MATERIAL SAFETY DATA SHEET

CASTING BANDAGES – WITH FIBREGLASS

SECTION 1 – IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product
Product Name: CASTING BANDAGES – WITH FIBREGLASS
Other Names:
- DYNACAST Prelude
- Safety Splint Unpadded Roll
- DELTA Lite Conformable
- DELTA Lite Plus

Manufacturer's Product Code: Various
Use: Synthetic orthopaedic fibreglass casting and splinting material. Provides rigid external immobilisation for fractures and other orthopaedic indications.

Supplier
Company: Smith & Nephew Pty. Limited
Address: 315 Ferntree Gully Road, Mount Waverley, Victoria 3149
Customer Service: (03) 8540 6777
Toll Free (Australia): 13 13 60
Toll Free (New Zealand): 0800 807 663
Emergency Tel. Nos.: (03) 8540 6777 (business hours)

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification: HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.
Hazards Overview:
Before Cure: Contains a water-activated polyurethane resin with isocyanate end groups. May cause skin sensitisation.
After Cure: The process to remove the bandage may form dusts, containing cured isocyanate material, which may cause a reaction in sensitised individuals. Also, significant amounts of fibreglass dust may be generated from fibreglass included in these casting materials.

Risk Phrases: The labelling required if handled in the workplace as a Workplace Hazardous Substance is:

Hazard Category: IRRITANT (Sensitiser)
R43 May cause sensitisation by skin contact.

Safety Phrases:
S24/25 Avoid contact with skin and eyes.
S37 Wear suitable gloves.
S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre.
S28 After contact with skin, wipe off, then wash immediately with plenty of soap and water.
SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Product / component</th>
<th>CAS No.</th>
<th>Proportion (%)</th>
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<tr>
<td>DYNACAST PRELUDE:</td>
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<td>Diphenylmethane Di-isocyanate (M.D.I.)</td>
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<td>Fibreglass</td>
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<tr>
<td>Polypropylene padding</td>
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<tr>
<td>SAFETY SPLINT UNPADDED ROLL:</td>
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<tr>
<td>Polyurethane prepolymer</td>
<td></td>
<td></td>
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<tr>
<td>Fibreglass</td>
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<td>DELTA LITE CONFORMABLE:</td>
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<td>DELTA LITE PLUS:</td>
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<tr>
<td>Fibreglass</td>
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</tbody>
</table>

SECTION 4 – FIRST AID MEASURES

Swallowed: Do not induce vomiting. Seek medical attention.
Eye: Rinse eye with water for 15 minutes, whilst lifting eyelid. Get medical attention if effects persist.
Skin: Wash thoroughly with soap and water.
Inhaled: Move individual to fresh air. Give oxygen in the event of breathing difficulty. Seek medical attention if effects persist.
First-Aid Facilities: Eye wash plus normal washroom facilities nearby.
Advice to Doctor: Treat symptomatically. May cause respiratory sensitisation or asthma-like symptoms.
SECTION 5 – FIRE FIGHTING MEASURES

Hazards From Combustion Products

The product is not readily combustible but will burn under fire conditions and give off toxic fumes, mainly carbon monoxide and carbon dioxide and with a possibility of hydrogen cyanide and nitrogen oxides (dependent upon combustion conditions).

Suitable Extinguishing Media

CO₂ or dry chemical for small fires. Water and foam for larger fires.

Fire-fighting Procedures

Vapours are extremely irritating when inhaled. Wear self-contained breathing apparatus where decomposition fumes may be formed.

Hazchem Code

Not applicable.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill / Leak Procedure

Ventilate the area thoroughly. Avoid skin contact. Wear gloves. Absorb the spilled compound in sawdust or other absorbent. Store temporarily in an open container. Absorbed material should be treated with a solution of water and ammonia and isopropanol before disposal.

SECTION 7 – HANDLING AND STORAGE

Handling Advice

Always wear gloves when handling the product. Refer to instructions for use provided with the product.

Storage Advice

Store in a cool, dry, well-ventilated area away from strong oxidising agents. During storage, avoid contact with water, alcohols, strong bases, metal compounds or surface-active materials.
SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards  
**Isocyanates, all (as-NCO)** (whilst the cast is being cured, present as the polymer functional end groups).  
TWA 0.02 mg/m$^3$  
STEL 0.07 mg/m$^3$  
Sensitiser

**Glass Fibre Dust** is listed in the exposure standard publication from the USA, the ACGIH TLVs under:

**Synthetic Vitreous Fibres - Glass Wool** (> 5μm long x <3μm diameter and aspect ratio >5:1) –

1 fibre/cm$^3$ with an A3 Animal Carcinogen note.

**Nuisance Dust** (whilst the cast is being removed)  
TWA 10 mg/m$^3$

**Note:** Dusts containing cured isocyanate material may cause a reaction in sensitised individuals.

**Engineering Controls**

**Applying:** Provide good dilution ventilation when applying the bandage and activating the resin to set.

**Removing:** Provide good dilution ventilation. An effective vacuum system must be used when using oscillating saws for cast removal. The use of shears offers an effective method of cast removal without dust generation.

**Personal Protection**

Avoid prolonged skin contact. Gloves should be worn to prevent skin contact with the unset resin. Wear rubber or neoprene gloves. Wear rubber or plastic apron to protect skin and clothing.

Respiratory protection is not needed in normal applications. In case of need, use air supply mask or respirator with canister for organic vapours/isocyanates.

Dust respirators, meeting AS/NZS 1715/1716, should be used when using oscillating saws for cast removal, and where no dust extraction system is in place.
SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour
A synthetic casting bandage, comprising of a knitted fibreglass fabric, spread with a water activated polyurethane resin. May also incorporate padding/liner material and/or stockinette. When activated by water, the resin crosslinks to give a rigid material releasing carbon dioxide in small amounts. A small exotherm is evident when the recommended water temperatures are used.

Melting Point / Boiling Point
MP Resin only <15°C
BP Resin decomposes at above 175°C

Vapour Pressure
0.0002 mmHg at 24°C

Vapour Density (Air=1)
Not available.

Specific Gravity
S.G. of resin approx. 1.1

Flashing Point
> 175°C for the resin (not readily combustible).

Flammability Limits (FL) (%)
Lower FL: -
Upper FL: -

Autoignition Temperature
Not available.

Solubility in Water (g/L)
Insoluble. Resin reacts with water with evolution of CO₂.

Percent volatile by volume
A small amount of carbon dioxide is released on cure.

SECTION 10 – STABILITY AND REACTIVITY

Stability
Stable at room temperature.

Conditions to Avoid
Heat sources and contact with water. Moisture contamination may form CO₂ gas pressure. Ensure water temperature is within recommended guidelines.

Incompatible Materials
Avoid contact with water, alcohols, strong bases, metal compounds or surface-active materials.

Hazardous Decomposition
Carbon monoxide, carbon dioxide, nitrogen oxides, and the possibility of hydrogen cyanide. Moisture contamination may form CO₂ gas pressure.

Hazardous Polymerisation
Will not occur.
SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Effects

Swallowed
Not a likely route of exposure. Small amounts swallowed incidental to normal handling operations are not likely to cause injury.

Eye
The unset resin system is potentially an irritant in direct contact with eyes. May cause very slight, temporary corneal damage. The resin vapour level at room temperature will not be sufficient cause any health problems.

Skin
The unset resin system may cause skin sensitisation. It is potentially irritant in direct contact with skin. May stick to skin and cause irritation on removal. Prolonged skin contact or repeated exposure symptoms may include redness and a rash.

Inhaled

Before Cure: At temperatures higher than recommended (greater than 50°C), isocyanate-containing fumes may be generated. At room temperatures, vapours are minimal. May cause sensitisation by inhalation. Very low concentrations may cause asthmatic signs and symptoms in hypersensitive people. Short-term effects of exposures above the exposure standard may include breathing difficulties and sensitisation.

After Cure:
- Removal of casts using oscillating saws causes a potentially irritant dust, from the set isocyanate resin, to be released into the atmosphere.
- The fibreglass present in this dust may cause respiratory mechanical irritation. Fibreglass dusts are being investigated for their potential to cause lung disease and are suspected of having potential to cause cancer, when in the size range (> 5μm long x <3μm diameter and aspect ratio >5:1).

NOTE: Dust levels released from fibreglass casting material are significantly higher than from polypropylene casting material. However the likelihood of generating a fibreglass dust in the size range that could be a problem is considered to be low.

Chronic Effects
Chronic or repeated exposure may cause skin irritation and sensitisation.

SECTION 12 – ECOLOGICAL INFORMATION

Environmental Issues
The material is not considered to be dangerous to aquatic organisms.

Persistence & Degradability
In aqueous media, formation of insoluble and chemically inert polyureas will occur. No appreciable volatilisation from water to air is expected.

Mobility
Movement in the environment is expected to be limited due to the formation of insoluble polymers.
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SECTION 13 – DISPOSAL CONSIDERATIONS

Method of Disposal

In accordance with local waste regulations. Hardened cast material is not classified as a hazardous waste. Allow to cure and then send to standard industrial landfill. May be incinerated in an approved facility. Used product to be disposed of in accordance with the local authority’s infectious waste requirements.

SECTION 14 – TRANSPORT INFORMATION

Classification

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

UN No.

Not applicable.

Class

Not applicable.

Subsidiary Risk(s)

Not applicable.

Packing Group

Not applicable.

Hazchem Code

Not applicable.

Shipping Name

Not applicable.

Other

Not applicable.

SECTION 15 – REGULATORY INFORMATION

Poison Schedule

Not a Scheduled Poison.

SECTION 16 – OTHER INFORMATION

CONTACT POINT : CUSTOMER SERVICE

Telephone: (03) 8540 6777

Date of Issue: 12 June 2013

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

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