APPLIED PRECISION TECHNOLOGY, INC.
LIBERTY PLASTICS COMPANY
508-226-8700

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: AT9000™

OTHER/GENERIC NAMES: Glass Epoxy Laminate with conductive cover

PRODUCT USE: Military: Type GF NEMA: FR4
(Industrial Thermosetting Laminate)

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS #	WEIGHT %
Continuous Filament Fiber Glass	(65997-17-3)	40 – 70
Epoxy Resin	(Proprietary)	20 – 30

Trace impurities and additional material names not listed above may appear in the Regulatory Information section (#15) towards the end of the MSDS. These materials may be listed for local "Right to Know" compliance and for other reasons.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

A nonflammable, sheet material. Dust, when machined or punched may cause skin or eye irritation. Fumes, if decomposed may irritate eyes, nose, and throat.

POTENTIAL HEALTH HAZARDS:

SKIN: Dust may cause moderate skin irritation.
EYES: Dust may cause moderate eye irritation. Fumes may irritate eyes.
INHALATION: Fibrous glass dust may be released from the fiberglass cloth substrate when machined. ACGIH TLV is 10 mg/m3 TWA for particles <5 microns in diameter.
INGESTION: Do not allow food, drink or tobacco in an area where it may be contaminated.
DELAYED EFFECTS: Our product is reinforced with continuous filament fiberglass. Dust generated from cutting, grinding, machining, etc., would not be expected to produce respirable particles. IARC considers continuous glass filaments as unclassifiable or probably non-carcinogenic.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

Ingredient Name	NTP Status	IARC Status	OSHA List
None	None	None	None

4. FIRST AID MEASURES

SKIN: Wash dust off in flowing water or shower. Change contaminated clothing.
EYE: Irrigate with flowing water for 15 minutes. If irritation persists, consult a physician.
INHALATION: If overcome by dust or smoke, remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. Call physician.
INGESTION: If large amounts are ingested, consult physician.
ADVICE TO PHYSICIAN: Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT:	N/A
FLASH POINT METHOD:	N/A
AUTOIGNITION TEMPERATURE:	-775º C.
UPPER FLAME LIMIT (Volume % in air):	N/A
LOWER FLAME LIMIT (Volume % in air):	N/A
FLAME PROPAGATION RATE (Solids):	UL-94-VO
OSHA FLAMMABILITY CLASS:	N/A

EXTINGUISHING MEDIA: Water, CO2 and dry chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS: May give off toxic hydrogen bromide gas, CO, CO_2, and Formaldehyde when thermally decomposed.

SPECIAL FIREFIGHTING PRECAUSIONS/INSTRUCTIONS:
Firemen should wear proper protective equipment and positive pressure self-contained breathing apparatus.

6. ACCIDENTAL RELESE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: Not applicable, material is an article.

7. HANDLING AND STORAGE

NORMAL HANDLING: The primary exposure route is inhalation of dust when machined/punched or from fumes or vapors when heated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use local exhaust ventilation to control dust.

PERSONAL PROTECTION EQUIPMENT:

SKIN PROTECTION: For brief contact to dust, no precautions other than clean body-covering clothing should be needed. Use gloves and aprons when prolonged or frequently repeated contact occurs.

EYE PROTECTION: Use appropriate eye protection when machining material.

RESPIRATORY PROTECTION: Atmospheric levels of fibrous glass should be maintained below exposure guidelines. When respiratory protection is required for certain operations, use a NIOSH-approved dust respirator.

ADDITIONAL RECOMMENDATIONS: N/A

EXPOSURE GUIDELINES: (Guidelines exist for the following ingredients)

Ingredient Name	CAS. NO.	ACGIH TLV	OSHA PEL	Other Limit
Fibrous Glass Dust	(65997-17-3)	10 mg/m3	None	*1 f/cc, 5u long and 3:1 aspect ratio, TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Flat sheet material; Black covers with natural core.
PHYSICAL STATE:	Solid
MOLECULAR WEIGHT:	N/A
CHEMICAL FORMULA:	N/A
ODOR:	None, unless heated
SPECIFIC GRAVITY:	(Water = 1.0) 1.75 +/-0.25
SOLUBILITY IN WATER:	(Weight %) Negligible in water
ph:	N/A
BOILING POINT:	N/A
MELTING POINT:	N/A
VAPOR PRESSURE:	N/A
VAPOR DENSITY:	(Air = 1.0) N/A
EVAPORATION RATE:	N/A Compared to: N/A
% VOLATILES:	N/A
FLASH POINT:	N/A

10. STABILITY AND REACTIVITY

NORMALLY STABLE? Stable
INCOMPATIBILITIES: Not determined
HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO2, HBr, Nickel, Formaldehyde and Oxides of nitrogen if heated in excess of 300 deg. C.
HAZARDOUS POLYMERIZATION? None Known

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS: Dust may cause moderate eye, skin and throat irritation.
DELAYED (SUBCHRONIC & CHRONIC) EFFECTS: NTP has determined that respirable size glasswool may be reasonably anticipated to be a carcinogen. IARC has also classified glasswool as a possible carcinogen. Our product is reinforced with continuos filament fiber glass. Dust generated from the cutting, grinding, machining, etc., would not be expected to produce respirable particles. IARC considers continuos glass filaments as unclassified or probably non carcinogenic.
OTHER DATA: The toxicity of the combustion products was evaluated in a similar product and with 95% confidence limits, the LC50 was calculated (Probit Analysis) to be 40.4 (32.3-69.9) mg/L. The LC50 of the standard reference material, Douglas fir, is 27.1 mg/L.

12. ECOLOGICAL INFORMATION

Not Biodegradable

13. DISPOSAL CONSIDERATIONS

RCRA:
Is the unused product a RCRA hazardous waste if discarded?
No

OTHER DISPOSAL CONSIDERATIONS: Disposal must be made in accordance with all applicable Local, State and Federal regulations.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

AT9000™

14. TRANSPORT INFORMATION

US DOT HAZARD CLASS: Not regulated

US DOT ID NUMBER: N/A

For additional information on shipping regulations affecting this material, contact the information number found on the first page.

AT7000™

15. REGULATORY INFORMATION

Not regulated by the US DOT. The resin system components used to make this material are on the TSCA inventory list. There are no SARA 313 "Toxic Chemical's" used to make this material. CAS #'s and wt.% are found on page 1.

16. OTHER INFORMATION

This item contains trace amounts of Formaldehyde and Nickel in the following amounts:

Ingredient Name	CAS. NO.	WEIGHT	CGIH TLV	OSHA PEL
Formaldehyde	(50-00-0)	>.001%	0.3 PPM	0.75 PPM
Nickel	(007440-41-7)	>.051%	1 MG/M3	1 MG/M3

For additional information, please contact our Customer Service Department.
1-508-226-8700