



A Consumer's Guide to TGIC in Powder Coatings

Powder coatings provide a very durable finish and aesthetically pleasing appearance which enhances the appeal and longevity of the items coated. Powder coating is used to finish a number of consumer goods including outdoor furniture, lawn equipment, major appliances and metal office furniture. These high quality coatings have been applied safely since the 1970s. The powder coating process is very environmentally friendly, as no solvents are used, and the overspray can be captured and reused. This virtually eliminates any waste streams.

Powder coatings are applied electrostatically as a dry powder. The items coated with this dry layer are then placed in an oven where the coating melts and hardens into a tough finish. During the hardening process the polymers in the coating chemically react to form an inert hard finish.

TGIC (triglycidyl isocyanurate) is a chemical compound formulated in some powder coatings as a curing agent; this curing agent has been used safely for over 40 years. TGIC is blended with polymers and pigments during the powder coating manufacturing process. During the powder coating manufacturing process TGIC is encapsulated by the polymers in the formulation. The compounded material is then delivered to an industrial finishing operation for application.

Powder coated items receive a heat treatment in an industrial oven which allows the powder layer to melt and chemically react, to form a hard and durable surface. The TGIC contained in some powder coatings chemically reacts with polymers during this curing process and transforms into a very stable polymeric matrix.

Industry studies have concluded that TGIC in powder coated finishes is chemically bound into a polymer and cannot volatilize or leach into the environment. Past studies have also shown that products coated with a TGIC powder coated finished are considered non-toxic and do not a will not present a health risk to the consumer.