

**1. Chemical Product and Contact Information** Revised: 11/10/2010

**Product Name: Bakelite Preforms/  
Powders/Pellets** **Part Numbers:  
See Section 16**

**LECO Corporation****3000 Lakeview****St. Joseph, MI, 49085****Information: 269-983-5531****Chemtrec: 800-424-9300****(Chemtrec Int'l: 703-527-3887)****2. Composition/Information on Ingredients**

<u>Component</u>	<u>CAS No.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Typical % by Weight</u>
Phenol	108-95-2	5 ppm skin	5 ppm skin	< 3
Carbon Black	1333-86-4	3.5 mg/m <sup>3</sup>	3.5 mg/m <sup>3</sup>	< 12
Coal Dust	None	2.4 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	< 18
Graphite	7782-42-5	15 mppcf	2 mg/m <sup>3</sup>	< 40
Talc	14807-96-6	20 mppcf	2 mg/m <sup>3</sup>	< 20
Particles not otherwise classified (PNOC)		15 mg/m <sup>3</sup> Total 5 mg/m <sup>3</sup> Respir	10 mg/m <sup>3</sup> Inhale 3 mg/m <sup>3</sup> Respir	< 70

**3. Hazard Identification****EMERGENCY OVERVIEW**

No unusual spill hazard, moderate fire hazard; moderate health risk by ingestion/inhalation. Granular, nodular, pellet or briquette form with a slight phenol odor. Phenolic molding compound with two stage resin.

**Health Hazard Data**

Unless specifically indicated otherwise, the following information applies to the compound in the form sold, not to articles, parts, etc. molded of the compound. In normal molding, the material substantially completes its progression to a cross-linked insoluble, infusible solid.

**As sold** The product is a plastic molding compound: A plastic resin (Phenol-formaldehyde polymer) intimately mixed and reacted with one or more of a variety of organic and /inorganic filling materials. The plastic resin is not believed or known to be hazardous. When fully "cured" or reacted, the plastic resin is insoluble, infusible and binds the well-dispersed, embedded filling materials. However, "as sold"

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the plastic resin is not completely “cured” or reacted and contains some unreacted ingredients dissolved with in it. So dissolved, these chemicals are extremely unlikely to pose a hazard; but because they are hazardous in their pure forms, OSHA requires that they be reported and describe as hazardous ingredients. Under normal conditions of storage and handling, no significant amount of hazardous vapors should evolve from the “as sold” product. Because phenol is more soluble in the resin than in water, there is no likely significant health hazard through skin absorption. The great majority of filling materials are embedded within compound granules that are large enough not to constitute an inhalation hazard. Nevertheless, some particles of plastic resin and/or filling materials may be present in a size that constitutes a respirable dust (including in some products up to 1% inorganic filling material mixed in after compounding). This respirable dust may contain one or more of the following materials: carbon black, coal dust, fibrous glass, graphite, mica, mineral wool fiber, talc, and/or wood flour (soft). Chronic inhalation of each of the above has been associated with fibrotic lung disease. For most or all, it has been associated with increased risk of lung cancer, especially among smokers. Inhalation of dust should be avoidable with proper material handling procedures and good ventilation, but if not , respirators should be worn. The primary acute health risk from exposure to the product “as sold” is irritation, especially from the dust. Ingestion, inhalation of dust, and contact with skin and eyes should be avoided.

**As used** During polymerization (e.g., curing of the product during normal processing) or decomposition (e.g., overheating or burning of the product) small amounts of gaseous ammonia, phenol and formaldehyde (as well as water vapor, carbon monoxide, and carbon dioxide are evolved. Breathing of fumes can be harmful. If the odor of ammonia or formaldehyde is noticeable, then the airborne concentration of those chemicals should be carefully monitored and ventilation improvements considered.

Those chemicals begin to be detectable by odor at concentrations, approaching or exceeding the PELs. The odor of phenol begins to be noticeable at a concentration about one-fifth the PEL. In any case, adequacy of ventilation can best be determined by use of instruments to monitor airborne concentrations of ammonia, phenol, and formaldehyde. Grinding or machining of cured molded material may create a dust that poses a respiratory hazard if inhaled and may release small amounts of gaseous ammonia.

**Acute or Chronic Health Hazard Information** Ordinary use of this product is unlikely to produce significant exposure to hazardous chemicals. PELs for these chemicals are set at levels designed to avoid

any significant health risk and are achievable with proper material handling procedures, ventilation and housekeeping. Nevertheless, per OSHA requirements, the following is a list of possible health hazard if one were exposed to the following chemicals at levels much higher, or in a different form, than expected from ordinary use of this product:

**Phenol** - Highly toxic. Poisoning may occur via skin absorption, vapor inhalation, or ingestion. Inhalation of the vapors may cause severe irritation to the nose, throat, and respiratory tract. May cause liver, kidney, and heart damage.

**Formaldehyde** - Irritant to eyes, lungs, and skin. Has been shown to cause cancer in laboratory animals. Listed as an IARC carcinogen. California law requires the following statement be included: contains a chemical (formaldehyde) known to the State of California to cause cancer. National cancer institute study finds little evidence to connect formaldehyde exposure to cancer in humans.

Ammonia - Irritant to eyes, mucous membranes and respiratory tract.

Carbon black - Irritant to eyes and respiratory tracts. Exposure at high levels is associated with declines in pulmonary function and cardiovascular stress.

Coal dust - Irritant to eyes, nose, and throat. Can cause respiratory effects such as pneumoconiosis, bronchitis, emphysema, and progressive massive fibrosis, with long exposure.

Fibrous Glass - Mechanical irritant to eyes, nose and skin. Can cause irritation and inflammation of the nasopharyngeal region and upper respiratory tract.

Graphite - Irritant to eyes and respiratory tracts. Can cause pneumoconiosis, although studies suggest that pneumoconiosis is a mixed dust reaction.

Mineral wool fiber - Irritant to eyes and skin. Several studies have shown excess risk of non malignant respiratory disease.

Talc - Irritant to eyes, mucous membranes and respiratory tracts. Medical evidence is complicated by the fact that talcs contain amphiboles and other minerals.

Wood Flour (soft) - Irritant to eyes, mucous membranes and upper respiratory tracts. Various species of wood dust can elicit allergic contact dermatitis in sensitized individuals. May cause respiratory sensitization.

**4. First Aid Measures**

EYES: Immediately flush with copious amounts of water for at least 15 minutes. Get medical attention.

SKIN: Wash thoroughly with soap and water.

INHALATION: Use with adequate ventilation. If breathing is affected, remove to fresh air. If breathing stops, apply mouth to mouth resuscitation. Get medical attention.

INGESTION: If conscious, give water immediately and induce vomiting by placing finger down throat. Never give anything by mouth to an unconscious person. Get medical attention.

**5. Fire Fighting Measures**

FLAMMABLE PROPERTIES: Non-flammable.

Flash Point: No flash point. Method Used: Not applicable.

Flammable Limits (% by Volume in Air):

Lower: Dust 0.030 oz/ft<sup>3</sup> Upper: No data

AUTO-IGNITION TEMPERATURE: Not applicable.

HAZARDOUS COMBUSTION PRODUCTS: Not available.

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

FIREFIGHTING INSTRUCTIONS: MSHA/NIOSH approved self-contained breathing apparatus when fighting fires in an enclosed area are recommended. Avoid inhalation of gases. Organic dust/air mixtures are highly flammable (explosive). Avoid dust accumulations or dust-laden atmospheres and sources of ignition.

**6. Accidental Release Measures**

SMALL/LARGE SPILL: Vacuum or sweep with sweeping compound, sawdust or sand. Avoid generating dust. Vacuum with explosion-proof motors are recommended. This product contains free phenol which is subject to effluent limits under the Clean Water Act.

**7. Handling and Storage**

HANDLING: Observe good housekeeping practices. Prevent accumulations of dust raised during processing. Use adequate ventilation.  
STORAGE: Keep container closed to avoid contamination. Store in cool, dry place.

**8. Exposure Controls/Personal Protection**

ENGINEERING CONTROLS: Use local exhaust to remove dust and vapors evolved during use. Use explosion-proof motors.  
RESPIRATORY PROTECTION: NIOSH approved respirators recommended if TLVs are exceeded.  
SKIN AND HAND PROTECTION: Nitrile or other impervious gloves recommended.  
EYE AND FACE PROTECTION: Safety glasses with side shields.  
OTHER PROTECTIVE EQUIPMENT: Eye wash facility should be available. Practice good hygiene and maintain a clean work environment.

**9. Physical and Chemical Properties**

APPEARANCE: Granular, nodular, pellet or briquette.  
BOILING POINT: Not available.  
FREEZE-MELT POINT: Not available.  
VAPOR PRESSURE (mm): Not available.  
VAPOR DENSITY (air = 1) Not available.  
SOLUBILITY IN WATER: Negligible.  
SPECIFIC GRAVITY: 1.32 - 2.20  
pH: Not available.  
ODOR: Slight phenol odor.  
PERCENT VOLATILES: Not available.  
EVAPORATION RATE (Butyl Acetate = 1): Not available.

**10. Stability and Reactivity**

CHEMICAL STABILITY: Stable. Avoid contamination, exposure to flame or heat, or storage at temperatures in excess of 100°F.  
INCOMPATIBILITY: Like most organic materials, this product is sensitive to strong oxidizing agents and may either decompose or ignite when mixed with same.  
HAZARDOUS DECOMPOSITION PRODUCTS: Vapors evolved during polymerization may contain phenol, formaldehyde and ammonia.  
HAZARDOUS POLYMERIZATION: Should not occur.

**11. Toxicological Information**

None reported.

**12. Ecological Information**  
 Not available.

**13. Disposal Consideration**  
 Bury or incinerate in accordance with local, state and federal regulations.

**14. Transportation Information**  
 U.S.A. DOT: Not regulated.

**15. Regulatory Information**  
U.S. FEDERAL REGULATIONS:  
 TSCA STATUS: On Toxic Substance Control Inventory.  
 CERCLA REPORTABLE QUANTITY: None.  
 SARA TITLE III:  
     Section 302 Extremely Hazardous Substances: None.  
     Section 311/312 Hazardous Categories: Chronic, Fire.  
     Section 313 Toxic Chemicals: Phenol  
 RCRA STATUS: Not regulated  
CANADIAN REGULATIONS:  
 WHMIS: D1B

**16. Other Information**  
**Part Numbers:**  
**Black:**  
     811-110    811-111    811-111-250    811-113    811-221    811-223  
     811-225    811-226    811-227    811-227-100    811-229  
     811-230    811-289    811-290    811-301    811-304  
     811-305    811-308    811-309    811-312    811-316    812-122  
**Green:**  
     811-122    811-123    811-154-110    811-155  
     811-325    811-329    811-333  
**Mottled (Brown/Green):**  
     811-127    811-128  
**Hazard Index: (0 - 4, 4 = Extreme)**  
     **Health: 1          Fire: 1          Reactivity: 0**  
 Prepared By:    **Jason Whitt**

*Information herein is given in good faith as authoritative and valid; however, no warranty, expressed or implied can be made.*