



1. PRODUCT IDENTIFICATION

SANDWICH PANELS COMPOSED OF ALUMINUM SKINS BONDED TO AN ALUMINUM HONEYCOMB CORE

- Gillfab™ 4030 Panel, Gillfab™ 5020 Panel

2. COMPOSITION - INFORMATION ON INGREDIENTS

Chemical ingredients (% by wt.)

COMPONENT	CAS	%
Cured Epoxy Adhesive	proprietary	2.0 – 3.0
Aluminum	7429-90-5	65 - 99
Fire Retardant	proprietary	0 - 6
Antimony compounds	proprietary	< 0.1
Magnesium	1309-48-4	< 3
Manganese	7439-96-5	< 1.5
Chromium	7440-47-3	< 0.35
Iron	1309-37-1	< 0.4
Lead Chromate (in chrome yellow Primrose pigment)	7758-97-6	< 0.02

OSHA REGULATORY STATUS

As shipped this material is an inert composite sandwich panel composed of aluminum 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.

3. HAZARDS IDENTIFICATION

Sandwich panel metallic grey in color. Decomposition and combustion products may be toxic. Can decompose in a fire emitting toxic fumes and gases of carbon dioxide, carbon monoxide, antimony oxides, hydrogen bromide, oxides of nitrogen, metal oxides; 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 fibers 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 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 < 0.1% 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.

This product contains a trace (<0.02%) 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 diseases may be at increased risk from exposure to excessive levels of nuisance dust. 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.

4. FIRST AID MEASURES

- EYE:** 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.



5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: Not known

FLAMMABLE LIMITS LFL: Not applicable

UFL: Not applicable

EXTINGUISHING MEDIA: Use a Class D fire extinguisher. Do not use Class A, B, or C fire extinguishers such as water or halogenated materials.

FIRE AND EXPLOSION HAZARDS: Can decompose in a fire emitting toxic fumes and gases of carbon dioxide, carbon monoxide, antimony oxides, hydrogen bromide, oxides of nitrogen, metal oxides; 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.

6. ACCIDENTAL RELEASE MEASURES

HEPA vacuum or wet wipe dusts and place in a disposable container. Avoid generating excess dust.

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.

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 to protect against sharp edges. Wear loose fitting, long sleeved clothing and long pants.

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 consideration are recognized as common, good industrial hygiene practices:

- Wash hands after use and before eating
- Shower at the end of the workday.
- 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
Brominated Flame Retardant	Resp dust 5 mg/m ³	Resp dust 3 mg/m ³
Antimony Compounds	0.5 mg/m ³ (as antimony)	0.5 mg/m ³ (as antimony)
Lead Chromate	0.050 mg/m ³ (as Pb) 0.1 mg/m ³ (as Cr VI)	0.050 mg/m ³ (as Pb) 0.012 mg/m ³ (as Cr)



9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Sandwich panel, metallic gray in color
ODOR:	Slight characteristic odor
BOILING POINT:	N/A
VAPOR PRESSURE	N/A
SOLUBILITY IN WATER:	Unknown
SPECIFIC GRAVITY:	0.4 – 0.7 g/cc
pH:	N/A
UEL:	N/A
LEL:	N/A

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 POLYMERIZATION:	Will not occur
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, antimony oxides, hydrogen bromide, metal oxides; oxides of nitrogen and other toxic and irritating gases can be produced depending on condition of combustion.

11. TOXICOLOGICAL INFORMATION

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

12. ECOLOGICAL INFORMATION

None found

13. DISPOSABLE CONSIDERATIONS

If material as supplied becomes a waste, landfill in accordance with local, state, and federal laws and regulations. Contact your local or state environmental agency for specific rules.

14. TRANSPORT INFORMATION

DOT:	Not Regulated
IMO:	Not Regulated
IATA:	Not Regulated

15. REGULATORY INFORMATION

INVENTORY STATUS – fiberglass

<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 Section 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 if 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. **NONE.**

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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, lead chromate.

16. OTHER INFORMATION

MSDS STATUS: Revised all sections re: ANSI Z400.1-1998 format
MSDS PREPARED FOR: **M.C. Gill Corporation**
MSDS PREPARED BY: MC Gill Corporation: 3/12/04

M.C. Gill Corporation provides this information as a customer service. While the information contained in this MSDS is believed to be correct, no guarantee or warranty of any kind is made with respect to this information.

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