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SAFETY DATA SHEET (SDS)

P1 PAPER BAKELITE

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

SECTION 1: IDENTIFICATION

- **Product Name:**
- **Recommended Use:**
- **Details:**
    - **Company:** MISCO Australia
    - **Address:** 89 -91 Licola Crescent, Dandenong South, VIC 3175
    - **Telephone Number:** 03 9706 5185
    - **Emergency Contact Number:** 000
    - **Poisons Information Centre**: 13 11 26 (Australia)
- **SDS Number:** MISCO – SDS - 004
- **SDS Revision Date:** 14/08/2029
- **SDS Version:** 1.0

SECTION 2: HAZARD(S) IDENTIFICATION

- **GHS Classification:**

P1 Paper Bakelite is not classified as hazardous under the Globally Harmonized System (GHS) and the Australian Model Work Health and Safety (WHS) Regulations when in solid, finished form. However, dust generated during cutting, drilling, sanding, or machining may cause mechanical and respiratory irritation. Formaldehyde and phenol vapours may be released if overheated during processing.

GHS Label Elements:

- **Signal Word:** None
- **Hazard Pictograms:** None
- **Hazard Statements:**
  - H335: May cause respiratory irritation (machining dust)
  - H319: Causes serious eye irritation (dust exposure)
  - H315: Causes skin irritation (dust exposure)
  - EUH210: Safety data sheet available on request
- **Precautionary Statements:**
  - P261: Avoid breathing dust.
  - P280: Wear protective gloves, eye protection, and respiratory protection when machining.
  - P271: Use only in well-ventilated areas.
  - P304+P340: IF INHALED: Remove victim to fresh air and keep at rest
  - P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes

- **Other Hazards:**

- Machining or high-speed processing may produce fine dusts and vapours that contain trace formaldehyde, a known sensitiser and possible carcinogen in long-term, high exposure scenarios.
- Not a fire hazard in storage but combustible if exposed to flame or extended high temperatures.
- Not suitable for use in continuously wet environments due to moisture absorption risks

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

P1 Paper Bakelite is a manufactured article composed of thermosetting phenolic resin reinforced with cellulose paper. It does not contain free-flowing hazardous chemicals in its final, cured form. However, machining, or thermal decomposition may release trace substances requiring control.

Component	CAS Number	Concentration Range (% w/w)
Phenol-formaldehyde resin	9003-35-4	30–60%
Cellulose paper (kraft paper)	Not applicable	40–70%
Curing additives / catalysts	Various	<1%

This is a cured thermoset composite. No hazardous components are released under normal handling. Dust or vapours generated through mechanical processing or overheating may require respiratory and environmental controls. Composition percentages are provided as a general guide and may vary slightly by product batch or form (sheet, rod, tube).

Note: The exact proportion of ingredients may vary slightly due to the nature of the manufacturing process.

SECTION 4: FIRST AID MEASURES

General Advice:
This product, in solid form, does not pose an immediate health risk. First aid is only applicable when the product is machined, cut, sanded, or overheated, releasing dust or decomposition vapours.

Inhalation:

- If dust is inhaled, remove affected person to fresh air and keep at rest.
- Seek medical attention if irritation, coughing, or shortness of breath persists.
- For vapour exposure (e.g. overheating), move to fresh air and monitor for respiratory distress.

Skin Contact:

- Wash affected skin with soap and water.
- Do not use solvents or harsh cleaners.
- Seek medical advice if irritation or rash develops.

Eye Contact:

- Immediately flush eyes with clean, lukewarm water for at least 15 minutes, holding eyelids open.
- Remove contact lenses if present and easy to do.
- Seek medical attention if irritation continues.

Ingestion:

- Not a likely route of exposure.
- If material is ingested (e.g. machining residue or dust), rinse mouth with water.
- Do not induce vomiting.
- Seek medical attention for large or accidental ingestion.

Symptoms Caused by Exposure:

- Dust from machining may cause mechanical eye, skin, and respiratory irritation.
- Prolonged exposure to vapours from overheating may cause headaches, dizziness, or respiratory discomfort due to trace formaldehyde or phenol emissions.

Advice to Doctor:

- Treat symptomatically based on patient's exposure and condition.
- No specific antidote required.

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media:

- Use **carbon dioxide (CO_2)**, **dry chemical powder**, **foam**, or **water spray** for surrounding fires.
- Avoid direct water jet on burning material, as it may spread particulate material.

Specific Hazards Arising from the Material:

- P1 Paper Bakelite is **combustible** but not classified as highly flammable.
- In a fire, it may **decompose and release irritating and/or toxic fumes**, including:
    - Carbon monoxide (CO)
    - Carbon dioxide (CO_2)
    - Phenol vapours
    - Formaldehyde vapours
- Burning may result in dense, black smoke.

Fire and Explosion Hazard:

- No risk of explosion in solid form.
- Fine machining dust can become airborne and **may present a low dust explosion hazard** in enclosed spaces under rare, extreme conditions.

Protective Equipment and Precautions for Firefighters:

- Firefighters should wear **full protective gear** including **self-contained breathing apparatus (SCBA)**.
- Prevent runoff from entering drains or watercourses.
- Use water spray to cool exposed containers or surfaces.

Hazchem Code:

- **Not applicable** (non-regulated solid composite)

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures:

- In solid form, P1 Paper Bakelite presents no significant hazard.
- If machining dust is released (e.g. from spills, cutting operations, or broken material):
    - **Avoid inhalation of dust.**
    - **Wear appropriate PPE**, including a dust mask (P2 or P3), safety goggles, and gloves.
    - Eliminate ignition sources if dust is present in confined areas (due to low dust explosion potential).

Environmental Precautions:

- Prevent dust and fine particles from entering drains, sewers, or watercourses.
- Material is not water-soluble but may settle and clog filters or sumps.

Methods and Materials for Containment and Cleaning Up:

- For solid pieces: Collect mechanically and reuse or dispose of in accordance with local regulations.
- For dust or shavings:
    - Clean using **HEPA-filtered vacuum equipment** or **wet sweeping methods**.
    - **Do not use compressed air** or dry sweeping, as this may re-aerosolise dust.
    - Place recovered material in sealed containers for disposal.

Reference to Other Sections:

- For PPE: see Section 8
- For waste disposal: see Section 13

SECTION 7: HANDLING AND STORAGE

Handling:

Precautions for Safe Handling:

- P1 Paper Bakelite is safe to handle in solid form.
- When **cutting, drilling, sanding, or machining**, airborne dust may be generated:
    - **Avoid inhaling dust**—use local exhaust ventilation or dust extraction systems.
    - **Wear PPE**, including dust masks, safety goggles, and gloves.
- Avoid excessive mechanical shock—material may crack or splinter if dropped.
- Do not subject material to open flames or prolonged heating above 120°C.
- Prevent buildup of machining dust in confined areas.

Storage:

Conditions for Safe Storage, Including Any Incompatibilities:

- Store in a **dry, well-ventilated** location away from direct sunlight, humidity, and temperature extremes.
- **Store flat** on a supported surface to prevent warping.
- Avoid stacking rods and tubes horizontally without support—vertical storage is preferred.
- Keep away from **strong acids, alkalis, and oxidising agents**.
- Material is **non-reactive** in storage but should be protected from water ingress and high humidity.

Additional Handling Notes:

- Allow stored material to **acclimate to workshop temperature** before machining, especially if previously kept in cold or damp conditions.
- If moisture exposure has occurred, **pre-dry sheets at 60–70°C for 6–8 hours** prior to processing to minimise swelling or dimensional changes.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits: (Workplace Exposure Standards – Safe Work Australia):

While P1 Paper Bakelite in solid form does not present a hazard, dust generated during machining may contain phenolic resin particulates and trace formaldehyde residues. Applicable exposure limits include:

Substance	TWA (8-hr)	STEL (15-min)	Notes
Inert dust (nuisance dust, total)	10 mg/m³	–	General particle exposure limit
Inert dust (respirable fraction)	3 mg/m³	–	For fine airborne particulate
Phenol (vapour – trace)	1 ppm (4 mg/m³)	2 ppm (8 mg/m³)	May be released in thermal cutting
Formaldehyde (vapour – trace)	1 ppm (1.2 mg/m³)	2 ppm (2.5 mg/m³)	Sensitiser – machining heat exposure

Engineering Controls:

- **Use local exhaust ventilation (LEV)** at the point of dust generation (e.g., CNC machines, saws, mills).
- HEPA filtration systems are recommended for continuous operations.
- Prevent dust accumulation in ducts, equipment, or workshop areas.
- Do not use compressed air to blow off surfaces containing phenolic dust.

Personal Protective Equipment (PPE):

Respiratory Protection:

- Not required in solid form.
- When machining, use a **P2 or P3-rated dust mask** or respirator certified for particulates.
- In poorly ventilated areas or high-volume operations, use powered air-purifying respirators (PAPR) with particulate filters.

Eye Protection:

- **Safety goggles or glasses with side shields** to protect from airborne dust or splinters.

- Face shield recommended for high-speed or close-proximity machining.

Skin Protection:

- **Gloves:** Nitrile, cut-resistant, or general-purpose work gloves.
- **Clothing:** Long sleeves and full-length pants; wear disposable coveralls if dust exposure is heavy.

Hearing Protection:

- **Earplugs or earmuffs** recommended when using powered equipment generating >85 dB(A).

ECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Value / Description
Appearance	Solid sheet, rod, or tube; brown colour
Odour	Mild phenolic odour when machined
Odour Threshold	Not determined
pH	Not applicable (insoluble solid)
Melting Point / Freezing Point	Not applicable (thermoset material)
Initial Boiling Point and Range	Not applicable
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Combustible – chars and smokes, does not melt
Upper/Lower Flammability Limits	Not applicable
Vapour Pressure	Not applicable
Vapour Density	Not applicable
Relative Density (Specific Gravity)	~1.35 g/cm^3
Solubility in Water	Insoluble

Property	Value / Description
Partition Coefficient (n-octanol/water)	Not applicable
Auto-Ignition Temperature	~375°C
Decomposition Temperature	>250°C – will release phenol and formaldehyde
Viscosity	Not applicable
Physical State	Solid

Additional Notes:

- The product is stable and inert under normal conditions of storage and use.
- Physical degradation (brittleness, odour release) may occur at elevated temperatures or under mechanical stress.

SECTION 10: STABILITY AND REACTIVITY

Reactivity:

- P1 Paper Bakelite is non-reactive under normal ambient temperature and pressure conditions.
- Reactivity may occur under extreme heat, resulting in decomposition.

Chemical Stability:

- Chemically stable in solid form during normal handling, storage, and usage conditions.
- Stability is reduced when subjected to temperatures above 120°C, flame contact, or prolonged UV exposure.

Possibility of Hazardous Reactions:

- No hazardous polymerisation is expected.
- Hazardous reactions are unlikely unless exposed to strong acids, alkalis, or elevated temperatures.

Conditions to Avoid:

- Avoid machining without dust extraction.
- Avoid exposure to open flame, sparks, and prolonged heating above 120°C.
- Do not allow dust accumulation in confined or poorly ventilated spaces.

Incompatible Materials:

- Strong acids (e.g. hydrochloric, sulphuric acid)
- Strong bases (e.g. sodium hydroxide, potassium hydroxide)
- Strong oxidisers (e.g. peroxides, nitrates)

Hazardous Decomposition Products:

- When overheated or burned, the product may emit:
    - Carbon monoxide (CO)
    - Carbon dioxide (CO_2)
    - Phenol vapours
    - Formaldehyde vapours
    - Irritating and potentially toxic smoke

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:

- **Inhalation** of dust during machining
- **Skin contact** with particulates
- **Eye contact** with airborne fibres or dust
- **Ingestion** is unlikely but possible with contamination from hands or surfaces.

Acute Effects:

- Dust may cause mechanical irritation of the eyes, nose, throat, and lungs.
- Skin contact with dust may cause dryness, redness, or mild irritation.
- High-speed machining may generate vapours that can irritate mucous membranes.

Chronic Effects:

- Repeated inhalation of dust may result in respiratory tract irritation or sensitisation.
- Long-term exposure to phenol-formaldehyde dust or vapours (from high-heat operations) may aggravate respiratory conditions.

Toxicity Data (for Reference Components):

- **Phenol-formaldehyde resin (CAS 9003-35-4):**
    - Low acute toxicity when fully cured.
    - Dust and vapours may contain residual phenol and formaldehyde.
- **Formaldehyde (trace vapour from decomposition):**
    - IARC Group 1 carcinogen (only relevant if inhaled over long periods at high temperatures)
    - Safe Work Australia: Category 2 carcinogen (when airborne, not in solid resin)

Information on Toxicological Effects:

Effect	**Result**
Acute Toxicity	Not classified (solid form)
Skin Corrosion/Irritation	Not corrosive; dust may cause mild irritation
Serious Eye Damage/Irritation	Dust may cause eye irritation or redness
Respiratory or Skin Sensitisation	Not sensitising in cured form; dust may trigger reactions in sensitive individuals
Germ Cell Mutagenicity	Not expected under normal handling
Carcinogenicity	Not carcinogenic in solid form; formaldehyde vapour (from high heat) is a known human carcinogen
Reproductive Toxicity	No data available; not expected
STOT – Single Exposure	May cause transient respiratory or eye irritation from dust
STOT – Repeated Exposure	No known effects in normal workshop conditions
Aspiration Hazard	Not applicable – solid material

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

- P1 Paper Bakelite is not classified as environmentally hazardous.
- In its solid, fully cured form, it poses **no known acute or chronic toxicity to aquatic or terrestrial organisms**.
- Machining dust, if released in large volumes, may cause **mechanical interference** in aquatic systems (e.g. sediment buildup).

Persistence and Degradability:

- Material is **not biodegradable** under natural environmental conditions.
- Resin matrix is a thermoset plastic and will persist in landfill.
- Cellulose content is biodegradable but is encapsulated by non-degradable resin.

Bioaccumulative Potential:

- **Low potential** for bioaccumulation.
- Components do not dissolve or enter biological systems under standard environmental conditions.

Mobility in Soil:

- Insoluble in water; does not leach under normal environmental exposure.
- Solid particles or dust may migrate physically if not contained.

Other Adverse Effects:

- No ozone-depleting substances (ODS) present.
- No known endocrine disruptors or marine pollutants.
- Combustion products (if incinerated improperly) may be hazardous to air quality.

SECTION 13: DISPOSAL CONSIDERATIONS

Safe Waste Disposal Methods:

- P1 Paper Bakelite is a non-hazardous industrial solid waste in its cured form.

- Dispose of material in accordance with local, state, and federal environmental regulations.
- Preferred disposal method is via **licensed industrial landfill**.
- **Do not incinerate** in open air or uncontrolled systems—thermal decomposition may release toxic gases (phenol, formaldehyde, carbon monoxide).
- Where permitted, **controlled high-temperature incineration** in an approved facility may be used.

Contaminated Packaging Disposal:

- If packaging is free of machining dust or residue, it may be disposed of as general waste or recycled (e.g. cardboard, plastic wrap).
- If packaging is contaminated with phenolic dust or fragments, dispose of it as industrial solid waste.
- Do not reuse packaging that has been in contact with cutting or sanding operations without cleaning.

Special Precautions:

- Avoid creating airborne dust during disposal handling.
- Use PPE and dust control measures if handling large quantities of scrap or dust.

SECTION 14: TRANSPORT INFORMATION

UN Number:
Not applicable

Proper Shipping Name:
Not regulated – P1 Paper Bakelite (solid thermoset composite)

Transport Hazard Class:
Not classified as a hazardous material.

Packing Group:
Not applicable

Environmental Hazards:
None known – product is not hazardous to the aquatic environment in solid form.

Special Precautions for User:

- Avoid generating or releasing dust during loading, unloading, and transport.

- Ensure sheets, rods, and tubes are secured to prevent shifting or breakage during transit.
- Protect from excessive moisture and mechanical damage.

Transport in Bulk According to Annex II of MARPOL and the IBC Code:
Not applicable – not transported in bulk form.

Marine Pollutant (IMDG):
No

Hazchem Code:
Not applicable

SECTION 15: REGULATORY INFORMATION

Safety, health, and environmental regulations specific to the product

- Classified in accordance with the Globally Harmonized System (GHS) and the Model Work Health and Safety (WHS) Regulations.
- Relevant component hazard data sourced from the Safe Work Australia Hazardous Chemical Information System (HCIS).

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).

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 P1 Paper Bakelite	Director, MISCO Australia

Document Control:

- **Document Title:** P1 Paper Bakelite
- **Document ID:** MISCO – SDS - 004
- **Revision:** 1.0
- **Review Cycle:** 24 months or upon regulatory update (whichever occurs first)

END OF SAFETY DATA SHEET.