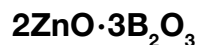


# Firebrake® 500



**Zinc Borate**

CAS Number 12767-90-7

*Firebrake*® 500 is a dehydrated zinc borate with multifunctional fire retardant applications in a variety of polymers. Since it contains no water of hydration, it is stable up to 600°C. It can therefore be used in polymer systems requiring very high processing temperatures. It can be fed to extruders, calendars, or injection moulding equipment in the same way as other solid polymer additives.

**Applications**

*Firebrake*® 500 can be used as a flame retardant and smoke suppressant in a variety of polymers including polyetherketone, polysulfone, fluoropolymer, polyester and nylon. The very significant beneficial effect of *Firebrake*® 500 on the rate of heat release is of special interest where this factor is important, as in aircraft applications.

**Storage**

*Firebrake*® 500 should be stored in a sealed container because of its tendency to gradually pick up surface moisture in high humidity environments. This surface moisture is easily removed by heating at about 200°C. The product is chemically stable and shows little tendency to cake.

**Chemical and physical properties**

**Typical properties**

Refractive index	1.58
Median particle size (Laser Diffraction)	9 microns
Weight Loss (TGA)	1.5% max. to 400°C
Thermal stability	Stable up to about 600°C. Can gradually absorb surface moisture—store in sealed container.
Specific gravity	2.6

**Chemical composition**

Boric oxide (B <sub>2</sub> O <sub>3</sub> ), %	53.5 - 55.5
Zinc oxide (ZnO), %	43.5 - 45.5

**Notice:** Although the data listed are typical, they are not production specifications. To obtain exact production specifications, contact Rio Tinto Minerals. The data presented are based upon tests that Rio Tinto Minerals believes to be reliable and are offered in good faith as typical of normal production, but Rio Tinto Minerals makes no warranty or representation of any kind, express or implied, regarding the information given or the product described, including any warranty of suitability for a particular purpose.

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