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MATERIAL SAFETY DATA SHEET – PAGE 1 OF 4

RESILOC 321 BASE

This product is classified as hazardous according to criteria of NOHSC

Section 1 – Identification of the Material and Supplier

PRODUCT (MATERIAL) NAME: RESILOC 321 BASE
OTHER NAMES:
RECOMMENDED USES: Base component of 2 part general purpose epoxy binder
SUPPLIER NAME/ADDRESS: Aitken Freeman Pty Ltd – Factory 7, 7-9 Brough St, Springvale VIC 3171
TELEPHONE NUMBER: (03) 9701 3955 **FACSIMILE NUMBER:** (03) 9701 3956
EMERGENCY PHONE NUMBER: (03) 9701 3955 **HOURS:** 0800-1700 Mon-Fri

Section 2 – Hazards Identification

HAZARD CLASSIFICATION: Classified as a **HAZARDOUS SUBSTANCE** according to criteria of NOHSC.
Classified as **DANGEROUS GOODS** according to criteria of ADG Code.
RISK PHRASES: **R36/38:** Irritating to eyes and skin.
R43: May cause sensitisation by skin contact.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
SAFETY PHRASES: **S24/25:** Avoid contact with the skin and eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre on 13 11 26 (Australia-wide).
S28: After contact with skin, wash immediately with water (and soap if available)
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S61: Avoid release to the environment.

Section 3 – Composition / Information on Ingredients

INGREDIENTS:

Chemical Name:	Proportion:	CAS Number:
Bisphenol A epoxy resin	> 60%	[25068-38-6]
Reactive diluent as Alkyl C12 to C14 glycidyl	10 – 30 %	[68609-97-2]

Balance of formulation consists of ingredients below cut-off rates or ingredients determined not to be hazardous.

Section 4 – First Aid Measures

INHALATION: If inhaled, remove patient from contaminated area to fresh air – avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Lay patient down in a comfortable position, keep warm and rested. Seek medical attention if further symptoms develop. If not breathing, clear airway and apply artificial respiration.

INGESTION: If swallowed, DO NOT induce vomiting. Rinse mouth with plenty of water. Seek immediate medical advice from a doctor or the Poisons Information Centre (13 11 26 Australia-wide).

SKIN: If skin or hair contact occurs, remove all contaminated clothing and wash before reuse. Flush skin and/or hair with running water and soap if available. Seek medical assistance if irritation persists.

EYES: If product comes into contact with eyes, hold eyelids apart and flush the eye continuously with fresh running water. If pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

FIRST AID FACILITIES: Eye wash and normal washroom facilities.
ADVICE TO DOCTOR: Treat symptomatically. **POISON INFORMATION CENTRE** – 13 11 26 Australia-wide.

MATERIAL SAFETY DATA SHEET – PAGE 2 OF 4

Section 5 – Fire Fighting Measures

EXTINGUISHING MEDIA: Water mist Co_x, foam or dry powder.

HAZARDS FROM COMBUSTION PRODUCTS:

Combustion will release toxic fumes, including carbon and nitrogen oxides.

SPECIAL PROTECTIVE PRECAUTIONS AND EQUIPMENT FOR FIRE FIGHTERS:

Heating can cause expansion or decomposition leading to violent rupture of containers. Keep containers cool with water spray. Fire fighters should wear self contained breathing apparatus if risk of exposure to vapour or products of combustion. Avoid bodily contact with substance or run off.

Section 6 – Accidental Release Measures

EMERGENCY PROCEDURES: Product is slippery when spilt – avoid accidents by cleaning up any spills immediately. Wear gloves, protective goggles and appropriate protective equipment to avoid eye and skin contact. Isolate and contain spill and soak up with inert material such as clay or sand. Prevent by any means possible the material from entering storm water drains, waterways, basements or workpits. Collect in suitable containers and ensure these are correctly labelled. Ensure area is thoroughly ventilated before recommencing work.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP:

Contain and collect spills as detailed above. Refer to State Land Waste Management Authority for disposal considerations.

Section 7 – Handling and Storage

PRECAUTIONS FOR SAFE HANDLING:

Wear protective goggles or face shield and rubber gloves and barrier cream to prevent eye and skin contamination. Contact lenses pose a special hazard as they may absorb irritants. Suitable protective clothing, PVC gloves and boots should be worn. Use in a well ventilated area, preferably outdoors. General exhaust is normally adequate. If risk of overexposure exists, wear SAA approved dust respirator.

CONDITIONS FOR SAFE STORAGE:

Keep containers tightly sealed when not in use. Store in a cool, dry, well ventilated place out of direct sunlight. Keep away from strong acids, bases and oxidising agents.

INCOMPATIBILITIES:

No restrictions.

Section 8 – Exposure Controls / Personal Protection

NATIONAL EXPOSURE STANDARDS:

No exposure standards have been established for this product by NOHSC. Refer to limits for individual constituents listed below:

Bisphenol A epoxy resin – none assigned for material, but contains
Epichlorohydrin: TLV TWA: 0.1ppm, 0.38mg/m³ – skin
ES TWA: 0.1ppm, 0.4mg/m³

BIOLOGICAL LIMIT VALUES: Not established for the product.

ENGINEERING CONTROLS: If used in limited ventilation, ensure adequate ventilation to maintain exposure levels are kept below standards, by using a local exhaust. Keep containers closed when not in use.

PERSONAL PROTECTION: Avoid unnecessary contact as good work practice. Wash contaminated clothing and protective equipment before storing and reuse. Wash hands before eating, smoking, or using the toilet.

RESPIRATORY PROTECTION: It is usually safe not to use respiratory protection. However, where engineering controls are not effective in controlling airborne exposure, the use of a mask or other device is appropriate. For assistance in selecting suitable equipment consult AS/NZ1715.

EYE PROTECTION: Eye protective measures are normally necessary, and are suggested when using this product. Consult AS1336 and AS/NZ1337.

PROTECTIVE GLOVES: Rubber, PVC or other protective gloves are necessary, and desirable, especially if this product is being used frequently or for lengthy periods. Consult AS2161 for guidance.

CLOTHING: Clean overalls should be worn, preferably with an apron. Consult AS2919 for clothing guidance.

SAFETY FOOTWEAR: Wearing safety boots is advisory. Consult AS/NZ2210 for advice on Occupational Protective Footwear.

MATERIAL SAFETY DATA SHEET – PAGE 3 OF 4

Section 9 – Physical and Chemical Properties

APPEARANCE (COLOUR, PHYSICAL FORM, SHAPE):

Transparent liquid

ODOUR:

Nil

SOLUBILITY:

Insoluble

VAPOUR DENSITY:

Not available

MELTING POINT:

Not applicable

FREEZING POINT:

Not available

FLASH POINT:

> 93°C

LOWER FLAMMABLE LIMIT:

Not established

VOLATILE ORGANIC COMPOUNDS (VOC) CONTENT:

VAPOUR PRESSURE:

Negligible

BOILING POINT:

Not available

SPECIFIC GRAVITY:

1.0 – 1.14

UPPER FLAMMABLE LIMIT:

Not established

AUTOIGNITION TEMPERATURE:

Unknown

Nil.

Section 10 – Stability and Reactivity

CHEMICAL STABILITY:

Stable

CONDITIONS TO AVOID:

Keep away from strong acids, bases and oxidising agents.

INCOMPATIBLE MATERIALS:

No restrictions

HAZARDOUS DECOMPOSITION PRODUCTS:

On burning may emit toxic fumes, including carbon and nitrogen oxides.

HAZARDOUS REACTIONS:

None

Section 11 – Toxicological Information

TOXICOLOGY INFORMATION: No toxicity data is available for this product.

HEALTH EFFECTS FROM THE LIKELY ROUTES OF EXPOSURE:

INHALATION:

Not normally a hazard at normal temperatures, however at elevated temperatures vapour may be irritating to respiratory system. Inhalation of vapour may result in nausea and headache.

INGESTION:

Swallowing may result in nausea, vomiting, abdominal pain and diarrhoea.

SKIN:

Is irritating and may cause drying of the skin. May lead to dermatitis and in some cases sensitisation. The material may accentuate pre-existing skin conditions.

EYES:

Irritating and abrasive to the eyes and is capable of causing temporary impairment of vision, eye inflammation and ulceration.

CHRONIC EFFECTS:

May causes sensitisation in susceptible individuals by skin contact. Repeated or prolonged skin contact may result in allergic contact dermatitis.

Section 12 – Ecological Information

ECOTOXICITY:

Not available

PERSISTENCE AND DEGRADIBILITY:

Not available

MOBILITY:

Not available

ENVIRONMENTAL PROTECTION:

Product is toxic to aquatic organisms, and may cause long-term adverse effects in the aquatic environment. Avoid contaminating waterways.

Section 13 – Disposal Considerations

DISPOSAL METHODS AND CONTAINERS:

Refer to State Land Waste Management Authority. Empty containers must be decontaminated. Normally suitable for disposal at approved land waste site.

Section 14 – Transport Information

This material is a Class 9 – Miscellaneous Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Class 9 Goods are incompatible in a placard load with dangerous goods of Class 1, Explosives.

UN NUMBER:

None assigned

UN PROPER SHIPPING NAME:

None assigned

DANGEROUS GOODS CLASS:

None assigned

SUBSIDIARY RISK:

None assigned

PACKING GROUP:

None assigned

SPECIAL PRECAUTIONS PER USER:

Keep containers tightly sealed, store in a cool, dry, well ventilated place out of direct sunlight. Keep away from strong acids, bases and oxidising agents.

HAZCHEM CODE:

None assigned

MATERIAL SAFETY DATA SHEET – PAGE 4 OF 4

Section 15 – Regulatory Information

POISON SCHEDULE: S5
OHS: Unregulated
ENVIRONMENTAL: Unregulated
ADDITIONAL NATIONAL AND/OR INTERNATIONAL REGULATORY INFORMATION:
Unregulated

Section 16 – Other Information

DATE OF PREPARATION OR LAST REVISION OF MSDS:

14th March 2008

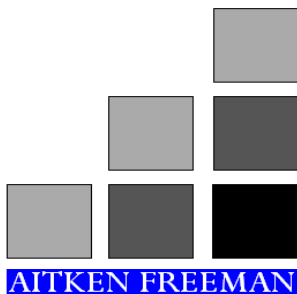
CONTACT POINT:

Aitken Freeman Pty Ltd
(03) 9701 3955

LITERATURE REFERENCES / SOURCES OF DATA:

Material Safety Data Sheets from Suppliers
List of Designated Substances – Worksafe Australia (on-line)
Australian Dangerous Goods Code 6th Edition
Standard for the Uniform Scheduling of Drugs and Poisons No 19

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MATERIAL SAFETY DATA SHEET – PAGE 1 OF 4

RESILOC 321 HARDENER

This product is classified as hazardous according to criteria of NOHSC

Section 1 – Identification of the Material and Supplier

PRODUCT (MATERIAL) NAME: RESILOC 321 HARDENER
OTHER NAMES:
RECOMMENDED USES: Hardener component of 2 part general purpose epoxy binder
SUPPLIER NAME/ADDRESS: Aitken Freeman Pty Ltd – Factory 7, 7-9 Brough St, Springvale VIC 3171
TELEPHONE NUMBER: (03) 9701 3955 **FACSIMILE NUMBER:** (03) 9701 3956
EMERGENCY PHONE NUMBER: (03) 9701 3955 **HOURS:** 0800-1700 Mon-Fri

Section 2 – Hazards Identification

HAZARD CLASSIFICATION: Classified as a **HAZARDOUS SUBSTANCE** according to criteria of NOHSC.
Classified as **DANGEROUS GOODS** according to criteria of ADG Code.
RISK PHRASES: **R20/21/22:** Harmful by inhalation, in contact with skin and if swallowed.
R34: Causes burns
R42/43: May cause sensitisation by inhalation or skin contact.
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
SAFETY PHRASES: **S24/25:** Avoid contact with the skin and eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre on 13 11 26 (Australia-wide).
S28: After contact with skin, wash immediately with water (and soap if available)
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S61: Avoid release to the environment.

Section 3 – Composition / Information on Ingredients

INGREDIENTS:

Chemical Name:	Proportion:	CAS Number:
Isophoronediamine	10 – 30 %	[2855-13-2]
Benzyl alcohol	30 – 60 %	[100-51-6]
N-aminoethylpiperazine	1 – 10 %	[140-31-8]
Triethylenetetramine	10 – 30 %	[112-24-3]

Balance of formulation consists of ingredients below cut-off rates or ingredients determined not to be hazardous.

Section 4 – First Aid Measures

INHALATION: If inhaled, remove patient from contaminated area to fresh air – avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Lay patient down in a comfortable position, keep warm and rested. Seek medical attention if further symptoms develop. If not breathing, clear airway and apply artificial respiration.

INGESTION: If swallowed, DO NOT induce vomiting. Rinse mouth with plenty of water. Seek immediate medical advice from a doctor or the Poisons Information Centre (13 11 26 Australia-wide).

SKIN: If skin or hair contact occurs, remove all contaminated clothing and wash before reuse. Flush skin and/or hair with running water and soap if available. Seek medical assistance if irritation persists.

EYES: If product comes into contact with eyes, hold eyelids apart and flush the eye continuously with fresh running water. If pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

FIRST AID FACILITIES: Eye wash and normal washroom facilities.
ADVICE TO DOCTOR: Treat symptomatically. **POISON INFORMATION CENTRE** – 13 11 26 Australia-wide. This product is corrosive.

MATERIAL SAFETY DATA SHEET – PAGE 2 OF 4

Section 5 – Fire Fighting Measures

EXTINGUISHING MEDIA:	Water mist Co _x , foam or dry powder.
HAZARDS FROM COMBUSTION PRODUCTS:	Combustion may release toxic fumes, including carbon monoxide, amines, ammonia, and nitrogen oxides.
SPECIAL PROTECTIVE PRECAUTIONS AND EQUIPMENT FOR FIRE FIGHTERS:	Heating can cause expansion or decomposition leading to violent rupture of containers. Keep containers cool with water spray. Fire fighters should wear self contained breathing apparatus if risk of exposure to vapour or products of combustion. Avoid bodily contact with substance or run off.
SPECIFIC HAZARDS:	Liquid and vapour are flammable. Vapour forms an explosive mixture with air.

Section 6 – Accidental Release Measures

EMERGENCY PROCEDURES:	Product is slippery when spilt – avoid accidents by cleaning up any spills immediately. Wear gloves, protective goggles and appropriate protective equipment to avoid eye and skin contact. Isolate and contain spill and soak up with inert material such as clay or sand. Prevent by any means possible the material from entering storm water drains, waterways, basements or workpits. Collect in suitable containers and ensure these are correctly labelled. Ensure area is thoroughly ventilated before recommencing work.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP:	Contain and collect spills as detailed above. Refer to State Land Waste Management Authority for disposal considerations.

Section 7 – Handling and Storage

PRECAUTIONS FOR SAFE HANDLING:	Wear protective goggles or face shield and rubber gloves and barrier cream to prevent eye and skin contamination. Contact lenses pose a special hazard as they may absorb irritants. Suitable protective clothing, PVC gloves and boots should be worn. Use in a well ventilated area, preferably outdoors. General exhaust is normally adequate. If risk of overexposure exists, wear SAA approved dust respirator.
CONDITIONS FOR SAFE STORAGE:	Store in accordance with AS 3780-1994: The storage and handling of corrosive substances; and AS1940: The storage and handling of flammable and combustible liquids.
STORAGE:	Store in a cool, dry, well-ventilated area out of direct sunlight. Store away from strong acids and oxidising agents.
INCOMPATIBILITIES:	No restrictions.

Section 8 – Exposure Controls / Personal Protection

NATIONAL EXPOSURE STANDARDS:	No exposure standards have been established for this product by NOHSC. No exposure limits have been established for individual constituents.
BIOLOGICAL LIMIT VALUES:	Not established for the product.
ENGINEERING CONTROLS:	If used in limited ventilation, ensure adequate ventilation to maintain exposure levels are kept below standards, by using a local exhaust. Keep containers closed when not in use.
PERSONAL PROTECTION:	Avoid unnecessary contact as good work practice. Wash contaminated clothing and protective equipment before storing and reuse. Wash hands before eating, smoking, or using the toilet.
RESPIRATORY PROTECTION:	It is usually safe not to use respiratory protection. However, where engineering controls are not effective in controlling airborne exposure, the use of a mask or other device is appropriate. For assistance in selecting suitable equipment consult AS/NZ1715.
EYE PROTECTION:	Eye protective measures are normally necessary, and are suggested when using this product. Consult AS1336 and AS/NZ1337.
PROTECTIVE GLOVES:	Rubber, PVC or other protective gloves are necessary, and desirable, especially if this product is being used frequently or for lengthy periods. Consult AS2161 for guidance.
CLOTHING:	Clean overalls should be worn, preferably with an apron. Consult AS2919 for clothing guidance.
SAFETY FOOTWEAR:	Wearing safety boots is advisory. Consult AS/NZ2210 for advice on Occupational Protective Footwear.

MATERIAL SAFETY DATA SHEET – PAGE 3 OF 4

Section 9 – Physical and Chemical Properties

APPEARANCE (COLOUR, PHYSICAL FORM, SHAPE):

Amber thin liquid

ODOUR:

Strong amine odour

SOLUBILITY:

Insoluble

VAPOUR DENSITY:

Not available

MELTING POINT:

Not applicable

FREEZING POINT:

Not available

FLASH POINT:

> 62°C

LOWER FLAMMABLE LIMIT:

Not established

VOLATILE ORGANIC COMPOUNDS (VOC) CONTENT:

VAPOUR PRESSURE:

Negligible

BOILING POINT:

Not available

SPECIFIC GRAVITY:

0.94 – 1.0

UPPER FLAMMABLE LIMIT:

Not established

AUTOIGNITION TEMPERATURE:

Unknown

Not stated

Section 10 – Stability and Reactivity

CHEMICAL STABILITY:

Stable under normal conditions

CONDITIONS TO AVOID:

Keep away from strong acids and oxidising agents.

INCOMPATIBLE MATERIALS:

No restrictions

HAZARDOUS DECOMPOSITION

PRODUCTS:

On burning may emit toxic fumes, including carbon monoxide, amines, ammonia and nitrogen oxides.

HAZARDOUS REACTIONS:

None

Section 11 – Toxicological Information

TOXICOLOGY INFORMATION: No toxicity data is available for this product.

HEALTH EFFECTS FROM THE LIKELY ROUTES OF EXPOSURE:

INHALATION:

Vapour or mist is irritating to the upper respiratory tract and may cause sensitisation. Inhalation of vapour may aggravate pre-existing conditions such as asthma, bronchitis or emphysema. Acute effects may be chest and nasal irritation with coughing, sneezing, headache and nausea. Hazard increases at elevated temperatures.

INGESTION:

Harmful and highly irritating if swallowed. Swallowing may result in nausea, vomiting, abdominal pain and diarrhoea. May cause chemical burns to the mouth, throat and oesophagus, with extreme discomfort and pain. Considered an unlikely route of entry in commercial/industrial environments.

SKIN:

Prolonged exposure is highly irritating and may cause drying and cracking of the skin. Material is corrosive and can cause chemical burns. Capable of causing dermatitis and sensitisation resulting in hives, rash, itching or swelling of extremities. Toxic effects may result from skin absorption. Sensitisation may appear after repeated symptom-free exposures. Open cuts, abraded or irritated skin should not be exposed to this material. This material may accentuate pre-existing skin conditions.

EYES:

Highly irritating to the eyes and is capable of causing pain and corneal burns. If not promptly treated, can lead to permanent eye injury.

CHRONIC EFFECTS:

May cause sensitisation in susceptible individuals by skin contact or inhalation. Repeated or prolonged skin contact may result in allergic contact dermatitis.

Section 12 – Ecological Information

ECOTOXICITY:

Not available

PERSISTENCE AND DEGRADIBILITY:

Not available

MOBILITY:

Not available

ENVIRONMENTAL PROTECTION:

Product is toxic to aquatic organisms, and may cause long-term adverse effects in the aquatic environment. Avoid contaminating waterways.

Section 13 – Disposal Considerations

DISPOSAL METHODS AND CONTAINERS:

Refer to State Land Waste Management Authority. Empty containers must be decontaminated. Normally suitable for disposal at approved land waste site.

MATERIAL SAFETY DATA SHEET – PAGE 4 OF 4

Section 14 – Transport Information

This material is a Class 8 – Corrosive Substance according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Class 8 Goods are incompatible in a placard load with any of the following:

- Class 1, Explosives
- Class 4.3, Dangerous When Wet substances
- Class 5.1, Oxidising Agents and Class 5.2, Organic Peroxides
- Class 6, Toxic Substances (where the toxic substances are cyanides and the corrosives are acids)
- Class 7, Radioactive Substances
- and are incompatible with food and food packaging in any quantity.

UN NUMBER: 1760

UN PROPER SHIPPING NAME: Corrosive Liquids N.O.S.

DANGEROUS GOODS CLASS: 8

SUBSIDIARY RISK: None assigned

PACKING GROUP: III

SPECIAL PRECAUTIONS PER USER:

Keep containers tightly sealed, store in a cool, dry, well ventilated place out of direct sunlight. Keep away from strong acids and oxidising agents.

HAZCHEM CODE: 3X

Section 15 – Regulatory Information

POISON SCHEDULE: S5

OHS: Unregulated

ENVIRONMENTAL: Unregulated

ADDITIONAL NATIONAL AND/OR INTERNATIONAL REGULATORY INFORMATION:

Unregulated

Section 16 – Other Information

DATE OF PREPARATION OR LAST REVISION OF MSDS:

14th March 2008

CONTACT POINT: Aitken Freeman Pty Ltd

(03) 9701 3955

LITERATURE REFERENCES / SOURCES OF DATA:

Material Safety Data Sheets from Suppliers

List of Designated Substances – Worksafe Australia (on-line)

Australian Dangerous Goods Code 6th Edition

Standard for the Uniform Scheduling of Drugs and Poisons No 19

The information presented herein has been compiled from sources considered to be dependable and is accurate to the best of seller's knowledge, however seller makes no warranty whatsoever, expressed, implied, or of merchantability regarding to the accuracy of such data or the results to be obtained from the use thereof. Seller assumes no responsibility for injury to the buyer or third persons or for any damage to property. Buyer assumes all risks.