



Marshall Additive
TECHNOLOGIES
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Typical Physical Properties

Average Particle Size (microns)	7
99.9% Less Than (microns)	30
Solubility in Water (room temp.)	0.28% max
Specific Gravity	2.77
Bulk Density (lb/ft ³)	30
Refractive Index	1.58
TGA: 1% wt loss	500 °F
5% wt loss	710 °F
10% wt loss	790 °F
Decomposition Temp.	554 °F

C-TEC™ CT ZB 800 ZINC BORATE

C-TEC™ CT ZB 800 Zinc Borate is a fine, white flame retardant/smoke suppressant powder that can also be used for reduced afterglow and arc/track.

Typical Chemical Properties

Formula	2ZnO - 3B ₂ O ₃ - 3.5H ₂ O
ZnO (theor.)	37.4%
B ₂ O ₃ (theor.)	48.1%
H ₂ O (theor.)	14.5%

NBS Smoke Chamber Data (flaming mode)

Material was tested at 15 parts by weight in a plenum formulation.

Test	CT-ZB800
Optical density	327, 330
Time to max smoke (sec)	777, 775
Avg. optical density +/- 95%*	329 +/- 60
Avg. time to max smoke +/- 95%*	776 +/- 222
Limiting oxygen index (%)	42.9 +/- 0.8

*95% confidence limits - 2x pooled standard deviation calculated from a set of duplicate measurements. Tested 5/09

USAGE LEVELS: 3-25 phr. in halogen containing systems. In halogen-free systems, where the total additive level of flame retardant (such as alumina trihydrate or magnesium hydroxide) is typically above 10 phr and sometimes as high as 250 phr, the replacement of part of the additive by zinc borate can provide improved flame retardancy or can permit the total additive level to be lowered.

APPLICATIONS: CT ZB800 Zinc Borate retains its water of hydration at high enough temperatures to process polyamides, polypropylene, and thermoplastic elastomers where they are also used as afterglow suppressants and anti-arcing agents. ZB 800 is an effective flame retardant synergist and smoke suppressant in halogenated polymers, particularly PVC, acting in the condensed phase as a char former. ZB800 allows the partial replacement of antimony oxide. C-TEC ZBs are also used in specific applications in polyethylene, epoxies and rubber. Typical uses include jacketing and insulation for plenum and riser cables, wall coverings, urethane foams, intumescent coatings and belting.

HEALTH AND SAFETY: Refer to the Material Safety Data Sheet.

PACKAGING: 50 lb. bags; pallet weight 2000 lbs.

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flame retardant additives ■ smoke suppressant additives ■ cycle reducing additives ■ aramid compounds
 nylon compounds ■ wood fibers ■ expanded polyethylene ■ cellulose & cellulose compounds ■ abrasive grit and filler