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Zinc Borate

Applications

TCC's **Zinc Borate** is primarily used as a flame retardant in plastics and cellulose fibers, paper, rubbers and textiles. It is also used in paints, adhesives, and pigments. As a flame retardant, it can replace antimony trioxide as a synergist in both halogen-based and halogen-free systems. It is an anti-dripping and char-promoting agent, and suppresses the afterglow. In electrical insulator plastics it suppresses arcing and tracking.

In halogen-containing systems **Zinc Borate** is used together with antimony trioxide and alumina trihydrate. It catalyzes formation of char and creates a protective layer of glass. Zinc catalyzes the release of halogens by forming zinc halides and zinc oxyhalides.

In halogen-free systems, **Zinc Borate** can be used together with alumina trihydrate, magnesium hydroxide, red phosphorus, or ammonium polyphosphate. During burning, the plastics, a porous borate ceramic is formed that protects the underlying layers. In presence of silica, borosilicate glass can be formed at plastic burning temperatures.

As the partial, or completely EPA approved substitute for containing halogen and other flame retardants, **Zinc Borate** is being directly applied to a wide range of plastics and rubber processing such as PVC, PE, PP, and to enhance polyamide, PVC resin, polyphenylene ethylene, epoxy resin, polyester resin, acid ethylene and natural rubber, styrene butadiene rubber, and chloroprene rubber. It can also be applied to the production of paper, fiber fabric, decorative panels, floor leather, wallpaper, carpet, ceramic glaze, fungicides, and paint production to improve flame retardant performance.