

**M.C. GILL CORPORATION**

**MATERIAL SAFETY DATA SHEET**

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**1. PRODUCT AND COMPANY IDENTIFICATION**

M.C.GILL CORPORATION      4056 EASY STREET    EL MONTE, CA 91731-1087  
Contact Phone                    (626) 443-6094  
Emergency Phone                (626) 443-6094

**PRODUCT NAME            SANDWICH PANELS COMPOSED OF CARBON FIBER-  
REINFORCED EPOXY FACING BONDED TO AN ALUMINUM  
HONEYCOMB CORE**

**PRODUCT CODE            GILLFAB 4034**

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**2. COMPOSITION - INFORMATION ON INGREDIENTS**

Chemical Ingredients (% by wt.)

<u>COMPONENT</u>	<u>CAS#</u>	<u>%</u>
Co-cured epoxy resin/synthetic elastomer	proprietary	10 -16
Cured Epoxy Adhesive	proprietary	10 -17
Carbon Fiber	7440-44-0	35-50
Fiberglass	65997-17-3	5-10
Aluminum	7429-90-5	24 - 40
Fire Retardant	proprietary	3 – 5
Antimony Compounds	proprietary	0.2 – 0.3
Lead chromate (in chrome yellow Primrose pigment	7758-97-6	<0.0007
Inorganic Arsenic	7440-38-2	0.0011 – 0.0015
Magnesium	1309-48-4	0.6 – 1.2
Chromium	7440-47-3	0.08 – 0.15

**OSHA REGULATORY STATUS**

As shipped this material is an inert composite sandwich panel composed of fiberglass fabric-reinforced epoxy facing skins bonded to an aluminum honeycomb core in which thermosetting polymer ingredients have been cured under the influence of heat and pressure. While this material is not classified as hazardous under OSHA regulations, this MSDS contains valuable

information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of the product.

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### 3.HAZARDS IDENTIFICATION

Sandwich panel light gray in color, with slight characteristic odor. Decomposition and combustion products may be toxic. Can decompose in a fire emitting toxic fumes and gases of carbon dioxide, carbon monoxide, hydrogen cyanide, antimony oxides, hydrogen bromide, oxides of nitrogen; other toxic and irritating gases can be produced depending on condition of combustion.

#### POTENTIAL HEALTH EFFECTS

**EYE:** Dusts may cause irritation or scratch the surface of the eye.

**SKIN:** Skin contact with dust and fiber of this product may produce itching and transient mechanical irritation.

**INGESTION:** Ingestion is not expected to be a route of exposure. If ingestion occurs, treat symptomatically.

**INHALATION:** Inhalation of dust may result in itching and upper respiratory tract irritation. Repeated exposure to dust may cause chronic lung disorders.

#### CHRONIC EFFECTS/CARCINOGENICITY.

This product contains synthetic fibers (fiberglass). While OSHA does not regulate fibrous glass as a carcinogen, fiberglass has been studied by the scientific community for many years as a potential carcinogen. Some mineral fibers, depending on base material and size of fiber are classified as potential carcinogens. This product contains **Continuous filament glass fibers** which are listed by IARC as (Group 3 - "Not classifiable as to carcinogenicity to humans") and ACGIH as A-4 ("Not classifiable as a human carcinogen; Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals").

This product contains synthetic **Polyacrylonitrile (PAN) based carbon fibers** which are not listed as a carcinogen by (NTP), the National Toxicology Program. OSHA does not regulate carbon fiber as a carcinogen. Carbon fibers have not been evaluated by IARC. Reported human effects indicate that the main health hazard is mechanical abrasion/irritation.

This product contains a brominated flame retardant. The primary route of exposure to humans is through inhalation. Inhalation of air concentration levels above the PNOR may cause irritation and adverse lung effects. Animal toxicity studies indicate that when the brominated fire retardant was administered orally, animal exposures resulted in liver, thyroid, and kidney effects and a potential for developmental effects. This substance is not listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

Antimony compounds are 0.2 – 0.3% of the final product. The primary route of exposure to humans is by inhalation. Various studies have been conducted for human overexposure to antimony compounds in smelters. Reported effects include dermatitis, rhinitis, inflammation of the upper and lower respiratory tract, including pneumonitis with some cases of gastritis, conjunctivitis and septal perforations reported. Antimony trioxide is listed by IARC as group 2B "possibly carcinogenic to humans". ACGIH lists antimony trioxide as Group A2 – "Suspected human carcinogen". Antimony oxide and antimony compounds should be handled as suspect carcinogens because of these findings. According to California Proposition 65, this product contains a chemical known by the State of California to cause cancer.

Local exhaust ventilation should be used to maintain employee exposure as far below OSHA permissible exposure limits as is practical.

Inorganic arsenic, an impurity found in antimony compounds, is present in a small amount in the final product (0.0011 - 0.0015%). Inorganic arsenic compounds have been studied extensively in relation to cancers found in nickel and copper smelter workers. IARC, NTP, ACGIH, OSHA, EPA and NIOSH classify inorganic arsenic as a known carcinogen. Germany's Deutsche Forschungsgemeinschaft (DFG) lists inorganic arsenic compounds as (A1 - "Compounds capable of inducing malignant tumors as shown by experience with humans"). Compounds in DFG's Category A have no concentration value listed in Section IIa (the main MAK table) since no values have been established for a safe concentration range. According to California Proposition 65, inorganic arsenic is a chemical known by the State of California to cause cancer and reproductive toxicity.

Release of this material as inorganic arsenic may occur in trace quantities during processing of the product, but is not expected to present a significant hazard if exposure controls and personal protection practices listed in Section 8 are followed.

This product contains a trace (<0.0007%) of the following chemical: Lead chromate as a constituent of C.I. chrome yellow pigment. Lead chromate is listed by IARC, NTP, EPA and NIOSH as a known human carcinogen. ACGIH lists the compound as A2 – "Suspected carcinogen". Hexavalent chromium compounds and lead have been studied extensively in relation to cancers found in chromium production workers and neurological, kidney, and reproductive effects caused by exposure to lead. According to California Proposition 65, lead chromate as chromium VI compounds and lead compounds is a chemical known by the State of California to cause cancer and reproductive toxicity.

Release of this material as lead chromate may occur in trace quantities during processing of the product, but is not expected to present a significant hazard.

There are no hazardous components in this material as received, however, cutting, milling, drilling, routing or otherwise fabricating this material may produce the following: particles - not otherwise regulated, total dust. Release of this material during processing as respirable and non-respirable dust should be controlled by adequate local exhaust ventilation, good work practices, and use of personal protective equipment as needed.

Note: The components listed above are those which have not been modified by the thermo set curing process. However, the cured resins effectively encapsulate these materials. On grinding or cutting of the product, any dust generated would contain particles of the materials in the weight percentages indicated above in Section 2, Composition.

#### **MEDICAL CONDITION GENERALLY AGGRAVATED BY EXPOSURE**

Persons with a history of chronic lung disease may be at increased risk from exposure to excessive levels of nuisance dusts. Persons with medical conditions generally aggravated by mechanical irritants in the air or on the skin may be at increased risk for a worsening of the underlying condition if exposed.

#### **POTENTIAL ENVIRONMENTAL EFFECTS**

This product as shipped is inert and should pose no significant hazard to the environment.

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#### **4.FIRST AID MEASURES**

**EYES:** Flush with water for 15 minutes. Seek medical attention if irritation persists.

**SKIN:** Wash exposed area with soap and water. Do not rub or scratch irritated area. If fiberglass becomes imbedded, seek medical attention

**INGESTION:** Avoid ingestion. Treat symptomatically.

**INHALATION:** Move individual to fresh air. Seek medical attention if irritation persists.

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#### **5.FIRE FIGHTING MEASURES**

##### **FLAMMABLE PROPERTIES**

**FLASH POINT:** Not known

##### **FLAMMABLE LIMITS**

**LFL:** Not applicable

**UFL:** Not applicable

**EXTINGUISHING MEDIA:** Water, foam, carbon dioxide, dry chemical

**FIRE AND EXPLOSION HAZARDS:** Can decompose in a fire emitting toxic fumes and gases of carbon dioxide, carbon monoxide, hydrogen cyanide, antimony oxides, hydrogen bromide, oxides of nitrogen; other toxic and irritating gases can be produced depending on condition of combustion.

**FIRE FIGHTING EQUIPMENT:** Wear full bunker gear including a positive pressure self-contained breathing apparatus.

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#### **6.ACCIDENTAL RELEASE MEASURES**

HEPA vacuum or wet wipe dusts and place in a disposal container. Avoid excess dust generation.

#### **7.HANDLING AND STORAGE**

Avoid contact with eyes. Avoid inhalation of product dust. Minimize dust generation and accumulation. Store indoors in dry area to protect material.

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#### **8.EXPOSURE CONTROLS/PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** Provide local exhaust ventilation to maintain airborne levels below the exposure limits. Minimize dust generation and accumulation.

**RESPIRATORY PROTECTION:** Where dust is generated use a NIOSH approved half or full face air purifying respirator with dust/mist filter cartridges. Use in accordance with OSHA regulations under 29 CFR 1910.134

**SKIN PROTECTION:** Wear gloves impermeable to glass fibers. Wear loose fitting, long sleeved clothing and long pants.

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**EYE PROTECTION:** If dust is generated, wear chemical goggles or full face respirator.

**GENERAL HYGIENE CONSIDERATIONS:**

The health hazards associated with this material when used as recommended are mechanical skin, eye and respiratory irritation associated with the generation of fiberglass composite dusts during machining or cutting. The following general hygiene considerations are recognized as common, good industrial hygiene practices:

- Wash hands after use and before eating.
- Shower at the end of the work day.
- Wash work clothes separately and wipe out washer at the end of the cycle.
- Avoid breathing dust.
- Wear safety goggles.

**EXPOSURE GUIDELINES**

There are no hazardous components in this material as received, however, cutting, milling, drilling, routing, or otherwise fabricating this material may produce the following:

COMPONENT	OSHA PEL TWA	ACGIH TLV
Carbon Fiber	Total dust 15 mg/m <sup>3</sup> Resp dust 5 mg/m <sup>3</sup>	Total dust 10mg/m <sup>3</sup>
Fiberglass	Total dust 15 mg/m <sup>3</sup> Resp dust 5 mg/m <sup>3</sup>	Total dust 5 mg/ mg/m <sup>3</sup> Resp dust 1 fiber/cc
Brominated Flame Retardant	Resp dust 5 mg/m <sup>3</sup>	Resp dust 3 mg/m <sup>3</sup>
Antimony Compounds	0.5 mg/m <sup>3</sup> (as antimony)	0.5 mg/m <sup>3</sup> (as antimony)
Lead chromate	0.050 mg/m <sup>3</sup> (as Pb) 0.1 mg/m <sup>3</sup> (as Cr VI)	0.050 mg/m <sup>3</sup> (as Pb) 0.012 mg/m <sup>3</sup> (as Cr)
Inorganic Arsenic	0.01 mg/m <sup>3</sup>	0.01 mg/m <sup>3</sup>

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Sandwich panel, light gray in color

**ODOR:** Slight characteristic odor

**BOILING POINT:** Not Applicable

**VAPOR PRESSURE:** Not Applicable

**SOLUBILITY IN WATER:** Unknown

**SPECIFIC GRAVITY:** Density approximately 0.2 – 0.5 g/cc

**pH:** Not applicable

**UEL:** Not applicable

**LEL:** Not applicable

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## 10. STABILITY AND REACTIVITY

**STABILITY:** Stable

**MATERIALS TO AVOID:** Strong oxidizing agents, strong acids and bases, especially oxalic and hydrofluoric acid and acyl halides.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Decomposition and combustion products may be toxic. Can decompose in a fire emitting toxic fumes and gases of carbon dioxide, carbon monoxide, hydrogen cyanide, antimony oxides, hydrogen bromide; oxides of nitrogen and other toxic and irritating gases can be produced depending on condition of combustion.

**HAZARDOUS POLYMERIZATION:** Will not occur

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## 11. TOXICOLOGICAL INFORMATION

For detailed toxicological information on the components of this material, contact the address listed in Section 1 of this MSDS.

## 12. ECOLOGICAL INFORMATION

None found.

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## 13. DISPOSAL CONSIDERATIONS

If material as supplied becomes a waste, incinerate or landfill in accordance with local, state, and federal laws and regulations. Incinerate only if incinerator is operated at high temperature and is capable of scrubbing out acidic combustion products. Contact your local or state environmental agency for specific rules.

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## 14. TRANSPORT INFORMATION

**DOT:** Class 70 – Panels Faced with Plastic

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**IMO:** Not Regulated

**IATA:** Not Regulated

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## 15. REGULATORY INFORMATION

### **INVENTORY STATUS: Fiber Glass, Proprietary Brominated Fire Retardant, Antimony Compounds**

<u>Inventory</u>	<u>Status</u>
United States (TSCA)	Listed
European Union (EINECS)	Listed
Canada (DSL)	Listed

**CERCLA/SUPERFUND, 40 CFR 117.302:** This material contains Reportable Quantity (RQ) Substances: none.

**SARA HAZARD CATEGORY:** This material has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered to meet the following categories: NONE

**SARA 313 INFORMATION:** This material contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372. **NONE**

These products do not contain any components exceeding the de minimis amount subject to reporting under Section 313 of the Emergency Planning and Community Right-to-know act of 1986 and of **40 CFR 372**.

**CALIFORNIA PROPOSITION 65:** The following statement is made in compliance with the California Safe Drinking and Toxic Enforcement Act of 1986:

Substances known to the State of California to cause cancer, birth defects or other reproductive harm: Antimony compounds, Inorganic Arsenic, Lead chromate

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## 16. OTHER INFORMATION

**MSDS STATUS:** Revised all sections re: ANSI Z400.1-1998 format

**MSDS PREPARED By:** **M.C. Gill Corporation**

02/17/2009

**END OF MSDS**