MISCO AUSTRALIA
ABN: 30 679 048 054
A: 89 - 91 Licola Crescent, Dandenong South VIC 3175
P: (03) 9706 5185 E: sales@misco.net.au
W: www.misco.net.au

SAFETY DATA SHEET (SDS)

F2 FABRIC BAKELITE

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

SECTION 1: IDENTIFICATION

- **Product Name**: F2 Fabric Bakelite
- **Recommended Use**: Electrical insulation, structural support in switchboards and industrial components.
    - **Supplier**: MISCO Australia
    - **Address**: 89–91 Licola Crescent, Dandenong South, VIC 3175, Australia
    - **Telephone Number**: +61 3 9706 5185
    - **Email**: info@misco.net.au
- **Emergency Contact**: 000 (Australia)
- **Poisons Information Centre**: 13 11 26 (Australia)
- **SDS Number**: MISCO – SDS – 003
- **Revision Date**: 01/01/2025
- **Version**: 1

SECTION 2: HAZARD(S) IDENTIFICATION

- **GHS Classification:**

  This product, in its solid form, is classified as **non-hazardous** under the criteria of the Globally Harmonized System (GHS) and the Model Work Health and Safety (WHS)

Regulations.

Component classifications have been reviewed with reference to the Safe Work Australia Hazardous Chemical Information System (HCIS). No hazardous components are present in unbound, respirable, or leachable forms under normal use conditions.

- **GHS Label Elements:**
    - **Signal Word:** None
    - **Hazard Pictograms:** None
    - **Hazard Statements:** Not applicable – product not classified as hazardous.
    - **Precautionary Statements:**

      P261: Avoid breathing dust generated during machining
      P280: Wear protective gloves/eye protection/face protection when cutting or grinding
      P285: In case of inadequate ventilation, wear respiratory protection
      P501: Dispose of contents/container in accordance with local/regional regulations.

- **Other Hazards:**

This product is **non-reactive and stable** under normal conditions.

- **Dust hazard**: Cutting, sanding, routing, or grinding may produce airborne dust. Prolonged or repeated inhalation of phenolic resin dust may irritate the respiratory system.

- **Thermal hazard**: Overheating or burning the product (e.g., through improper machining or in a fire) may release **irritating or toxic gases** including phenol, carbon monoxide, carbon dioxide, and trace formaldehyde.

- **Combustibility**: While difficult to ignite, the material is **combustible** under sustained flame and may contribute to fire conditions.

- **Environmental hazard**: Not expected to pose a significant environmental risk. Does not meet the criteria for classification as environmentally hazardous under GHS.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Proportion (%)
Phenol-Formaldehyde Resin	**9003-35-4**	**30–60%**
Woven Cotton Fabric	**Not applicable**	**40–70%**
Additives/Fillers	**Proprietary**	**<5%**

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

SECTION 4: FIRST AID MEASURES

Inhalation:

This product in solid form does not pose an inhalation risk. If dust is generated during machining and inhaled, remove person to fresh air and keep comfortable for breathing. Seek medical advice if symptoms such as coughing or respiratory irritation persist.

Skin Contact:

Not irritating in solid form. If mechanical irritation or redness occurs from dust exposure, wash skin thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Seek medical attention if symptoms persist.

Eye Contact:

Dust particles generated during machining may cause eye irritation. Immediately flush eyes with clean, lukewarm running 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:

Ingestion of the solid product is unlikely under normal use. If swallowed, rinse mouth with water. Do not induce vomiting. Seek medical attention if discomfort occurs or persists.

Symptoms Caused by Exposure:

• **Acute**: Dust may cause mechanical irritation to eyes, skin, and respiratory tract.

• **Chronic**: Prolonged or repeated exposure to dust during machining may aggravate existing respiratory conditions.

Medical Attention and Special Treatment:

No specific antidote. Treatment should be based on symptoms and clinical condition of the individual. Symptomatic and supportive care is recommended.

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing media appropriate for surrounding fire conditions. Suitable options include:

- Water spray (fog)
- Dry chemical powder
- Carbon dioxide (CO_2)
- Alcohol-resistant foam

Note: Do not use water jets, as they may spread burning particles or create steam pressure hazards in confined spaces.

Specific Hazards Arising from the Material

This product is a thermoset composite and **does not readily ignite** but is **combustible** under high heat or flame.

Hazardous combustion products may include:

- Carbon monoxide (CO)

- Carbon dioxide (CO_2)
- Phenol vapours
- Formaldehyde
- Other unidentified toxic and/or irritating gases

Thermal degradation may release dense smoke and decomposition gases harmful to health if inhaled.

Special Protective Equipment and Precautions for Firefighters

- **Protective Equipment**: Firefighters should wear full structural firefighting gear including self-contained breathing apparatus (SCBA) operated in pressure-demand mode.
- **Precautions**:
    - Avoid inhalation of fumes, smoke, and gases.
    - Fight fire from a safe distance and upwind if possible.
    - Cool fire-exposed containers and surfaces with water spray to prevent structural weakening or re-ignition.
    - Prevent runoff from entering stormwater drains or waterways.

Additional Information

- **Explosion Risk**: This product is not explosive and will not contribute to explosion under normal fire conditions.
- **Flash Point**: Not applicable (solid)
- **Auto-ignition Temperature**: >300°C (estimated for phenolic composites)
- **Flammability Class**: Combustible Solid (Non-flammable under AS1940 but will support combustion when ignited)

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

- No special hazards exist for the solid product in bulk form.
- If dust is generated due to breakage, machining, or accidental damage:
    - Avoid breathing dust. Use a P2 (or N95 equivalent) dust mask or approved respiratory protection.
    - Wear safety goggles and protective gloves to prevent eye and skin contact.
    - Ensure adequate ventilation in the area.
    - Eliminate all sources of ignition if dust accumulation is significant, as finely divided organic dusts can pose a fire hazard in air.

Environmental Precautions

- Solid product poses minimal risk to the environment.
- Prevent dust, debris, and fine particulate matter from entering stormwater drains, sewers, or waterways.
- Contain and clean up any spill promptly to avoid contamination of surrounding areas.

Methods and Materials for Containment and Cleaning Up

- **For solid product**:
    - Manually collect broken pieces and dispose of in accordance with local waste regulations.
- **For dust or particulate matter**:
    - Use an industrial vacuum equipped with HEPA filtration or wet sweeping methods.
    - Avoid dry sweeping or compressed air, which may cause airborne dust.
    - Place recovered material in sealed containers for proper disposal.

Reference to Other Sections

- For personal protective equipment, see **Section 8**.
- For disposal considerations, see **Section 13**.

SECTION 7: HANDLING AND STORAGE

Handling:

Precautions for Safe Handling

- Handle in accordance with standard industrial hygiene and safety practices.
- This product is a stable solid in its supplied form and does not pose a chemical hazard under normal handling conditions.
- If machining (e.g., cutting, sanding, drilling, routing), take precautions to:
    - Avoid generation of airborne dust.
    - Use local exhaust ventilation or dust extraction systems.
    - Wear appropriate personal protective equipment (see Section 8).
- Avoid inhalation of dust and contact with eyes and skin.
- Wash hands and exposed skin thoroughly after handling, especially after machining operations.
- Do not eat, drink, or smoke in areas where the material is handled or processed.

Storage:

Conditions for Safe Storage, Including Any Incompatibilities

- Store in a dry, cool, and well-ventilated area away from direct sunlight, heat sources, open flames, and strong oxidising agents.
- Keep in original packaging or appropriately labelled containers to prevent contamination or mechanical damage.

- Avoid storage near materials that are reactive with phenolic compounds (e.g., strong acids, alkalis, or oxidisers).
- Prevent physical damage to sheets or components, stack in a stable manner on a flat surface.
- Maintain good housekeeping to prevent dust accumulation in storage and work areas.

Specific End Use(s)

- This material is intended for use as an electrical insulation and structural component in switchboards, transformers, and industrial equipment.
- Ensure that all machining and fabrication activities involving this material are conducted using appropriate controls to manage dust and thermal exposure.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

While the finished solid material poses no significant exposure risk, dust generated during machining (cutting, grinding, drilling, etc.) may be respirable and require control.

Substance (as nuisance dust)	**TWA (8-hour)**	**Source**
Inhalable dust (particulates not otherwise classified)	10 mg/m³	Safe Work Australia
Respirable dust (PNOC)	3 mg/m³	Safe Work Australia
Phenol (trace—thermal decomposition only)	1 ppm (4 mg/m³)	HCIS / Safe Work Australia
Formaldehyde (thermal decomposition)	1 ppm (1.2 mg/m³) TWA	HCIS / Safe Work Australia

Note: No significant release of phenol or formaldehyde under normal conditions. Vapours only occur if thermally decomposed (e.g. hot machining, fire).

Engineering Controls:

- **Ventilation**: Use local exhaust ventilation (LEV) at points of dust generation. Fixed or portable dust extraction systems should be used during all machining operations.
- **Dust Control**: Enclose processes as much as practical to prevent dust migration. Implement routine housekeeping to remove accumulated dust.
- **Thermal Controls**: Avoid overheating the material during cutting, as this may lead to off gassing or thermal degradation.
- **Air Monitoring**: Periodic air sampling may be required to confirm compliance with workplace exposure standards during production.

Personal Protective Equipment (PPE):

Respiratory Protection:

- Not required under normal handling of solid material.
- When dust is present:
    - Use a **P2 (N95 equivalent)** particulate respirator (AS/NZS 1716 compliant).
    - For high dust loads or thermal fumes: Use a half-face or full-face respirator with organic vapour and particulate filters.

Eye Protection:

- Wear **safety glasses with side shields** or **chemical splash goggles** (AS/NZS 1337) during machining or sanding operations.

Skin and Body Protection:

- Wear **gloves** (e.g., nitrile, cotton, or general-purpose work gloves) to prevent mechanical irritation.
- Wear **long sleeves, long pants, and protective clothing** during machining to minimise skin contact with dust.

Hygiene Measures:

- Wash hands and exposed skin thoroughly after handling, especially before eating or smoking.
- Do not wear contaminated PPE or workwear into lunchrooms or rest areas.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Value
Appearance	Solid sheet; dark brown to black; matte or semi-gloss finish
Odour	Odourless in solid form; may emit phenolic odour when machined
pH	Not applicable (insoluble solid)
Boiling Point	Not applicable (thermoset material)
Melting Point	Not applicable (does not melt; decomposes)
Flash Point	>300°C (estimated, not flammable under normal use)
Evaporation Rate	Not applicable
Flammability (solid, gas)	Combustible solid
Upper/Lower Flammability or Explosive Limits	Not applicable
Vapour Pressure	Not applicable
Vapour Density	Not applicable
Relative Density	1.35 – 1.45 (typical for phenolic fabric laminate)
Solubility	Insoluble in water and most solvents
Partition Coefficient (n-octanol/water)	Not applicable (polymeric solid)
Auto-ignition Temperature	>400°C (estimated for phenolic composite)
Decomposition Temperature	~250–300°C (resin matrix begins thermal degradation)
Viscosity	Not applicable (solid)

Specific Gravity	1.35 – 1.45 (typical range)

SECTION 10: STABILITY AND REACTIVITY

Property	Details
Reactivity	Non-reactive under normal conditions of use, handling, and storage.
Chemical Stability	Chemically stable at ambient temperatures and under normal workplace conditions.
Possibility of Hazardous Reactions	None known under normal use. Product will not undergo polymerisation or hazardous self-reaction.
Conditions to Avoid	Avoid exposure to open flame, high heat (>250°C), or strong UV radiation. Excessive mechanical stress during machining without dust control may generate fine particulates.
Incompatible Materials	Strong oxidising agents (e.g. peroxides, nitric acid), strong acids, strong alkalis. These may degrade or react with the phenolic resin.
Hazardous Decomposition Products	Thermal decomposition may release: • Carbon monoxide (CO) • Carbon dioxide (CO_2) • Phenol vapours • Formaldehyde • Other irritating or toxic organic compounds

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure:

- **Inhalation** of dust generated during machining (cutting, sanding, drilling)
- **Eye contact** with airborne particulates
- **Skin contacts** with dust or fine particles
- **Ingestion** is unlikely under normal use conditions.

Acute Effects:

- Inhalation of dust may cause **mechanical irritation** to the nose, throat, or lungs.
- Eye exposure may result in **redness, watering, or discomfort** due to mechanical abrasion.
- Skin contact with dust may cause **dryness or irritation** in sensitive individuals.

Chronic Effects:

- Prolonged or repeated inhalation of fine phenolic dusts may lead to **respiratory irritation** or **occupational asthma-like symptoms** in sensitive individuals.
- Long-term overexposure to thermal decomposition fumes (phenol, formaldehyde) may affect the **respiratory tract, liver, or central nervous system**, though this is not expected under normal workplace conditions.

Toxicity Data (for reference components):

Substance	**CAS**	**Toxicity**
Phenol-formaldehyde resin	9003-35-4	LD_{50} (oral, rat): >5000 mg/kg *(polymer form)*
Phenol	108-95-2	LD_{50} (oral, rat): 340 mg/kg *(not present unbound)*
Formaldehyde	50-00-0	LC_{50} (inhalation, rat, 4h): 578 ppm *(vapour only)*

Information on Toxicological Effects:

- **Acute Toxicity**:
  Not expected to be acutely toxic. Dust may cause mechanical irritation only.
- **Skin Corrosion/Irritation**:
  No corrosion. Dust may cause mild irritation or dryness with prolonged exposure.
- **Serious Eye Damage/Irritation**:
  Mechanical irritation may occur if fine particulate contacts the eye. No chemical burns expected.

- **Respiratory or Skin Sensitization**:

  Not a known sensitiser in solid form. Dust from machining may cause sensitisation in individuals with phenol/formaldehyde allergies.
- **Germ Cell Mutagenicity**:

  No mutagenic effects are expected from the cured composite.
- **Carcinogenicity**:

  The product is not classified as carcinogenic.

  Formaldehyde (only released during decomposition) is classified as a **Group 1 carcinogen** by IARC and **Category 1B** by Safe Work Australia.
- **Reproductive Toxicity**:

  No evidence of reproductive toxicity from the solid product.
- **STOT – Single Exposure**:

  Dust may cause respiratory tract irritation (transient).
- **STOT – Repeated Exposure**:

  Prolonged exposure to high levels of dust may lead to chronic respiratory irritation.
- **Aspiration Hazard**:

  Not applicable – solid, non-liquid product. No aspiration risk.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

- This product is **not classified as hazardous to the environment** under GHS criteria.
- In solid form, it is considered **inert** and poses **minimal risk to aquatic or terrestrial life**.
- Dust or particulates should not be allowed to enter waterways, as accumulation may affect sediment characteristics.

Persistence and Degradability:

- The product is a **thermoset polymer** and is **not biodegradable**.
- Phenolic resins are chemically crosslinked and resist microbial and environmental degradation.

- Breakdown in the environment occurs only through **slow physical weathering or thermal decomposition**.

Bioaccumulative Potential:

- Not expected to bioaccumulate.
- The polymer matrix is **not soluble** in water and does **not enter biological systems**.
- Degradation products (if generated through combustion) are trace and transient in the environment.

Mobility in Soil:

- The solid product is **immobile** in soil and does not leach.
- Dust generated during processing may become airborne but will eventually settle.
- Product should not be processed or disposed of in open soil or near water sources.

Other Adverse Effects:

- No known significant environmental hazards are associated with the product in its intended use form.
- **Do not incinerate in open air** – thermal decomposition may produce formaldehyde and phenol vapours, which are harmful to air quality if not controlled.

SECTION 13: DISPOSAL CONSIDERATIONS

Safe waste disposal methods:

- **Product Disposal**:
    - F2 Fabric Bakelite is a non-hazardous, inert industrial solid waste in its fully cured form.
    - Dispose of **machining off-cuts, dust, or damaged product** in accordance with local, state, or national waste disposal regulations.

- Do **not burn or incinerate in open air**, as thermal decomposition may release harmful vapours including formaldehyde and phenol.
- Disposal should be via **licensed industrial waste contractors** or facilities capable of accepting inert composites.
- Avoid landfill contamination near water sources.

- **Classification**:
  - Product is typically classified as **General Solid Waste (Non-putrescible)** under Australian waste guidelines unless mixed with hazardous materials during use.

Contaminated packaging disposal:

- Packaging such as plastic wrap, cardboard boxes, or timber pallets that are **uncontaminated** may be **recycled or disposed of as general waste**.
- If packaging is contaminated with dust, machining residue, or other materials, dispose of according to local waste regulations.
- Ensure dust-contaminated packaging is **sealed in bags or containers** to prevent airborne release during transport or handling.

Note: Always consult your local EPA or environmental authority for site-specific waste classification and disposal guidance.

SECTION 14: TRANSPORT INFORMATION

- **UN Number**: *Not applicable*
- **Proper Shipping Name**: *Not regulated – Solid Insulating Composite Article*
- **Transport Hazard Class**: *Not classified as a dangerous good.*
- **Packing Group**: *Not applicable*
- **Environmental Hazards**: *None known – product is non-hazardous to the environment in its solid form.*
- **Special Precautions**:
  - No special precautions required under normal transport conditions.

- Ensure product is securely packaged to prevent physical damage and limit dust release from machined items.

- **Marine Pollutant**: *No*

SECTION 15: REGULATORY INFORMATION

Safety, health, and environmental regulations specific to the product:

- This product is classified in accordance with the **Globally Harmonized System (GHS)** of Classification and Labelling of Chemicals and the **Model Work Health and Safety (WHS) Regulations** adopted across Australian jurisdictions.
- The product, in its **fully cured solid form**, is **not classified as hazardous** under GHS or WHS criteria.

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 – Quality & Compliance Department	Initial release of Safety Data Sheet for G11 / FR5 Epoxy Glass.	Director, MISCO Australia

Document Control:

- **Document Title:** F2 Fabric Bakelite
- **Document ID:** MISCO – SDS – 003
- **Revision:** 1.0
- **Review Cycle:** 24 months or upon regulatory update (whichever occurs first)

END OF SAFETY DATA SHEET.