

SAFETY DATA SHEET

according to EU Directive 1907/2006



Cardia Biohybrid™ BL-F resin

Version: 2.2

Revision date: 08/06/2016

1. Identification of the substance / preparation and of the company

1.1 Product identifier

Trade name(s): Cardia Biohybrid™ BL-F, Cardia Biohybrid™ BL-F02, Cardia Biohybrid™ BL-F03 and Cardia Biohybrid™ BL-F04

1.2 Relevant identified uses of the substance or mixture

Cardia Biohybrid™ BL-F is a thermoplastic resin used to manufacture plastic products like extruded films and sheets, injection molded articles, blow molded containers and bottles and thermo-formed trays.

1.3 Details of the Manufacturer / Supplier:

CARDIA BIOPLASTICS LIMITED ACN 102 302 134, **Australia**

Suite 6, 205-211 Forster Road,
Mount Waverley, VIC 3149 Australia
P. +61 3 9562 0122 F. +61 3 9562 0422

E-mail address of the competent person responsible for the Safety Data Sheet:

info@cardiabioplastics.com

1.4 Emergency Contact Number: +61 3 9562 0122

2. Hazards identification

2.1 Classification

Classification according to Regulation (EC) No 1272/2008: The product is not classified according to the CLP regulation

2.2 Label elements

Labelling according to EU guidelines

Not classified

2.3 Other Hazards

Results of PBT and vPvB assessment

PBT: not applicable

vPvB: not applicable

3. Composition / information on ingredients

3.1 Composition:

Ingredient	CAS No.
Starch	9005-25-8
Glycerol	56-81-5
EAA	9010-77-9
PE	9002-88-4
Sorbitol	50-70-4

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3.2 Chemical characterization

Description: Blend of Thermoplastic Starch (TPS) and Polyethylene with natural plasticizers.

Dangerous components: None

Additional information: None

4. First-aid measures

4.1 Description of first aid measures

General information: No special measures required

After inhalation:

On Inhalation of decomposition gases or dust remove patient to fresh air. Consult doctor in case of symptoms.

After skin contact:

Areas affected by molten material should be quickly placed under cold running water. Burns caused by molten material require hospital treatment. Seek medical assistance for removal of adhering material.

After eye contact:

In case of contact with the eyes, rinse open eyes with plenty of water. If irritation develops, seek medical attention.

After swallowing:

No known effects. Rinse mouth and then drink plenty of water. In case of discomfort seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed:

No further relevant information available

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing agents:

Water, foam, dry extinguishing media

For safety reasons unsuitable extinguishing agents:

Full water jets

5.2 Special exposure hazards arising from the substance or mixture

Carbon monoxide (CO) and carbon dioxide (CO₂).

Under certain fire conditions, traces of other toxic gases cannot be excluded.

Risk of dust explosion if fine dust can accumulate.

5.3 Advice for firefighters

Protective equipment:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Additional information:

When large quantities of solid substance/product are involved and melting occurs, application of water may cause extensive scattering of molten material.

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6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid inhalation. Avoid contact with the skin, eyes and clothing. Sources of ignition should be kept away.

Cleanup:

Avoid raising dust. Ensure adequate ventilation. After decontamination, spill area can be washed with water.

Further information:

High risk of slipping due to leakage/spillage of product.

6.2 Environmental precautions:

Avoid ingress of material into drainage systems.

6.3 Methods and material for containment and cleaning up

Sweep/shovel up or vacuum up spilled product.

7. Handling and storage

7.1 Precautions for safe handling

General advice:

Keep container tightly closed and dry; store in a cool place. Avoid extreme heat. Avoid direct sunlight.

Information about protection against explosions and fires

Avoid sources of ignition: heat, sparks, and open flame. Avoid dust formation. Provide exhaust ventilation. Dust can form an explosive mixture with air.

7.2 Conditions for safe storage, including any incompatibilities

Storage incompatibility:

General: Segregate from strong oxidizing agents.

Storage stability:

Avoid prolonged storage at high temperatures.

Requirements to be met by storerooms and containers:

Observe all local and national regulations for water polluting products.

Information about storage in one common storage facility: Not required

Further information about storage conditions:

No further relevant information available

7.3 Specific end use(s)

No further relevant information available

8. Exposure controls and personal protection

8.1 Control parameters

Components with critical values that require monitoring at the workplace:

Observe workplace limits for dust.

Additional information: none

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8.2 Exposure controls

Personal protective equipment

General protective and hygienic measures:

Avoid contact of molten material with skin.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of dusts/mists/vapours.
Keep away from foodstuffs, beverages and food.
Handle in accordance with good industrial hygiene and safety practice.

Advice on system design:

Provide exhaust ventilation at sources when processing molten product. Provide local exhaust ventilation to control dusts and vapors.
Eye wash fountains and safety showers must be easily accessible.

Breathing equipment

Respiratory protection may not be required under normal operating conditions if adequate ventilation is provided. Wear respiratory protection if ventilation is inadequate.

Recommended filter device for short term use:

Protection of hands:

Use general purpose protective gloves, Use additional heat protection gloves when handling hot molten resin.

Material of gloves

Textile or leather.

Penetration time of glove material

Replace gloves on signs of wear.

Eye protection:

Safety glasses with side-shields. Wear splash goggles to protect from hot molten substance/product.

Body protection:

Body protection must be chosen based on level of activity and exposure. When processing molten resin, wear suitable skin protection, like long sleeve cotton shirts and long trousers.

Limitation and supervision of exposure into the environment

Do not allow resin to enter drainage system, surface or ground water.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information:	
Appearance: Form Color Smell	Small solid cylindrical pellets Beige Slight starchy odour
pH-value:	7
Change in condition: Melting point / Melting range Boiling point / Boiling range Fusion temperature: / range	95-100°C Not determined 65-100°C

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Flash point	> 550 °F or 288°C (ASTM D1929)
Inflammability (solid, gaseous)	Not determined
Ignition temperature	878 °F or 470 °C (ASTM D1929)
Decomposition temperature	> 190°C
Self-inflammability	Product is not self-igniting
Danger of explosion	Product is not explosive
Vapor pressure:	Not applicable
Density at 20°C:	1.18 g/cm ³
Solubility in / Miscibility with Water:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
Viscosity:	Not applicable

9.2 Other Information: No further relevant information available

10. Stability and reactivity

10.1 Reactivity

10.2 Chemical stability

This product is stable at recommended storage conditions

Thermal decomposition / conditions to be avoided:

Thermal decomposition: > 240°C

Possible hazardous thermal decomposition products: gases / vapors, monomers, low molecular weight oligomers, oxides, hydrocarbons

10.3 Possibility of hazardous reactions

Risk of dust explosion at high concentration of fin dust in air

10.4 Conditions to avoid:

Avoid extreme heat. Avoid all sources of ignition: heat, sparks, and open flame.

10.5 Incompatible materials:

Strong oxidizing agents, chlorinated hydrocarbons, aromatic solvents

10.6 Corrosion to metals:

No corrosive effect on metal.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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Primary irritant effect:

On the skin:

Frequent and prolonged contact may lead to skin irritation.

On the eye:

Frequent and prolonged exposure to dust may cause eye irritation

Additional toxicological information:

Medical conditions aggravated by overexposure:

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product.

Sensitisation:

No known sensitizing effects.

Repeated dose toxicity:

No data available concerning repeated dose toxicity.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):

No known CMR effects

Other information:

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

12. Ecological information

12.1 Ecotoxicity

No negative ecological effect known. Due to insolubility in water most probably not hazardous to aquatic organisms.

12.2 Persistence and degradability

No further relevant information available

12.3 Bioaccumulative potential:

No further relevant information available

12.4 Mobility in soil

No further relevant information available

Additional ecological information:

Chemical Oxygen Demand (COD-Value)

Not determined

Biochemical Oxygen Demand (BOD5-Value)

Not determined

General notes:

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other adverse effects:

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Environmental toxicity

At the present state of knowledge, no negative ecological effects are known or expected.

13. Disposal considerations

13.1 Waste treatment methods

Waste product can be incinerated or disposed of together with domestic waste in compliance with local authority requirements.

Do not discharge into waterways or sewer systems without proper authorization.

Recommendation

Generation of waste should be minimized, recycle where possible.

Uncleaned Packaging:

Dispose of in accordance with national, state and local regulations. Uncontaminated packaging should be recycled.

14. Transport information

Not regulated as hazardous material or dangerous good for transportation under ADR, ADNR, RID, ICAO//IATA, IMDG/GGVSee and ICAO/IATA

15. Regulatory information

15.1 Safety, health and environment regulations/legislation specific for the substance or mixture

This product does not require a hazard warning label in accordance with EC Directives.

National regulations

Water hazard class:

Germany:

Classified 'nwg', no risk of water pollution (classification acc. Att. 1 of VwVwS)

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

This product does not contain a SVHC or a substance included in the Candidate List

15.2 Chemical safety assessment:

Not available

16. Other information

16.1 HMIS III rating

Health: 1

Flammability: 0

Physical hazard: 0

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

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This safety data sheet describes our product in terms of safety requirements. These data are based on our present knowledge and experience. It is the responsibility of the recipient to observe any existing regulation for the use of this product.

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