

Material Safety Data Sheet

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Infosafe No. LPUB9 Issue Date : March 2005 ISSUED by BARNES

Product Name : EASYCAST® PART A

Not classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name EASYCAST® PART A
Product Use Casting resin.
Company Name Barnes Products Pty Ltd (ABN 004 011 456)
Address 6 Homedale Road Bankstown
NSW 2200
Emergency Tel. (02) 9793 7555
Telephone Tel: (02) 9793 7555 Fax: (02) 9793 7091
Number/Fax
Other Information Information provided has been prepared in good faith and believed to be correct. Barnes Products Pty Limited make no warranty either express or implied as to completeness, accuracy thereof, misuse or misinterpretation of this information.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Information on Composition This product contains amine based polyether polyols and polymeric plasticiser.
Ingredients

<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
Ingredients determined not to be hazardous.		100 %

3. HAZARDS IDENTIFICATION

Not classified as hazardous according to the criteria of NOHSC.
Not classified as a dangerous good according to the ADG Code.

Risk phrases:
None applicable.

Safety phrases:
None applicable.

4. FIRST AID MEASURES

Inhalation Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. If symptoms develop seek medical attention.
Ingestion Do NOT induce vomiting. Wash out mouth with water. Seek medical attention.
Skin Remove contaminated clothing and wash skin thoroughly with soap and water. Ensure contaminated clothing is washed before re-use or discard. If irritation develops, seek medical attention.
Eye If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If symptoms persist seek medical attention.
First Aid Facilities Eye wash and normal washroom facilities.
Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing Media Do not use water in a jet. Keep containers cool with water spray. Use waer spray, foam, carbon dioxide or dry chemical to extinguish fire.
Specific Hazards Combustible liquid. This product will burn if exposed to fire.
Hazardous Combustion Products Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide, carbon dioxide and oxides of nitrogen.
Precautions in connection with Fire Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

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Wear appropriate personal protective equipment and clothing to minimise exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. If possible contain the spill. Place inert absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Dispose of waste according to federal, Environmental Protection Authority and state regulations. If large quantities of this material enter the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

7. HANDLING AND STORAGE

Handling Use in a well ventilated area. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Avoid breathing in spray or mists or vapours. Do not use near welding or other ignition sources and avoid sparks. Do not smoke. When dealing with large quantities, repeated or prolonged skin exposure without protection should be prevented in order to lessen the possibility of skin disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities.

Storage Store in a cool, dry well-ventilated area away from heat, sources of ignition, oxidising agents, foodstuffs, and clothing and out of direct sunlight. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids. Reference should also be made to all State and Federal regulations.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits No value assigned for this specific material by the Australian National Occupational Health and Safety Commission (NOHSC).

Respiratory Protection If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

Eye Protection Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.

Eng. Controls Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required. Refer to AS1940 - The storage and handling of flammable and combustible liquids and AS2430 - Explosive gas atmospheres for further information concerning ventilation requirements.

Other Information No biological limit allocated.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Product Name : **EASYCAST® PART A**

Not classified as hazardous according to criteria of NOHSC

Appearance	Clear liquid
Odour	Slight, fruity odour
Melting Point	Not available
Boiling Point	> 149°C
Solubility in Water	Slight
Specific Gravity (H₂O=1)	0.99
pH Value	Not available
Vapour Pressure	Not available
Vapour Density (Air=1)	Not available
Volatile Component	Negligible
Flash Point	> 135°C
Flammability	Combustible liquid. This product will burn if exposed to fire.
Ignition Temperature	Not available
Flammable Limits LEL	Not available
Flammable Limits UEL	Not available

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions of storage and handling.
Hazardous Polymerization	Will not occur.
Materials to Avoid	Strong oxidising agents.
Hazardous Decomposition Products	Thermal decomposition may result in the release of toxic and/or irritating fumes including carbon monoxide, carbon dioxide and oxides of nitrogen.
Hazardous Reaction	May react with strong oxidising agents.
Conditions to Avoid	Avoid moisture, heat, direct sunlight, open flames and other sources of ignition.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	No toxicity data is available for this product.
Inhalation	Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.
Ingestion	Ingestion of this product may irritate the gastric tract causing nausea and vomiting.
Skin	May cause redness, itching and irritation.
Eye	May cause eye irritation, tearing, stinging, blurred vision, and redness.
Chronic Effects	Unknown.

12. ECOLOGICAL INFORMATION

Environ. Protection	Do not allow product to enter drains, waterways or sewers.
Mobility	No data is available for this material.
Persistence / Degradability	No data is available for this material.
Ecotoxicity	No data is available for this material.

13. DISPOSAL CONSIDERATIONS

Dispose of waste according to federal, EPA and state regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. Advise combustible nature.

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Product Name : **EASYCAST® PART A**

Not classified as hazardous according to criteria of NOHSC

14. TRANSPORT INFORMATION

Not classified as a Dangerous Good, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

U.N. Number None Allocated

Proper Shipping Name None Allocated

DG Class None Allocated

Hazchem Code None Allocated

Packing Group None Allocated

15. REGULATORY INFORMATION

Poisons Schedule Not Scheduled

16. OTHER INFORMATION

Contact Person/Point

SDS History MSDS Creation: March 2005

...End Of MSDS...

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Infosafe No. LPUBJ Issue Date : March 2005 ISSUED by BARNES

Product Name : EASYCAST® PART B

Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name EASYCAST® PART B
Product Use Casting resin.
Company Name Barnes Products Pty Ltd (ABN 004 011 456)
Address 6 Homedale Road Bankstown
NSW 2200
Emergency Tel. (02) 9793 7555
Telephone Number/Fax Tel: (02) 9793 7555 Fax: (02) 9793 7091
Other Information Information provided has been prepared in good faith and believed to be correct. Barnes Products Pty Limited make no warranty either express or implied as to completeness, accuracy thereof, misuse or misinterpretation of this information.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Diphenylmethane-4, 4'-diisocyanate	101-68-8	30-60 %
	Triethyl Phosphate	78-40-0	1-10 %
	Other ingredients determined not to be hazardous		Balance

3. HAZARDS IDENTIFICATION

Classified as hazardous according to the criteria of NOHSC.
Not classified as a dangerous good according to the ADG Code.

RISK PHRASES:

R20 Harmful by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R42/43 May cause sensitisation by inhalation and skin contact

SAFETY PHRASES:

S23 Do not breathe gas/fumes/vapour/spray.
S24/25 Avoid contact with skin and eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S51 Use only in well ventilated areas.

4. FIRST AID MEASURES

Inhalation Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. If symptoms develop seek medical attention.

Ingestion Do not induce vomiting. Wash out mouth with water. Seek immediate medical attention.

Skin Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. If symptoms develop seek medical attention.

Eye If contact with the eye(s) occur, wash with running water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical advice.

First Aid Facilities Eye wash and normal washroom facilities.

Advice to Doctor Treat symptomatically or consult a Poisons Information Centre (Phone 131 126).

5. FIRE FIGHTING MEASURES

Extinguishing Media Keep containers cool with water spray. Do not use water in a jet. Water spray, foam, carbon dioxide and dry powder.

Specific Hazards Combustible liquid. This product will burn if exposed to fire.

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Product Name : **EASYCAST® PART B**

Classified as hazardous according to criteria of NOHSC

Hazardous Combustion Products	Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide, carbon dioxide, oxides of nitrogen, isocyanate vapours and traces of hydrogen cyanide.
Precautions in connection with Fire	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Wear appropriate personal protective equipment and clothing to minimise exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. If possible contain the spill. Place inert absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Dispose of waste according to federal, Environmental Protection Authority and state regulations. If large quantities of this material enter the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

Spilled area should be decontaminated with the following decontamination solution: 90% water, 2% detergent and 8% concentrated ammonia or sodium carbonate. Spilled material should be treated with the decontamination solution and containers left open in a well ventilated area for 48 hours.

7. HANDLING AND STORAGE

Handling Use in a well ventilated area. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Avoid breathing in spray or mists or vapours. Do not use near welding or other ignition sources and avoid sparks. Do not smoke. When dealing with large quantities, repeated or prolonged skin exposure without protection should be prevented in order to lessen the possibility of skin disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities.

Storage Store in a cool, dry well-ventilated area away from heat, sources of ignition, oxidising agents, foodstuffs, and clothing and out of direct sunlight. Store between 21 and 32°C. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids. Reference should also be made to all State and Federal regulations.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits No exposure standards have been established for this material by the National Occupational Health & Safety Commission (NOHSC). However, exposure standards for ingredients are stated below.

SUBSTANCE	TWA		STEL		NOTICES
	ppm	mg/m ³	ppm	mg/m ³	
Isocyanates (all)	-	0.02	-	0.07	Sens

'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.

Other Exposure Information 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 should 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.

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Product Name : **EASYCAST® PART B**

Classified as hazardous according to criteria of NOHSC

Respiratory Protection	If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.
Eye Protection	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
Hand Protection	Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Body Protection	Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.
Eng. Controls	Use with good general ventilation. If mists or vapours are produced local exhaust ventilation should be used.
Other Information	No biological limit allocated.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Straw to light yellow liquid
Odour	Slight musty odour
Melting Point	Not available.
Boiling Point	> 260°C
Solubility in Water	Insoluble, reacts with water
Specific Gravity (H₂O=1)	1.10 @ 25°C
pH Value	Not applicable
Vapour Pressure	Not available
Vapour Density (Air=1)	Not available
Volatile Component	Negligible
Flash Point	> 260°C
Flammability	Classified as a Class C2 (COMBUSTIBLE LIQUID) for the purposes of storage and handling, in accordance with the requirements of AS1940. This product should be stored and used in a well ventilated area away from naked flames, sparks and other sources of ignition.
Ignition Temperature	Not available
Flammable Limits LEL	Not available
Flammable Limits UEL	Not available
Other Information	Volatility @ 24°C: Very low

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions of storage and handling.
Hazardous Polymerization	May occur. Temperatures above 49°C will accelerate reactions with water. Polymerisation may occur at temperatures above 204°C.
Materials to Avoid	Incompatible with water, acids, bases, alcohols and amines.
Hazardous Decomposition Products	Thermal decomposition may result in the release of toxic and/or irritating fumes including carbon monoxide, carbon dioxide, oxides of nitrogen, traces of isocyanate and traces of hydrogen cyanide.

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Product Name : **EASYCAST® PART B**

Classified as hazardous according to criteria of NOHSC

Hazardous Reaction Will react with water, acids, bases, alcohols and amines. Reaction with water liberates carbon dioxide.

Conditions to Avoid Avoid moisture, heat, direct sunlight, open flames or other sources of ignition. Avoid temperatures above 32°C.

11. TOXICOLOGICAL INFORMATION

Toxicology Information No toxicity data is available for this specific product. However, for the constituent:

Diphenylmethane-4,4'-diisocyanate:
LC50 (rat, inhalation) = 178 mg/m³
LD50 (rat, oral) = 9,200 mg/m³

Inhalation Harmful by inhalation. Inhalation of product vapours will cause irritation of the nose, throat and respiratory system. Breathing vapour may cause an asthma like reaction.

Ingestion Ingestion of this product may irritate the gastric tract, causing nausea and vomiting.

Skin Irritating to skin resulting in redness and itching.

Eye Irritating to eyes. On eye contact this product will cause tearing, stinging, blurred vision, and redness.

Chronic Effects Prolonged or repeated skin contact may lead to allergic contact dermatitis and sensitisation in some individuals. Prolonged or repeated exposure through inhalation of vapours/fumes may lead to sensitisation and occupational asthma.

12. ECOLOGICAL INFORMATION

Environ. Protection Prevent this material entering waterways, drains and sewers.

Mobility No data is available for this material.

Persistence / Degradability No data is available for this material.

Ecotoxicity No data is available for this material.

13. DISPOSAL CONSIDERATIONS

Dispose of waste according to federal, EPA and state regulations. Labels should not be removed from containers until they have been cleaned. Do not cut, puncture or weld on or near containers. Empty containers may contain hazardous residues. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers. Advise combustible nature.

14. TRANSPORT INFORMATION

Not classified as a Dangerous Good, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

U.N. Number None Allocated

Proper Shipping Name None Allocated

DG Class None Allocated

Hazchem Code None Allocated

Packing Group None Allocated

15. REGULATORY INFORMATION

Risk Phrase R20 Harmful by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R42/43 May cause sensitisation by inhalation and skin contact

Safety Phrase S23 Do not breathe gas/fumes/vapour/spray
S24/25 Avoid contact with skin and eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S51 Use only in well ventilated areas.

Poisons Schedule Not Scheduled

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Product Name : **EASYCAST® PART B**

Classified as hazardous according to criteria of NOHSC

Hazard Category Harmful, Irritant

16. OTHER INFORMATION

Contact Person/Point

SDS History MSDS Creation: March 2005
...End Of MSDS...