



Safety in Composites

The two components of composite work (reinforcement and resins) always require attention to safety.

Reinforcements will tend to provide a problem when cutting. The small fibers will travel through the air so care must be taken to avoid breathing these fibers. Often a dust mask is satisfactory, but a respirator offers more complete protection. You additionally will need to vacuum frequently to avoid having the fibers continue to circulate in the air. Reinforcements can also be irritating to the skin. Some people seem to be more susceptible than others to this problem, but sensitivity can also be developed over time. In other words, there are many cases where an individual showed no particular sensitivity to cutting fiberglass and then began to have problems. Skin sensitivity is generally an itching, a rash, or both and varies in intensity among individuals. The best way to protect your skin is to wear gloves and long sleeves when cutting or handling the reinforcements.

Resins are liquids which turn into solids through a chemical reaction. It is necessary to work in a well ventilated area while working with the resins as well as when they are left alone to cure. Respirators are often used when working in a closed area where ample fresh air can not be circulated. You also need to prevent the resins from contacting your skin or eyes. Wear protective goggles and gloves when working with resin.

SPECIFIC HAZARDS ASSOCIATED WITH CERTAIN FIBRE GLAST PRODUCTS

The following is a list of Fibre Glast Development Co. products currently requiring hazard labeling for shipment and an explanation of the hazard type.

POLYESTER RESINS, GEL COATS, ACETONE, STYRENE, STYRENE WAX AND PVA

These are all considered flammable liquids. Each of these products has a flash point lower than 100 degrees F. This means that vapors of these products can ignite at temperatures lower than 100 degrees F if presented with a direct ignition source. The lower the flash point, the more highly flammable a material is considered to be. Consequently, when working with any of these products, you should have plenty of fresh air and avoid all sources of ignition.

MEKP (METHYL ETHYL KETONE PEROXIDE)

MEKP is an organic peroxide. Although it has a flash point higher than 100 degrees F. and is not considered a flammable liquid, it has a unique fire hazard. If an organic peroxide such as MEKP ignites, it produces its own oxygen which makes it quite difficult to extinguish. Consequently, MEKP should be stored in a cool place away from flammable liquids and away from direct sources of ignition.

CERTAIN EPOXY HARDENERS

Some epoxy hardeners are considered corrosive and must be transported as hazardous chemicals. Special attention should be given to keeping these materials out of eyes and away from skin.

ANY COMPRESSED GAS

Compressed gases whether flammable or not are treated as hazards when shipping.

SHIPPING REGULATIONS AND SURCHARGES ASSOCIATED WITH HAZARDOUS CHEMICALS

There are a variety of rules pertaining to air and ground shipment of hazardous chemicals. The following is offered as an explanation of the rules and charges which generally affect our customers regarding ground shipments. We are permitted to put only one type of hazard in a single box. Each box containing a hazard is required to have a special set of labels with the proper hazard designation. In many cases, we are also limited to the quantity of material which may be shipped in a single box. Additionally, each carrier charges a surcharge for handling a hazardous box. These surcharges can be quite expensive and we will ship the least expensive carrier to our customers unless otherwise specified by the customer. We try to minimize these surcharges for our customers when placing orders as well as when shipping.

MATERIAL SAFETY DATA SHEETS (MSDS)

All manufacturers/suppliers of chemicals are required by law to produce a MSDS which can be made available to you upon request at no charge.

The MSDS is a relatively standardized form which offers health and safety information about any particular chemical or material. MSDS's are available for nearly all materials; not just those which are considered hazardous.

READING A MATERIAL SAFETY DATA SHEET

Although MSDS's are not identical, they usually have the following sections:

PRODUCT INFORMATION: This section will identify the common, chemical and trade name of the item as well as calling out hazardous or regulated ingredients if there are any.

WARNING STATEMENTS: Special safety considerations when working with the item.

PHYSICAL AND CHEMICAL DATA: Scientific data rarely safety related.

FIRE AND EXPLOSION HAZARD DATA: Fire fighting information as well as identification of flash point and flammability class.

HEALTH HAZARD DATA: Safety levels for worker exposure.

REACTIVITY DATA: Information about incompatibility with other chemicals as well as conditions to avoid.

SPILL OR LEAK PROCEDURES, SPECIAL PROTECTION INFORMATION AND SPECIAL PRECAUTIONS: Self explanatory.

SUPPLEMENTAL INFORMATION: This section addresses the regulatory status of the product with SARA, DOT, and other agencies.