AKROCHEM CORPORATION
255 Fountain Street Akron, Ohio 44304-1991
330-535-2100 ◆ 800-321-2260 ◆ Fax 330-535-8947

AKROSPERSE® Sb_2O_3-85/EPR/S

(85% Antimony Oxide)

DESCRIPTION:

Akrosperse Sb_2O_3 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, Sb_2O_3 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 Sb_2O_3 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 Sb_2O_3…… 85%

Specific Gravity @ 25°C……. 3.32 +/- .05

APPLICATION:

Akrosperse Sb_2O_3 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 Sb_2O_3 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 Sb_2O_3 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% Sb_2O_3/EPR