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FIRE RETARDANTS

AKROSPERSE® Sb₂O₃-85/EPR/S (85% Antimony Oxide)

DESCRIPTION:

Akrosperser Sb₂O₃ is a dispersion of 85% active antimony oxide in an EPR (ethylene-propylene copolymer) binder. Antimony trioxide (commonly called antimony oxide) is used as a synergistic fire retardant in elastomeric systems. By itself, Sb₂O₃ offers no flame resistance; it must be used in conjunction with a halogen (Cl or Br typically) source to effect the burning process. HCl formed from the chlorine source reacts with Sb₂O₃ to form antimony trichloride which then reacts with hydroxyl radicals in the pyrolysis zone to short-circuit the propagation of the combustion reaction.

TYPICAL PROPERTIES:

Appearance.....Off-white rubber slabs
 Active Sb₂O₃..... 85%
 Specific Gravity @ 25°C..... 3.32 +/- .05

APPLICATION:

Akrosperser Sb₂O₃ is an excellent flame retarder for elastomeric and plastic compounds with a typical loading range of 4 - 20phr. Chlorine-bearing additives like chlorinated paraffins (Akrochlor™) should be added at a 10-30 phr level (Note: EPDM is not highly compatible with chlorinated paraffins. Use a higher molecular weight chlorinated resin to prevent bleed). Halogenated compounds (CR, NBR/PVC) may not require additional halogen donors. The rubber-bound form is a proven method of reducing skin irritation sometimes produced by handling antimony trioxide. The use of Sb₂O₃ and Cl to reduce fire has the drawback of creating more smoke in a fire (sometimes acidic smoke due to the HCl present). A compounder should use alumina trihydrate (ATH) along with the Sb₂O₃ system to reduce smoke as much as possible in rubber compounds. In plastic compounds, the use of magnesium hydroxide (Versamag®) or magnesium carbonate (Elastocarb®) will decrease smoke levels.

PACKAGING:

50 pound multiwall box

sb 122297, 85% Sb₂O₃/EPR

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