well-ventilated areas. During routine operation with appropriate ventilation, a respirator is not required. If there is a build-up of vapours above the exposure level, respiratory protection in the form of an air-supplied respirator must be used. If low level exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment, such as an approved organic vapour/particulate respirator is required. Dry sanding, grinding, flame/heat stripping and cutting of the dry film will give rise to dust and/or hazardous fumes. Wet sanding/flatting should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation during such operations, suitable respiratory protective equipment, such as an approved half face organic vapour/particulate respirator is required. Use respirators in accordance with AS 1715 and AS 1716.

THERMAL PROTECTION: Not applicable.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE:	Brown liquid.
ODOUR:	Slight aromatic odour.
ODOUR THRESHOLD:	No data available.
pH:	No data available.
MELTING / FREEZING POINT:	No data available.
INITIAL BOILING POINT:	Typically >350°C.
BOILING RANGE (° C):	No data available.
FLASHPOINT (° C):	Typically >210°C (Closed Cup).
EVAPORATION RATE:	No data available.
FLAMMABILITY LIMITS (%):	No data available.
VAPOUR PRESSURE:	No data available.
VAPOUR DENSITY:	No data available.
DENSITY (g/mL @ 15° C):	Typically 1.17.
SOLUBILITY IN WATER (g/Lt):	Insoluble in water.
PARTITION COEFFICIENT:	No data available for n-octanol/water.
AUTO-IGNITION TEMP (° C):	Typically >400°C.
DECOMPOSITION TEMP (° C):	No data available.
VISCOSITY (Dynamic):	220 mPa.s (room temperature).
VISCOSITY (cSt @ 40° C):	No data available.

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SECTION 10 – STABILITY AND REACTIVITY

- 10.1 REACTIVITY:** The product does not pose any further reactivity hazards other than those listed in the following sub-sections.
- 10.2 CHEMICAL STABILITY:** Stable under recommended storage and handling conditions (see section 7).
- 10.3 POSSIBILITY OF HAZARDOUS REACTIONS:** Keep away from the following materials to prevent strong exothermic reactions: Oxidising agents, strong alkalis, strong acids, amines, alcohols and water. PLEASE NOTE: Uncontrolled exothermic reactions may occur with amines and alcohols. The product reacts slowly with water, resulting in the production of carbon dioxide. In closed containers, pressure build up could lead to distortion, expansion, and in extreme cases, bursting of the container. Hazardous polymerisation does not occur.
- 10.4 CONDITIONS TO AVOID:** Observe the usual precautionary measures for handling chemicals. Do not heat the container or leave the container open when not in use. Avoid heat, open flames, sparks. The manufacturer recommends that the temperature must not fall below 5°C or exceed 25°C during storage and transport. Do not use mechanical cutting tools on used containers. Avoid the materials as discussed in the Hazardous Reactions Section above.
- 10.5 INCOMPATIBLE MATERIALS:** Strong oxidising agents including strong acids, as well as strongly alkaline materials, amines, alcohols and water.
- 10.6 HAZARDOUS DECOMPOSITION PRODUCTS:** Hazardous decomposition products are not expected to form during normal storage requirements. See Section 5.2 for Hazardous Combustion products.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

The product is a mixture and test data is not available for the product as a whole. However, based upon calculated values the manufacturer has nominated the following estimate for the product:

Acute Toxicity (Inhalation, vapours): 0.8977 mg/l

Benzene, 1,1'-methylenebis[4-isocyanato-

Oral - LD₅₀ (Rat): > 2,000 mg/kg

Dermal - LD₅₀ (Rabbit): > 9,400 mg/kg

Benzene, 1-isocyanato-2-[(4-isocyanatophenyl) methyl]-

Oral - LD₅₀ (Rat): > 2,000 mg/kg

Dermal - LD₅₀ (Rabbit): > 9,400 mg/kg

Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine methyloxirane and 1,2-propanediol

Oral - LD₅₀ (Rat): > 5,000 mg/kg

1,2-Propanediol, polymer with 1-isocyanato-2-[(4 isocyanatophenyl) methyl]benzene, 1,1'-methylenebis[4-isocyanatobenzene], methyloxirane and oxirane

Oral - LD₅₀ (Rat): > 5,000 mg/kg

Hydrocarbon resin, postpolymerised with maleic anhydride

Oral - LD₅₀ (Rat): > 2,000 mg/kg

Dermal - LD₅₀ (Rat): > 2,000 mg/kg

Isocyanic acid, polymethylene polyphenylene ester

Oral - LD₅₀ (Rat): > 2,000 mg/kg

Dermal - LD₅₀ (Rabbit): > 9,400 mg/kg

Inhalation - LC₅₀ (Rat, aerosol, 4 hour): 490 mg/m³

Benzene, 1,1'-methylenebis[2-isocyanato-

Oral - LD₅₀ (Rat): > 2,000 mg/kg

Dermal - LD₅₀ (Rabbit): > 9,400 mg/kg

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SECTION 11 – TOXICOLOGICAL INFORMATION - Continued

- 11.2 SWALLOWED:** Ingestion of this product may cause irritation to the mouth and gastrointestinal tract. If the product is ingested, the person should be observed to ensure there is no aspiration into the lungs if the person has vomited or if stomach irrigation is deemed necessary. Ingestion of significant quantities may lead to irritation to the stomach and the person may feel nauseous. During normal usage, ingestion should not be a means of exposure.
- 11.3 SKIN CORROSION/ IRRITATION:** The product is rated as Causes skin irritation. Isocyanates may have a mild hardening action on the skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis. Correct handling procedures incorporating appropriate protective clothing and gloves should minimise the potential for this to occur. People previously sensitised to isocyanates should not be exposed further to these types of materials. People with pre-existing skin conditions such as dermatitis should take care so as not to exacerbate the condition.
- 11.4 SERIOUS EYE DAMAGE/ IRRITATION:** The product is rated by calculation as Causes serious eye irritation. Symptoms may include localised burning, redness and tearing. The manufacturer nominates that the damage caused by this product is generally considered to be reversible. Correct handling procedures incorporating appropriate eye protection should minimise the risk of eye irritation.
- 11.5 RESPIRATORY OR SKIN SENSITISATION:** The product is rated as May cause an allergic skin reaction. The Guinea Pig and Mouse Skin Sensitisation Tests for the isocyanate components nominated them as sensitising. The product may have a mild hardening action on the skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis. According to a 2003 OECD Study there are a range of case reports and workplace studies that suggest that methylenediphenyl diisocyanate is a skin sensitizer in humans. This product is rated as May cause allergy or asthma symptoms or breathing difficulties if inhaled. Respiratory effects may be delayed resulting in symptoms occurring at night or several hours after working with isocyanates. This may lead to an asthmatic condition, wheezing and chest tightness. Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the Occupation Exposure Level. Repeated exposure may lead to permanent respiratory disability. According to the WorkSafe document, "it is thought that respiratory problems can result from skin exposure."
- 11.6 GERM CELL MUTAGENICITY:** This product is not expected to be mutagenic based on the available data and the known hazards of the components.
- 11.7 CARCINOGENICITY:** This product is rated as Suspected of causing cancer. There are no carcinogenicity studies available via the oral and dermal routes of exposure.
- 11.8 REPRODUCTIVE TOXICITY:** This product is not expected to be a reproductive hazard based on the available data and the known hazards of the components.
- 11.9 SPECIFIC TARGET ORGAN TOXICITY (STOT) –**
- SINGLE EXPOSURE:** The product is rated as Fatal if inhaled and May cause respiratory irritation. If the product is used in a confined space or in an environment where the Occupational Exposure Standard is exceeded then based upon the properties of the isocyanate components and considering toxicological data on similar preparations, this product may cause acute irritation and/or sensitisation of the respiratory system, leading to an asthmatic condition, wheezing and tightness of the chest, headache or discomfort. Most isocyanates have a strong irritating effect on the respiratory tract.

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SECTION 11 – TOXICOLOGICAL INFORMATION Continued

11.10 SPECIFIC TARGET ORGAN TOXICITY (STOT) –

REPEATED EXPOSURE: This product is rated as May cause damage to organs through prolonged or repeated exposure through inhalation. According to a 2003 OECD Study long term exposure to methylenediphenyl diisocyanate causes “asthma, hypersensitivity pneumonitis, pleuritis and progressive fibrosing alveolitis.”

11.11 ASPIRATION HAZARD: Due to the blend of ingredients present, the manufacturer recommends that if swallowed, do NOT induce vomiting. As the product is a mixture of isocyanates, aspiration into the lungs may be an issue if vomiting has occurred after ingestion or if stomach irrigation is deemed necessary. As a precaution, if vomiting has occurred after ingestion, the patient should be monitored for adverse effects.

11.12 OTHER INFORMATION: Persons with a history of asthma, atopic conditions, hay fever, recurrent acute bronchitis, interstitial pulmonary fibrosis, occupational chest disease or impaired lung function should be advised against risking exposure to isocyanates. Hence, people with these types of ailments should not be exposed to tasks that may potentially release isocyanate vapours, such as sanding, grinding, cutting, and heat stripping of coated material. A person with proven isocyanate sensitivity should not be exposed to isocyanates. Once a person has been exposed to isocyanates they may subsequently show asthmatic symptoms when exposed to concentrations well below the Exposure Standard.

SECTION 12 – ECOLOGICAL INFORMATION

12.1 ECOTOXICITY: There is no data available for the product as a whole. The following Ecotoxicity data is applicable to components:

Benzene, 1,1'-methylenebis [4-isocyanato-:

LC₅₀ (fish, 96hr): >1,000mg/L.

EC₅₀ (Aquatic algae, 72hr): >1,640mg/L.

Chronic NOEC (Daphnia, 21 days): >10mg/L.

Benzene, 1-isocyanato-2-[(4-isocyanatophenyl)methyl]-:

LC₅₀ (fish, 96hr): >1,000mg/L.

EC₅₀ (Aquatic algae, 72hr): >1,640mg/L.

Chronic NOEC (Daphnia, 21 days): >10mg/L.

Isocyanic acid, polymethylene polyphenylene ester:

LC₅₀ (fish, 96hr): >1,000mg/L.

EC₅₀ (Aquatic plants, 72hr): 1,640mg/L.

Chronic NOEC (Daphnia, 21 days): >10mg/L.

There is no data available for the product as a whole. Based upon calculated values, the overall product would not be expected to be rated.

12.2 PERSISTENCE & DEGRADABILITY:

No persistence or biodegradability data is available for the product. The manufacturer nominates that the isocyanate components will not be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL:

There is no bioaccumulation data available for the product. The manufacturer nominates that the Benzene, 1,1'-methylenebis [2-isocyanato- component has a low potential for bioaccumulation.

12.4 MOBILITY IN SOIL:

No mobility data is available for the product.

12.5 OTHER ADVERSE EFFECTS:

Do not allow product to enter drains, surface water, sewers or watercourses - inform local authorities if this occurs. The product is not miscible with water.

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SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 DISPOSAL METHODS:

PRODUCT:

Spilled product that cannot be recovered should be absorbed and then shovelled into a suitable waste container, such as a plastic drum and then be treated as a solid waste. Please read and follow the instructions in Section 6 - Accidental Release Measures when dealing with spilled product to neutralise the isocyanate component and alleviate the potential for overpressure in the waste container. Follow Government regulations for disposal of such waste. All unused, waste or spilled product must be taken for recycling or disposal by suitably licensed contractors in accordance with Government regulations. For small quantities, do not pour leftover product down the drain. Unwanted material should be brushed out on newspaper, allowed to dry and then disposed of via normal domestic or industrial waste collection.

CONTAINERS:

Care should be taken when handling emptied containers that contain residues. Containers should be completely drained and then stored in a well-ventilated area until reconditioned or disposed of. Empty containers should be taken for recycling or disposal through suitably licensed contractors in accordance with Government regulations. Empty containers should be recycled wherever possible rather than being sent to landfill. If being sent to landfill, any residual product must be allowed to dry/cure before disposal. As containers will contain isocyanate residues, they should not be cut by a grinder, drilled or exposed to heat or flames – to do so may release toxic substances.

SECTION 14 – TRANSPORT INFORMATION

This product is not regulated for land, sea or air transportation.

14.1 LAND (ADG Code):

UN NUMBER:	Not applicable
UN PROPER SHIPPING NAME:	Not applicable
TRANSPORT HAZARD CLASS (ES):	Not applicable
PACKAGING GROUP:	Not applicable
ENVIRONMENTAL HAZARDS:	Not applicable
SPECIAL PRECAUTIONS FOR USER:	Not applicable
HAZCHEM CODE:	Not applicable

14.2 SEA (IMDG):

UN NUMBER:	Not applicable
UN PROPER SHIPPING NAME:	Not applicable
TRANSPORT HAZARD CLASS (ES):	Not applicable
PACKAGING GROUP:	Not applicable
ENVIRONMENTAL HAZARDS:	Not applicable
SPECIAL PRECAUTIONS FOR USER:	Not applicable

14.3 AIR (IATA):

UN NUMBER:	Not applicable
UN PROPER SHIPPING NAME:	Not applicable
TRANSPORT HAZARD CLASS (ES):	Not applicable
PACKAGING GROUP:	Not applicable
ENVIRONMENTAL HAZARDS:	Not applicable
SPECIAL PRECAUTIONS FOR USER:	Not applicable

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SECTION 15 – REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS:

APPLICABLE REGULATIONS:

SUSMP:	Workplace product (for professional use only). Not for domestic use.
AICS:	All ingredients are on the AICS List.
MONTREAL PROTOCOL:	Not applicable.
STOCKHOLM CONVENTION:	Not applicable.
ROTTERDAM CONVENTION:	Not applicable.
BASEL CONVENTION:	Not applicable.
INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION FROM SHIPS (MARPOL):	Not applicable.
MODEL WORK HEALTH AND SAFETY REGULATIONS - SCHEDULED SUBSTANCES:	Isocyanates.

OTHER REGULATORY INFORMATION:

GHS CLASSIFICATION HAZARD CLASS & CATEGORY AND HAZARD STATEMENT:

Skin Corrosion/Irritation Category 2; H315 -	Causes skin irritation.
Sensitisation - Skin Category 1; H317 -	May cause an allergic skin reaction.
Serious Eye Damage/Irritation Category 2A; H319 -	Causes serious eye irritation.
Acute Toxicity - Inhalation Category 2; H330 -	Fatal if inhaled.
Acute Toxicity - Inhalation Category 4; H332 -	Harmful if inhaled.
Sensitisation - Respiratory Category 1; H334 -	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Specific Target Organ Toxicity (Single Exposure) Category 3; H335 -	May cause respiratory irritation.
Carcinogenicity Category 2; H351 -	Suspected of causing cancer.
Specific Target Organ Toxicity (Repeated Exposure) Category 1; H372 -	Causes damage to organs through prolonged or repeated exposure through inhalation.
Specific Target Organ Toxicity (Repeated Exposure) Category 2; H373 -	May cause damage to organs through prolonged or repeated exposure.
Chronic Aquatic Toxicity Category 3; H412 -	Harmful to aquatic life with long lasting effects.

SECTION 16 – ANY OTHER RELEVANT INFORMATION

SDS INFORMATION:

Date of SDS Preparation: 1st March 2018

Revision: 1.0

REVISION CHANGES: Review and update of SDS for compliance to GHS format all Sections.

ACRONYMS:

SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
CAS Number	Chemical Abstracts Service Registry Number
EINECS	European Inventory of Existing Commercial Chemical Substances
UN Number	United Nations Number
OSHA	Occupational Safety and Health Administration
ACGIH	American Conference of Governmental Industrial Hygienists
HSE-WEL	Health and Safety Executive - Workplace Exposure Limit
EH40	EH40/2005 Workplace Exposure Limits
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
IUCLID	International Uniform Chemical Information Database
RTECS	Registry of Toxic Effects of Chemical Substances
%W/W	Percent weight for weight
OECD	Organisation for Economic Co-Operation and Development
ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail

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SECTION 16 – ANY OTHER RELEVANT INFORMATION - Continued

HAZCHEM Code	Emergency action code of numbers and letters which gives information to emergency services
NOHSC	National Occupational Health and Safety Commission
NICNAS	National Industrial Chemicals Notification & Assessment Scheme
IMAP	Inventory Multi-Tiered Assessment and Prioritisation
AICS	Australian Inventory of Chemical Substances
TWA	Time-Weighted Average
STEL	Short Term Exposure Limit
HSNO	Hazardous Substances and New Organisms Act 1996
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
WHS	Work Health and Safety
PPE	Personal Protective Equipment
LD ₅₀	Median Lethal Dose
LC ₅₀	Median Lethal Concentration
EC ₅₀	Effective Concentration of a substance that causes 50% of the maximum response after exposure for a nominated time
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
ECHA	European Chemicals Agency
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

LITERATURE REFERENCES AND SOURCES OF DATA:

OECD Guidelines for Testing of Chemicals
Annex I: OECD Test Guidelines for Studies Included in SIDS
Manual for the Assessment of Chemicals Chapter 2 Data Gathering
International Toxicity Testing Guidelines
Hazardous Substance Information System - Guidance Material for Hazard Classifications
Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
Model Work Health and Safety Regulations.
Model Work Health and Safety Regulations - Transitional Principles
Workplace Exposure Standards for Airborne Contaminants
Australian Dangerous Goods Code 7th Edition
Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]
Guidance on the Classification of Hazardous Chemicals under the WHS Regulations
Assigning a Hazardous Substance to a Group Standard
User Guide to the HSNO Thresholds and Classifications
Summary User Guide to the HSNO Thresholds and Classifications of Hazardous Substances
Correlation between GHS and New Zealand HSNO Hazard Classes and Categories
HSNO Control Regulations

LITERATURE REFERENCES AND SOURCES OF DATA (Continued):

Record of Group Standard Assignment
Labelling of Hazardous Substances Hazard and Precautionary Information
Thresholds and Classifications Under the Hazardous Substances and New Organisms Act 1996
Workplace Exposure Standards and Biological Exposure Indices
SafeWork Australia - Guide to Handling Isocyanates
AS 4081-1993 - The Storage, Handling and Transportation of Liquefied Polyfunctional Isocyanates
ECHA Brief Profile for o-(p-*o*-isocyanatobenzyl)phenyl isocyanate CAS Number 5873-54-1
ECHA Brief Profile for 4,4'-methylenediphenyl diisocyanate CAS Number 101-68-8
ECHA Brief Profile for 2,2'-methylenediphenyl diisocyanate CAS Number 2536-05-2
ECHA Brief Profile for Hydrocarbons, C9-unsaturated, polymerised CAS Number 71302-83-5
NICNAS IMAP Human Health Tier II Assessment for Methylenediphenyl diisocyanates

All information contained in this Safety Data Sheet and the health, safety and environmental information are considered to be accurate to the best of our knowledge as of the issue date specified above. However, no warranty or representation, expressed or implied, is made as to the accuracy or completeness of the data and information contained in this data sheet.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The Company accepts no responsibility for any injury, loss or damage, resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.