ARTECH
ADVANCED MATERIALS GROUPMATERIAL SAFETY DATA SHEETEcono-Ply E– Issue Date: April 1, 2008

SECTION I - PRODUCT IDENTIFICATION

Trade Name: Product Class:	Econo-Ply E				
Supplier:	Airtech International, Inc. 5700 Skylab Road Huntington Beach, CA 92647 Telephone: 714-899-8100 Fax: 714-899-8179				
Emergency Telephone:	800-424-9300				
CERCLA Ratings: NFPA Ratings: Formula:	Health= Health= CAS #:	Fire= Fire=	Reactivity= Reactivity=	Persistence=	

SECTION II – HAZARDOUS INGREDIENTS

Econo-Ply \mathbf{E} is a solid organic polymer composed of carbon, hydrogen and oxygen. There are no known physical or health hazards associated with the product itself.

Econo-Ply E has been tested for toxicity by skin tests on animals and humans and by feeding tests in animals. No toxic reactions have been observed. We have received no reports of adverse health effects which can be attributed to this product.

There is a possibility for certain potential hazards to result from the processing of the product. Although we cannot know every conceivable processing condition, we feel you should be aware of this potential in general.

If in processing there is significant potential for the fiber itself to become airborne, an airborne exposure limit is recommended of 10mg fiber as particulate/m³ as an 8 hour time weighted average (TWA).

The product may contain up to five percent titanium dioxide (TiO₂ CAS No. 13463-67-2) as a delustrant. Animal studies have shown a low incidence of lung tumors in some rats exposed by inhalation to a massive airborne level of pure TiO₂ dust ($250mg/m^3$) for their lifetime. No pathological or toxicologically significant effects or clinical signs of toxicity were observed at any of the lower test levels (50 and $10mg/m^3$). We do not believe pure TiO₂ presents a significant hazard if airborne concentrations are controlled to a reasonable

level. We have concluded the American Conference of Government Industrial Hygienist (ACGIH) TLV of 10mg TiO_2/m^3 as total dust and 5mg Tio_2/m^3 respirable dust, as 8-hour TWA for airborne exposures will provide adequate protection of employees.

This product may contain up to three percent fiber lubricants, typically consisting of various formulations of natural oils such as coconut and peanut oils, esters, oleates, palmitates and stearates. These lubricating oils are toxicologically evaluated prior to product commercialization and have been found to be generally of a low order of acute oral and inhalation toxicity in animals and dermal toxicity in humans and do not present a significant health hazard in their normal handling and use. If in processing there is a potential to generate airborne concentrations of these oils as a mist, we recommend an airborne exposure limit of 5mg as particulate/m³ as an 8-hour TWA.

If heated to elevated temperatures $(200-250^{\circ} \text{ C})$ during processing, these lubricating oils can degrade and generate off gases which may contain very small amounts of such chemicals as formaldehyde, ethanol, acetone, etc. The exact chemical composition of these oils will, of course, depend on the conditions of heating, (temperature, duration, availability of oxygen). In our experience we are not aware of chemicals such as these reaching concentrations that present a serious health hazard. However, information on the toxic effects and recommended exposure limits of these and other chemicals can be found in the most recent edition of the ACGIH Documentation of Threshold Limit Values.

SECTION III – PHYSICAL DATA

Description:	White, odorless
Boiling point:	N/A
Melting point:	493° F
Specific gravity:	1.38 (HO = 1)
Vapor Pressure:	N/A
Vapor Density:	N/A
Solubility in water:	Insoluble
Evaporation Rate:	N/A

SECTION IV – FIRE AND EXPLOSION DATA

Fire and explosion hazard:	N/A
Boiling point:	N/A
Flash point temperature:	N/A
Firefighting procedure:	N/A

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SECTION V - HEALTH HAZARD DATA

N/A

SECTION VI – REACTIVITY DATA

Stability: Incompatibilities: Polymerization: Stable None Will not occur

SECTION VII – SPILL OR LEAK PROCEDURE

Steps to be taken in case material is released or spilled: $N\!/\!A$

SECTION VIII - SPECIAL PROTECTION INFORMATION

While no special controls or handling procedures are required, it is important that exposure to any inhalable material be minimized by the use of adequate ventilation, such as local exhaust, effective containment and personal cleanliness.

When **Econo-Ply E** is burned, no unusual combustion gases have been observed, and its combustion products are similar to those of other organic materials composed of the same elements. **Econo-Ply E** is not readily biodegradable, nor radioactive. It contains no significant percentage of materials extractable in water so its effect on ground water in case of landfill should be negligible. It is stable in all recommended use environments and requires no special spill handling procedures.

USER'S RESPONSIBILITY

This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. It is your responsibility to use this information to develop appropriate work practice guidelines and employee instructional programs for your operation.

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