
Considerations for Treatment of Plastics

The silver based inorganic antimicrobial agent Zeomic is an inorganic powder. For this reason it can easily be blended into a wide spectrum of resins and handled in the same manner as inorganic pigment. Zeomic has been used in such resins as PE, PP, PS, AS, ABS, PC, POM, PVC, PET, PBT, and polyamides. High safety properties enable Zeomic to be blended into such thin materials as films. Zeomic is used for all varieties of packaging of food products. (Several grades have been approved by the U.S. EPA and FDA)

Dispersion Properties

The antimicrobial mechanism in Zeomic comes from the antimicrobial action caused by direct contact between the Zeomic particles and bacteria. Thus, Zeomic particles must be evenly distributed throughout a molded resin product to obtain a good antimicrobial effect. Please refer to the following two methods for even dispersion of Zeomic

(1) Using Dispersants

Adding dispersants (such metal soaps like magnesium stearate), which are used in pigments, to Zeomic is effective in obtaining an even dispersion. The compatibility of the dispersant with Zeomic needs to be considered when choosing a dispersant. Please feel free to consult with our specialists when making a selection.

(2) Using Master Batches and Compounds

Zeomic is a fine particle averaging 2 - 3 μm in size. Rather than directly dry-blending it into plastics as powder, it is highly recommended that a high concentration (normally 10 – 30%) master batch be prepared and diluted to a prescribed concentration upon use, or to prepare a compound that is pre-adjusted to a concentration level suitable for the final product.

* Please feel free to ask us about our master batches. Some varieties containing Zeomic are available.
(There are some resins that do not have a good chemistry with Zeomic).