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SAFETY DATA SHEET (SDS)

G11/ FR5 EPOXY GLASS

Prepared in accordance with the Globally Harmonized System (GHS) and Safe Work Australia requirements.

SECTION 1: IDENTIFICATION

- **Product Name:** G11 / FR5 Epoxy Glass
- **Recommended Use:** Electrical insulation, structural panels, mechanical supports, and high-voltage barriers in switchboards, transformers, and industrial electrical equipment.
- **Details:**
    - **Company:** MISCO Australia
    - **Address:** 89 -91 Licola Crescent, Dandenong South, VIC 3175
    - **Telephone Number:** 03 9706 5185
    - **Email:** info@misco.net.au
    - **Website:** www.misco.net.au
    - **Emergency Contact Number:** 000
    - **Poisons Information Centre**: 13 11 26 (Australia)
- **SDS Number:** MISCO – SDS - 015
- **SDS Version:** 1

SECTION 2: HAZARD(S) IDENTIFICATION

Classification (GHS – Safe Work Australia):
This product is **not classified as hazardous** under the *Globally Harmonised System (GHS)* criteria by *Safe Work Australia* when in solid form.

Hazard Classification (Machining Dust):
When machined, drilled, or sanded, airborne dust may cause **mechanical irritation** to the eyes, skin, and respiratory system.

- **Eye Irritation –** Category 2A (dust only)

- **Skin Irritation –** Category 2 (dust only)
- **Specific Target Organ Toxicity (Single Exposure) –** Category 3 (respiratory irritation, dust only)

GHS Label Elements (applicable during machining exposure):

- **Signal Word:** ⚠ *WARNING.*

Hazard Statements:

- H315: Causes skin irritation (dust).
- H319: Causes serious eye irritation (dust).
- H335: May cause respiratory irritation (dust).

Precautionary Statements:

- P261: Avoid breathing dust.
- P280: Wear protective gloves, clothing, and eye/face protection.
- P264: Wash hands thoroughly after handling.
- P271: Use only outdoors or in well-ventilated areas.
- P304 + P340: If inhaled, remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338: If in eyes, rinse cautiously with water for several minutes.

Other Hazards:

- Not flammable in solid form; however, decomposition at high temperatures may release carbon monoxide, carbon dioxide, and phenolic vapours.
- Contains fibreglass, which may cause temporary itching or irritation during handling or machining.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance: Solid thermoset composite of epoxy resin and woven glass fabric.

Component	CAS Number	Proportion (% w/w)	Description / Function
Epoxy Resin (thermoset system)	—	40 – 50%	Cured epoxy polymer binder providing mechanical strength and electrical insulation.
Woven Glass Cloth (fibreglass)	65997-17-3	50 – 60%	Reinforcing substrate providing rigidity, dimensional stability, and tensile strength.
Brominated Epoxy Resin (FR5 only)	Proprietary	< 5%	Flame-retardant additive achieving UL 94 V-0 rating.
Curing Agents / Hardeners	Proprietary	< 2%	Reacted component of epoxy system; fully polymerised in final product.

Substance Classification: Composite article — not classified as hazardous in its fully cured solid form.

Impurities / Stabilising Additives: None of regulatory significance.

Note:

The product is a fully cured thermoset laminate; hazardous monomers and solvents are consumed during manufacture. Dust generated during machining is the primary exposure concern.

SECTION 4: FIRST AID MEASURES

Description of necessary first aid measures:

G11 / FR5 epoxy glass is a solid, cured composite that presents little to no health risk in its supplied form. Hazards arise primarily from machining operations (cutting, drilling, sanding) that generate fine fibreglass and resin dust which may cause temporary irritation of the skin, eyes, and respiratory tract.

- **Inhalation:**
  - Move the affected person to fresh air immediately.
  - Keep at rest and under observation until breathing returns to normal.
  - If coughing, wheezing, or respiratory irritation occurs, seek medical attention.
  - If breathing is difficult, a trained responder should provide oxygen if available.
- **Skin Contact:**
  - Wash the affected area thoroughly with soap and cool water.
  - Avoid rubbing; glass fibres can embed into the skin and cause itching or rash.
  - If fibres persist, use adhesive tape to lift them gently from the skin.
  - Seek medical advice if irritation, redness, or rash develops.
- **Eye Contact:**
  - Immediately flush eyes with clean running water for at least 15 minutes, holding eyelids open.
  - Remove contact lenses if present and easy to do, then continue rinsing.
  - Do not rub eyes — this may worsen abrasion.
  - Obtain medical attention if irritation persists or if foreign particles remain.
- **Ingestion:**
  - Rinse mouth with water and drink small quantities of water to clear the throat.
  - Do not induce vomiting.
  - Seek medical advice if discomfort or gastrointestinal symptoms occur.

Notes to Medical Personnel:

- Exposure is primarily mechanical, not chemical.
- Treat symptomatically; irritation may result from glass fibre contact or inhalation of dust.
- Prolonged inhalation of machining dust may aggravate pre-existing respiratory conditions (e.g. asthma).

Most Important Symptoms and Effects (Acute and Delayed):

- Eye contact: Redness, watering, and temporary discomfort.
- Skin contact: Itching, dryness, or rash due to fibre irritation.
- Inhalation: Throat irritation, coughing, or sneezing from airborne dust.
- Delayed effects: None known with proper handling and exposure control.

Symptoms caused by exposure:

- **Inhalation of dust:** Mechanical respiratory irritation – coughing, throat discomfort, or sneezing.
- **Skin contact:** Abrasion or mechanical irritation from glass fibres.
- **Eye contact:** Redness, tearing, foreign-body sensation due to fine dust or particles.
- **Thermal degradation exposure:** Irritation of eyes, nose, or throat due to vapour or gas release (e.g. formaldehyde, phenol).

Medical attention and special treatment needed:
No specific antidote. Treat symptomatically based on clinical judgment. For suspected overexposure to thermal decomposition products, monitor respiratory status. Inhalation of high-temperature vapours may require observation for delayed onset respiratory effects.

Advice for Workers:

If irritation persists after exposure, seek medical attention, and report the incident to your supervisor. Ensure all machining operations involving G11 / FR5 are conducted under local exhaust ventilation with proper PPE (respirator, gloves, goggles) to minimise exposure risk.

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media:
Use extinguishing media suitable for the surrounding fire conditions, including:

- Water spray (fog or mist)
- Foam (AFFF or standard)
- Dry chemical powder

- Carbon dioxide (CO_2)

These methods effectively control fire and cool heated material to prevent re-ignition.

Unsuitable Extinguishing Media:

- High-pressure water jets may scatter burning resin fragments or dust.
- Avoid direct streams that can spread contamination or molten resin.

Specific Hazards Arising from the Product:

- G11 and FR5 are thermoset epoxy-glass composites and do not readily ignite; however, once involved in a fire, they will decompose and release smoke and irritating gases.
- FR5 contains a brominated flame retardant and will self-extinguish once the heat source is removed (UL 94 V-0).
- G11 (non-FR) may smoulder or char when exposed to sustained heat or flame.
- Combustion and decomposition may release:
    - Carbon monoxide (CO)
    - Carbon dioxide (CO_2)
    - Hydrogen bromide (HBr) – FR5 only
    - Phenolic and epoxy vapours, aldehydes, and trace aromatic compounds

Fire and Explosion Hazards:

- Product is not flammable under normal conditions and not explosive.
- Dust accumulations from machining may pose a minor fire hazard if exposed to open flame or sparks.
- Vapours from decomposing material may irritate eyes, throat, and respiratory passages.
- Decomposition gases are heavier than air and may collect in low areas or confined spaces.

Advice for Firefighters:

- Wear self-contained breathing apparatus (SCBA) and full protective firefighting clothing (helmet, coat, trousers, boots, and gloves).
- Use positive pressure breathing protection in enclosed or poorly ventilated areas.
- Avoid inhalation of combustion gases and smoke.
- Use water spray to cool nearby structures and contain potential spread.
- After extinguishment, ventilate area thoroughly before re-entry.
- Prevent run-off from entering drains or watercourses; contain and collect contaminated water.

Hazardous Decomposition Products:

- Carbon monoxide, carbon dioxide
- Hydrogen bromide (FR5 only)
- Phenolic compounds and aromatic hydrocarbons
- Smoke and particulate matter from epoxy degradation

Additional Information:

- Material softens and chars above approximately **250–300 °C**, producing a glassy carbon residue.
- Prolonged exposure to high heat may cause **layer delamination** or **fibreglass exposure**.
- Although inherently flame-resistant, **adequate ventilation and personal protection** are required when exposed to smoke or decomposition fumes.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:
G11 / FR5 epoxy glass is a **solid, cured thermoset material** and does not present liquid or reactive spill hazards. The main concern is airborne dust generated during machining, cutting, or breakage.

- Avoid breathing dust or airborne particles.

- Isolate the affected area and restrict unnecessary personnel access.
- Wear appropriate **PPE**: P2 or P3 respirator, safety goggles, gloves, and long-sleeved clothing to avoid irritation.
- Ensure effective **local exhaust ventilation** or use portable extraction units.
- Avoid contact with eyes and prolonged contact with skin.

If large amounts of dust have been released indoors, stop the source (e.g., switch off machinery), and ventilate the area until dust is cleared.

Environmental Precautions:

- The product is **inert and insoluble** and is **not expected to pose environmental hazards**.
- Prevent excessive dust from entering air intakes, drains, or surface water systems.
- Collect all debris and dust promptly to minimise airborne dispersion.
- Avoid washing large quantities into drains; use vacuum or mechanical removal methods.

Methods and Materials for Containment and Cleaning Up:

- **For Dust or Fine Particulates:**
    - Collect dust using a **HEPA-filtered vacuum system** or **wet sweeping** methods to prevent airborne dispersion.
    - Do not use compressed air or dry sweeping.
    - Lightly mist surfaces if necessary to suppress dust before collection.
    - Place collected dust and contaminated PPE into **sealed, labelled containers** or heavy-duty bags for disposal.
- **For Large Fragments or Offcuts:**
    - Pick up or sweep manually using mechanical aids.
    - Avoid dropping material that could cause edge splinters or secondary dust release.
    - Store reusable offcuts separately; dispose of damaged or contaminated pieces appropriately.

Waste Disposal:

- Dispose of through a **licensed industrial waste contractor** in accordance with local, state, and federal environmental regulations.
- Material is **non-hazardous and non-biodegradable** but cannot be recycled in conventional plastic streams.
- Do not incinerate in open air — decomposition at high temperature can release epoxy decomposition gases.

Additional Information:

- No special spill containment measures are required for the solid product.
- Clean-up should focus on **dust suppression, containment, and safe handling** to protect personnel and prevent environmental release.
- Residual debris presents **no reactivity, flammability, or chemical hazard** after cleanup.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling:

- Handle G11 / FR5 epoxy glass with care to prevent impact damage, edge chipping, or delamination.
- Avoid generating dust during cutting or machining. When unavoidable, ensure adequate local exhaust ventilation (LEV) and use dust extraction systems.
- Wear appropriate PPE: P2/P3 respirator, safety goggles, gloves, and long-sleeved clothing.
- Avoid direct skin contact with machining dust; wash exposed areas thoroughly after handling.
- Do not eat, drink, or smoke in processing areas.
- Avoid using compressed air for cleaning; use HEPA-filtered vacuum or wet methods.
- Prevent dust accumulation on equipment or in confined spaces—fine dust may irritate the respiratory tract.
- Maintain batch traceability labels and store separate grades (G11 and FR5) distinctly.

- Ensure good workplace ventilation and regular housekeeping to control airborne fibres.
- Avoid open flames or direct exposure to heat above 250 °C; decomposition may release hazardous vapours.

Conditions for Safe Storage:

- Store in a dry, cool, well-ventilated area away from moisture, direct sunlight, and high heat.
- Keep flat and fully supported to prevent sheet warping, particularly in thin gauges.
- Protect from water, oil, and chemical contamination.
- Maintain ambient temperature between 10 °C and 30 °C.
- Avoid stacking heavy materials directly on top of sheets; use level pallets or shelving.
- Keep packaging closed when not in use to prevent dust contamination.
- Separate from strong acids, alkalis, oxidisers, and solvents that may attack the resin surface over time.
- Use mechanical lifting equipment or team lifting for large sheets or bundles to prevent manual handling injury.

Specific End Use:
Designed for electrical insulation, high-voltage barriers, and structural support in industrial and switchboard environments.
All machining and fabrication must follow industrial hygiene standards and dust control requirements to ensure worker safety and product integrity.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters:
There are no exposure limits established for G11 / FR5 epoxy glass in solid form. Exposure concerns arise only when machining, drilling, or sanding, where airborne dust may be generated.

Substance	Exposure Standard (Safe Work Australia)	Notes
Inert or Nuisance Dust (Total)	10 mg/m^3 (TWA)	General workplace dust exposure limit.
Respirable Dust	5 mg/m^3 (TWA)	For fine airborne particles.
Fibreglass (respirable fibres)	1 fibre/cm^3 (TWA)	Applicable to airborne fibrous dust.

Engineering Controls:

- Provide local exhaust ventilation (LEV) at the point of dust generation.
- Use HEPA filtration on vacuum systems and dust collectors.
- Enclose cutting and sanding operations where practicable.
- Maintain good general ventilation in the work area.
- Avoid accumulation of dust on surfaces, ledges, or ventilation ducts.

Personal Protective Equipment (PPE):

Respiratory Protection:

- Use a P2 or P3 particulate respirator during machining or where airborne dust is visible.
- Ensure fit-tested equipment and proper maintenance in accordance with AS/NZS 1716 standards.

Eye / Face Protection:

- Wear safety goggles or face shield to protect from dust and flying particles.
- Avoid contact lenses during high-dust operations.

Skin and Hand Protection:

- Wear nitrile or fabric gloves and long sleeves to prevent fibre irritation.
- Wash exposed skin thoroughly with soap and water after handling.

Body Protection:

- Use long-sleeved, close-fitting work clothing to minimise skin contact.
- Launder contaminated clothing separately.

Hygiene Measures:

- Wash hands and face before eating, drinking, or smoking.
- Do not use compressed air to clean skin or clothing.
- Maintain good housekeeping — vacuum or wet clean surfaces regularly.
- Keep food and beverages out of work areas.

Environmental Exposure Controls:

- Prevent dust from entering drains or ventilation systems.
- Collect machining waste using HEPA-filtered vacuum systems.
- Dispose of collected dust and scrap via licensed industrial waste facilities in accordance with local environmental regulations.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Description / Value
Appearance	Solid sheet, rod, or tube — typically light green or yellow - green in colour.
Physical State	Solid, rigid thermoset composite.
Odour	Odourless.
Odour Threshold	Not applicable.
pH	Not applicable (insoluble solid).
Melting Point / Range	Not applicable — thermoset resin does not melt.
Decomposition Temperature	Approx. 250–300 °C (resin decomposition begins).
Glass Transition Temperature (Tg)	160–180 °C (grade dependent).
Boiling Point / Range	Not applicable.
Flash Point	Not applicable (non-flammable solid).
Flammability	G11: Will char under direct flame. FR5: UL 94 V-0, self-extinguishing.
Vapour Pressure	Not applicable.
Vapour Density	Not applicable.

Relative Density (Specific Gravity)	1.80 – 2.00 g/cm^3
Solubility (Water)	Insoluble.
Solubility (Other)	Insoluble in organic solvents.
Partition Coefficient (n-octanol/water)	Not applicable.
Auto-Ignition Temperature	>400 °C (approx.).
Evaporation Rate	Not applicable.
Viscosity	Not applicable.
Explosive Properties	None.
Oxidising Properties	None.
Thermal Conductivity	0.25 – 0.35 W/m·K
Coefficient of Thermal Expansion (in-plane)	12 – 18 ×10^{-6} /K
Dielectric Strength	10 – 20 kV/mm (typical for 2–3 mm sheet)
Water Absorption (24 h @ 23 °C)	≤ 0.2 %
VOC Content	0 % (no volatile organic compounds).

General Description:
G11 / FR5 epoxy glass is a thermoset laminate composed of epoxy resin and woven glass cloth, cured under heat and pressure. It is rigid, odourless, non-flammable, and chemically inert under normal conditions.

Material is stable, electrically insulating, and retains mechanical strength and dielectric performance at continuous service temperatures up to 180 °C (Class H).

SECTION 10: STABILITY AND REACTIVITY

Reactivity:

- G11 / FR5 epoxy glass is chemically stable under normal ambient conditions.
- No known hazardous reactions occur with air, water, or most industrial environments.

Chemical Stability:

- Stable at room temperature and atmospheric pressure.
- The material will begin to decompose above 250–300 °C, releasing smoke and resin degradation gases.
- Not sensitive to shock, static discharge, or impact.

Possibility of Hazardous Reactions:

- None known.
- Product will not polymerise or react with other substances under normal use.
- Avoid exposure to open flame or red heat, which may cause decomposition of epoxy resin and flame-retardant compounds.

Conditions to Avoid:

- Prolonged exposure to temperatures exceeding 250 °C.
- Open flame or direct radiant heat.
- Contact with strong oxidising agents, concentrated acids, or alkalis.
- Machining without dust extraction (can generate airborne particulates).

Incompatible Materials:

- Strong acids (e.g., hydrochloric, sulfuric, nitric).
- Strong alkalis (e.g., sodium hydroxide, ammonia solutions).
- Strong oxidisers (e.g., hydrogen peroxide, chlorine).
  These may attack the cured resin surface, causing discolouration or surface degradation.

Hazardous Decomposition Products:
When overheated or burned, may release:

- Carbon monoxide (CO)
- Carbon dioxide (CO_2)
- Hydrogen bromide (FR5 only)
- Phenolic and epoxy decomposition products
- Irritating smoke and particulates

Under normal handling and service conditions, G11 / FR5 epoxy glass is non-reactive, non-explosive, and thermally stable.
Decomposition and fume release occur only under excessive heat or fire exposure, not during normal fabrication or operation.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure:

- Inhalation: Dust generated during machining may cause temporary irritation to the nose, throat, and respiratory system.
- Skin Contact: Direct contact with dust or fibres may cause itching, redness, or mild irritation.
- Eye Contact: Fine dust particles can cause mechanical irritation, tearing, or redness.
- Ingestion: Not expected to be toxic; may cause minor digestive discomfort if swallowed.

Symptoms Related to Physical, Chemical, and Toxicological Characteristics:

- Acute exposure: Itching, coughing, dryness of skin, eye watering, or respiratory discomfort due to airborne dust.
- Chronic exposure: Repeated inhalation of high concentrations of dust may aggravate existing respiratory conditions (e.g. asthma).
- No evidence of chronic toxicity, carcinogenicity, or sensitisation from cured epoxy-glass laminate exposure.

Acute Toxicity Data (Epoxy Resin & Glass Fibre Components):

Substance	Test Type	Result	Comment
Epoxy resin (cured)	Oral LD_{50} (rat)	> 5000 mg/kg	Non-toxic solid
Glass fibre	Inhalation LC_{50} (rat)	> 10 mg/L (4 h)	Low toxicity
Cured composite	Dermal / Oral	No adverse effects observed	Inert material

Skin Corrosion / Irritation:

Not corrosive. Dust may cause mild, reversible irritation.

Serious Eye Damage / Irritation:
Not corrosive; mechanical irritation only from airborne particles.

Respiratory or Skin Sensitisation:
Not known to cause sensitisation.

Germ Cell Mutagenicity:
No evidence of mutagenic potential in cured resin systems.

Carcinogenicity:

- Not classified as a carcinogen by Safe Work Australia, IARC, or OSHA.
- Continuous glass filaments are considered non-respirable and biologically inert.

Reproductive Toxicity:
No known reproductive or developmental effects.

STOT – Single Exposure:
Temporary irritation of eyes, skin, or respiratory tract from machining dust.

STOT – Repeated Exposure:
Repeated long-term exposure to dust may cause respiratory tract irritation.

Aspiration Hazard:
Not applicable (solid, non-volatile material).

In solid form, G11 / FR5 epoxy glass is non-toxic, non-carcinogenic, and inert. Health risks are limited to mechanical irritation from machining dust. With proper ventilation and PPE, the material presents no significant health hazard during handling or use.

Chronic Health Effects:

- Prolonged or repeated exposure to fibreglass and epoxy dust generated during machining may cause persistent respiratory or skin irritation.
- Continuous inhalation of high levels of dust may aggravate pre-existing respiratory conditions, such as asthma or bronchitis.
- Long-term exposure to cured epoxy-glass dust has not been associated with chronic toxicity, organ damage, or carcinogenic effects.
- The glass fibres in G11 / FR5 are non-respirable and biologically inert, meaning they do not accumulate in lung tissue like asbestos.
- No evidence of mutagenicity, teratogenicity, or reproductive toxicity in fully cured material.

- With proper dust extraction, PPE, and hygiene controls, G11 / FR5 is considered low risk for chronic health effects in normal industrial use.

Toxicological Data (for decomposition by-products):

Decomposition Product	Potential Acute Effects	Toxicological Data / Notes
Carbon Monoxide (CO)	Toxic if inhaled; binds to haemoglobin and reduces oxygen transport.	LC_{50} (rat, 1 h) ≈ 1800 ppm — High acute inhalation toxicity.
Carbon Dioxide (CO_2)	Acts as an asphyxiant in confined spaces; may cause dizziness or shortness of breath at high concentrations.	Non-toxic but displaces oxygen.
Hydrogen Bromide (HBr) (FR5 only)	Corrosive to eyes, skin, and respiratory tract; may cause severe irritation or burns.	LC_{50} (rat, 1 h) ≈ 2850 mg/m^3.
Phenolic Vapours / Aldehydes	Strong respiratory and eye irritants; may cause headaches, nausea, and coughing.	TLV (formaldehyde): 0.1 ppm (Ceiling, ACGIH).
Epoxy and Aromatic Decomposition Products	Irritating to mucous membranes; may cause temporary discomfort or dizziness at high concentrations.	Limited toxicological data — treat as irritant.

General Toxicological Remarks:

- Decomposition by-products are only generated under fire or extreme overheating conditions and are not produced during normal machining or use.
- Acute exposure to smoke or vapours can result in eye and respiratory irritation, coughing, and shortness of breath.
- Avoid exposure by ensuring adequate ventilation during any heat processing or fire response.
- Firefighters should wear self-contained breathing apparatus (SCBA) when exposed to combustion fumes.

Thermal decomposition of G11 / FR5 may release carbon monoxide, carbon dioxide, hydrogen bromide (FR5), and phenolic vapours, all of which are acute inhalation hazards. Under normal handling and machining conditions, the product is chemically stable and non-toxic.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

- G11 / FR5 epoxy glass is a solid, inert thermoset composite and is not classified as hazardous to the environment.
- No known acute or chronic toxicity to aquatic or terrestrial organisms.
- Material is insoluble in water and does not release hazardous components under normal environmental conditions.

Persistence and Degradability:

- Material is non-biodegradable.
- Resistant to natural environmental degradation due to its cross-linked epoxy structure and glass reinforcement.
- Over time, physical fragmentation may occur, but chemical breakdown is minimal.

Bioaccumulative Potential:

- Not Bioaccumulative.
- The components (glass and cured resin) are chemically inert and do not bioaccumulate in living organisms.

Mobility in Soil:

- Insoluble and immobile in soil and water.
- Will remain in solid form where deposited.

Other Adverse Effects:

- Does not contain ozone-depleting substances or volatile organic compounds (VOCs).
- Does not contribute to photochemical smog or global warming potential.

Environmental Fate:

- Inert and stable under normal environmental conditions.
- If improperly disposed of, large fragments may persist in the environment as non-degradable solid waste but pose no known ecotoxic hazard.

G11 / FR5 epoxy glass is environmentally stable, non-toxic, and non-biodegradable. It poses no significant risk to aquatic or terrestrial ecosystems and should be managed as non-hazardous industrial solid waste in accordance with local environmental regulations.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods:

- G11 / FR5 epoxy glass is classified as non-hazardous industrial solid waste.
- Dispose of through a licensed industrial waste contractor in accordance with local, state, and federal environmental regulations.
- Do not dispose of in general waste or domestic bins.
- Do not incinerate in open air, as burning may produce carbon monoxide, carbon dioxide, hydrogen bromide (FR5 only), and phenolic vapours.
- Preferred disposal method is landfill via approved facilities capable of accepting inert, non-recyclable composites.

Recycling / Reuse:

- Material is non-recyclable through conventional plastic or fibreglass recycling streams due to its thermoset nature.
- Clean offcuts may be reused for non-critical applications or testing purposes.

Contaminated Packaging:

- Packaging materials such as pallets, wrapping, or cartons may be recycled or disposed of in accordance with local waste management requirements.
- Ensure packaging is free from dust or debris before recycling.

Special Precautions for Disposal:

- Avoid generating or dispersing dust during collection and transport.
- If large quantities of machining dust are present, compact or bag securely before disposal.
- Do not allow waste or dust to enter drains, sewers, or waterways.

G11 / FR5 epoxy glass is non-hazardous, inert, and non-biodegradable. Dispose of responsibly through authorised industrial waste facilities.
Proper containment and dust control during disposal will prevent environmental release and maintain workplace safety.

SECTION 14: TRANSPORT INFORMATION

Transport Information	Details
UN Number	Not applicable
UN Proper Shipping Name	Not regulated for transport
Transport Hazard Class(es)	Not classified as hazardous or dangerous goods
Packing Group	Not applicable
Hazchem Code	Not applicable
Environmental Hazards	Not classified as a marine pollutant or environmentally hazardous substance
Special Precautions for User	None required under normal handling or transport conditions
Transport in Bulk (MARPOL 73/78 & IBC Code)	Not applicable – product is a solid composite, not shipped in bulk liquid form

Mode of Transport	Suitable for road, rail, sea, and air freight
Additional Information	Stable, non-flammable, and non-reactive. Ensure packaging prevents mechanical damage and contamination during transit.

- Product is not classified as dangerous goods under the ADG Code, IMDG, or IATA regulations.
- No special handling requirements for transport
- Ensure sheets or parts are secured during transit to avoid movement, breakage, or dust generation.
- Protect from excessive moisture and physical damage.

SECTION 15: REGULATORY INFORMATION

Regulatory Information	**Details**
GHS Classification (Safe Work Australia)	Not classified as hazardous under the Globally Harmonised System (GHS) criteria.
Australian Inventory of Industrial Chemicals (AIIC)	All ingredients are listed or exempt.
Dangerous Goods Classification (ADG Code)	Not classified as Dangerous Goods for transport by road, rail, sea, or air.
Work Health and Safety (WHS) Regulations	Complies with WHS legislation. Dust exposure to be controlled under "Nuisance Dust" exposure limits.
RoHS 3 (EU Directive 2015/863)	Fully compliant — free from lead, mercury, cadmium, hexavalent chromium, PBB, and PBDE.
REACH (EU Regulation 1907/2006)	Fully compliant — contains no Substances of Very High Concern (SVHC).
US TSCA (Toxic Substances Control Act)	All ingredients are listed or exempt from listing.
IARC / OSHA / NTP Classification	Not listed as a carcinogen or suspected carcinogen by any agency.

Ozone-Depleting Substances (ODS)	None present; compliant with the Montreal Protocol.
Greenhouse Gas Emissions / Kyoto Protocol	Does not contain greenhouse gases or substances with global warming potential.
Environmental Protection (EPA / State Regulations)	Classified as non-hazardous solid waste; requires disposal via licensed facility.
Product Compliance Standards	Manufactured in accordance with NEMA LI-1 (G11 / FR5), IEC 60893 (EPGC204), and MIL-I-24768 /3 & /28.
Hazard Communication Requirements	SDS prepared in accordance with Safe Work Australia Code of Practice for Preparation of Safety Data Sheets.
Other International Compliance	Conforms to international standards including ISO 9001 quality control and ISO 14001 environmental management principles (supplier dependent).

G11 / FR5 epoxy glass complies with all relevant Australian, European, and international regulations for occupational health, safety, and environmental protection.
It is classified as a non-hazardous, non-dangerous, and environmentally stable industrial material, suitable for manufacture, use, and transport under standard conditions.

SECTION 16: OTHER INFORMATION

Information	Details
SDS Preparation Date:	14.8.2025
Revision Number:	1
Review Date:	[Insert scheduled review or update date]
Prepared By:	MISCO Australia Pty Ltd
Abbreviations:	**GHS**: Globally Harmonised System of Classification and Labelling of Chemicals **AIIC:** Australian Inventory of Industrial Chemicals **ADG:** Australian Dangerous Goods Code **WHS:** Work Health and Safety **PPE:** Personal Protective Equipment **LC_{50} / LD_{50}:** Median lethal concentration/dose **SVHC**: Substance of Very High Concern

	UL: Underwriters Laboratories **TWA**: Time-Weighted Average **REACH:** Registration, Evaluation, Authorisation and Restriction of Chemicals. **RoHS:** Restriction of Hazardous Substances Directive **IEC:** International Electrotechnical Commission **NEMA:** National Electrical Manufacturers Association. **MIL-I-24768:** U.S. Military Specification for Insulating Plastics. **RTI:** Relative Thermal Index. **SCBA:** Self-Contained Breathing Apparatus **VOC:** Volatile Organic Compounds **HEPA:** High-Efficiency Particulate Air filtration dust extraction and ventilation systems. **LEV:** Local Exhaust Ventilation
Key References:	**Safe Work Australia (SWA)** – Code of Practice for the Preparation of Safety Data Sheets (May 2021). **Globally Harmonised System (GHS), 7th Edition** – United Nations Economic Commission for Europe (UNECE). **Australian Dangerous Goods (ADG) Code, Edition 7.7** – National Transport Commission (NTC). **Industrial Chemicals Act 2019** – Australian Industrial Chemicals Introduction Scheme (AICIS). **National Occupational Health and Safety Commission (NOHSC)** – Exposure Standards for Atmospheric Contaminants in the Occupational Environment. **IEC 60893** – Insulating Materials – Industrial Rigid Laminates – Definitions and Designation (EPGC204). **NEMA LI-1** – Industrial Laminated Thermosetting Products – G11 and FR5 Grades.

	MIL-I-24768 – Military Specification for Insulating Plastics (Types GEB-G and GEB-F). **UL 94** – Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances. **REACH Regulation (EC) No. 1907/2006** – Registration, Evaluation, Authorisation and Restriction of Chemicals. **RoHS Directive (EU) 2015/863** – Restriction of Hazardous Substances in Electrical and Electronic Equipment. **ISO 9001 & ISO 14001** – Quality and Environmental Management Systems (applicable to certified suppliers). **MISCO Australia Pty Ltd** – Internal Material Compliance and Product Data Records (2025).
Emergency Contact:	Australia – Emergency Services: 000 Poisons Information Centre: 13 11 26 MISCO Australia Pty Ltd: +61 3 9706 5185

DISCLAIMER

The information contained in this Safety Data Sheet (SDS) is provided by MISCO Australia in good faith and is believed to be accurate and reliable as of the date of issue. The information is based on current knowledge and is intended to describe the product solely in terms of health, safety, and environmental requirements. It does not represent any guarantee of the product's properties or suitability for a specific application.

This SDS is intended as a guide for the safe handling, use, storage, transport, and disposal of the material. It is the responsibility of the user to assess the suitability of the material for any intended purpose and to ensure that working conditions comply with applicable laws, standards, and safety practices.

Important Notes:

- *MISCO Australia makes no warranties, express or implied, and assumes no liability for the accuracy or completeness of the data or for any damages resulting from the use of the product or the information provided in this SDS.*
- *This document is not intended to serve as a substitute for proper training, risk assessment, or professional judgement in the use of chemical and composite materials.*

- *Users must ensure that they understand and comply with all local, state, and federal regulations, as well as workplace safety procedures when handling this product.*
- *Where this material is used as part of a larger system or process, additional hazards may exist that are not covered in this SDS. It is the user's responsibility to assess the entire context in which the product is used.*

MISCO Australia reserves the right to revise Safety Data Sheets in response to new information, changes in legislation, or updated risk assessments without prior notice. The most current version of this SDS supersedes all previous versions and should be consulted before each use of the product.

Revision	Date Issued	Prepared / Reviewed By	Description of Change	Approved By
1.0	January 2025	MISCO Australia	Initial release of Safety Data Sheet for G11 / FR5 Epoxy Glass.	Director, MISCO Australia

Document Control:

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END OF SAFETY DATA SHEET.