

Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **CARBOTHIX B**

Recommended Use of the Chemical and Restrictions on Use Part B of a two component silicate resin for bonding injection bolts.

Supplier: Orica Australia Pty Ltd trading as Minova Australia
ABN: 99 004 117 828
Street Address: George Booth Drive,
Kurri Kurri, NSW 2327
Australia

Telephone Number: 1300 MINOVA (1300 646 682)
Facsimile: 1300 FAXMINOVA (1300 329 646)
Website: www.minovaglobal.com

Emergency Telephone: **1800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the provisions of the Australian Code for the Transport of Dangerous Goods by Road and Rail when transported by road or rail in: packagings that do not incorporate a receptacle exceeding 500 kg(L); or IBCs.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Inhalation Toxicity - Category 4
Skin Irritation - Category 2
Skin Sensitisation - Category 1
Eye Irritation - Category 2A
Respiratory Sensitisation - Category 1
Carcinogenicity - Category 2
Specific target organ toxicity (single exposure) - Category 3
Specific target organ toxicity (repeated exposure) - Category 2

The following health/environmental hazard categories fall outside the scope of the Workplace Health and Safety Regulations:

Acute Aquatic Toxicity - Category 2
Chronic Aquatic Toxicity - Category 2

SIGNAL WORD: DANGER



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Hazard Statement(s):

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe fumes, mists, vapours, spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves, protective clothing, eye and face protection.
P281 Use personal protective equipment as required.
P285 In case of inadequate ventilation wear respiratory protection.

Response:

P304+P341 IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 If eye irritation persists: Get medical advice/attention.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.

Storage:

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

Disposal:

P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): S6 Poison.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Isocyanic acid, polymethylene polyphenylene ester	9016-87-9	30-60%	H332 H319 H335 H315 H351 H334 H317 H373
Diphenylmethane-4,4-diisocyanate	101-68-8	<40%	H315 H317 H319 H332 H334 H335 H351 H373
Diphenylmethanediisocyanate, mixture of 2,4 and 4,4 isomers	5873-54-1	<10%	H351 H332 H373 H319 H335 H315 H334 H317
Ingredients determined not to be hazardous	-	to 100%	-

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4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye Contact:

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

Ingestion:

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Seek medical assistance.

Indication of immediate medical attention and special treatment needed:

Treat symptomatically. Effects may be delayed.

Asthma-like symptoms may develop and may be immediate or delayed for several hours after exposure. Extreme asthmatic reactions can be life threatening. Following significant exposure the patient should be kept under medical surveillance for 24-48 hours for signs of respiratory distress.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal protein foam can be used.

Hazchem or Emergency Action Code: - 3Z

Specific hazards arising from the chemical:

Combustible liquid. On burning will emit toxic fumes, including those of isocyanates, hydrogen cyanide, oxides of carbon and oxides of nitrogen.

Special protective equipment and precautions for fire-fighters:

Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Shut off all possible sources of ignition. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Let the material react for at least 30 minutes. Collect in properly labelled containers, with loose fitting lids, for disposal. Wash area down with detergent and excess water. Test the atmosphere for MDI vapour to ensure safe-working conditions prevail prior to re-entry into contaminated area. The compositions of liquid decontaminants are given in Section 16.

7. HANDLING AND STORAGE

Classified as a C2 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

This material is a Scheduled Poison S6 and must be stored, maintained and used in accordance with the relevant regulations.

Precautions for safe handling:

Avoid skin and eye contact and breathing in vapour, mists and aerosols.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place and out of direct sunlight. Do not store below 10 degrees centigrade. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat or ignition. Keep dry - reacts with water, may lead to drum rupture. If a container is contaminated, do not reseal it. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Isocyanates, all (as -NCO): 8hr TWA = 0.02 mg/m³, 15 min STEL = 0.07 mg/m³, Sen

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration 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 and should not be further exposed to the substance.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Biological Exposure Indices: In Australia the following substance is on a list for which health surveillance is required: Isocyanates.

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Appropriate engineering controls:

Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, RESPIRATOR.



Wear overalls, chemical goggles and impervious gloves. Use with adequate ventilation. If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator or an air supplied mask meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Red-brown
Odour:	Characteristic
Solubility:	Immiscible with water.
Specific Gravity:	1.13 @ 25°C
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	>140
Flammability Limits (%):	Not available
Autoignition Temperature (°C):	430
% Volatile by Weight:	Not available
Boiling Point/Range (°C):	>200
Decomposition Point (°C):	Not available
pH:	Not applicable
Viscosity:	300 - 450 cps
Evaporation Rate:	Not available

10. STABILITY AND REACTIVITY

Reactivity:	Reacts with water.
Chemical stability:	Stable under normal conditions of use.

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Possibility of hazardous reactions:	Reacts with moisture liberating carbon dioxide. Heating can cause expansion or decomposition of the material, which can lead to the containers exploding.
Conditions to avoid:	Avoid exposure to heat, sources of ignition, and open flame. Avoid exposure to moisture.
Incompatible materials:	Incompatible with water, alcohols, amines, ammonia, acids, bases, metal compounds and oxidising agents.
Hazardous decomposition products:	Isocyanates. Hydrogen cyanide. Oxides of carbon. Oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, and abdominal pain. Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkenness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs.
Eye contact:	An eye irritant.
Skin contact:	Contact with skin will result in irritation. A skin sensitizer. Repeated or prolonged skin contact may lead to allergic contact dermatitis.
Inhalation:	Material is irritant to the mucous membranes of the respiratory tract (airways). A respiratory sensitizer. Can cause possible allergic reactions, producing asthma-like symptoms. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of co-ordination, impaired judgement and if exposure is prolonged, unconsciousness.

Acute toxicity: No LD50 data available for the product. For the constituent Polymethylenepolyphenyleneisocyanate:
Oral LD50 (rat): >10,000 mg/kg
Dermal LD50 (rabbit): >9,400 mg/kg
Inhalation LC50 (rat): 0.49 mg/L/4hr (dusts and mists)

Skin corrosion/irritation:	Irritant.
Serious eye damage/irritation:	Irritant.
Respiratory or skin sensitisation:	A respiratory and skin sensitizer.

Chronic effects: For Isocyanates: Animal studies have shown that respiratory sensitisation can be induced by skin contact with known respiratory sensitizers including diisocyanates. These results emphasise the need for protective clothing including gloves to be worn when handling these chemicals or in maintenance work.

Mutagenicity:	No information available.
Carcinogenicity:	Suspected of causing cancer.
Reproductive toxicity:	Not classified.
Specific Target Organ Toxicity (STOT) - single exposure:	May cause respiratory irritation.
Specific Target Organ Toxicity (STOT) - repeated exposure:	May cause damage to organs through prolonged or repeated exposure. (lungs)

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Aspiration hazard: No information available.
MDI/PMDI did not cause birth defects in laboratory animals; fetal effects occurred only at high doses which were toxic to the mother.
Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/PMDI (6mg/m³) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.
96hr LC50 (fish): For major constituent: >100 mg/L

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

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UN No: 3082
Transport Hazard Class: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS DIISOPROPYLNAPHTHALENE)
Hazchem or Emergency Action Code: · 3Z

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 3082
Transport Hazard Class: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS DIISOPROPYLNAPHTHALENE)
IMDG EMS Fire: F-A
IMDG EMS Spill: S-F

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Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 3082
Transport Hazard Class: 9 Miscellaneous Dangerous Goods
Packing Group: III
Proper Shipping Name or Technical Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS DIISOPROPYLNAPHTHALENE)

15. REGULATORY INFORMATION

Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Inhalation Toxicity - Category 4
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Chronic Aquatic Toxicity - Category 2

Hazard Statement(s):

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H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Poisons Schedule (SUSMP): S6 Poison.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

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Supplier Safety Data Sheet; 07/ 2014.

LIQUID DECONTAMINANTS 1: sodium carbonate 5-10%; liquid detergent 0.2 - 2%; water up to 100%.

Decontaminant 2: concentrated ammonia solution 3-8%; liquid detergent 0.2 - 2%; water up to 100%.

Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than Decontaminant 2.

Decontaminant 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information).

This safety data sheet has been prepared by Ixom Operations Pty Ltd (Toxicology & SDS Services).

Reason(s) for Issue:

Revised Primary SDS

Change in Hazardous Chemical Classification

Updated Formulation

Change in First Aid Measures

Change in Fire Management Requirements

Change in Handling & Storage Requirements

Change to Transport Information

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since The Supplier cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Supplier representative or The Supplier at the contact details on page 1.

The Supplier's responsibility for the material as shipped is subject to the terms and conditions of sale, a copy of which is available upon request.