

BURNEX[®] Flame Retardant Materials

BURNEX 608

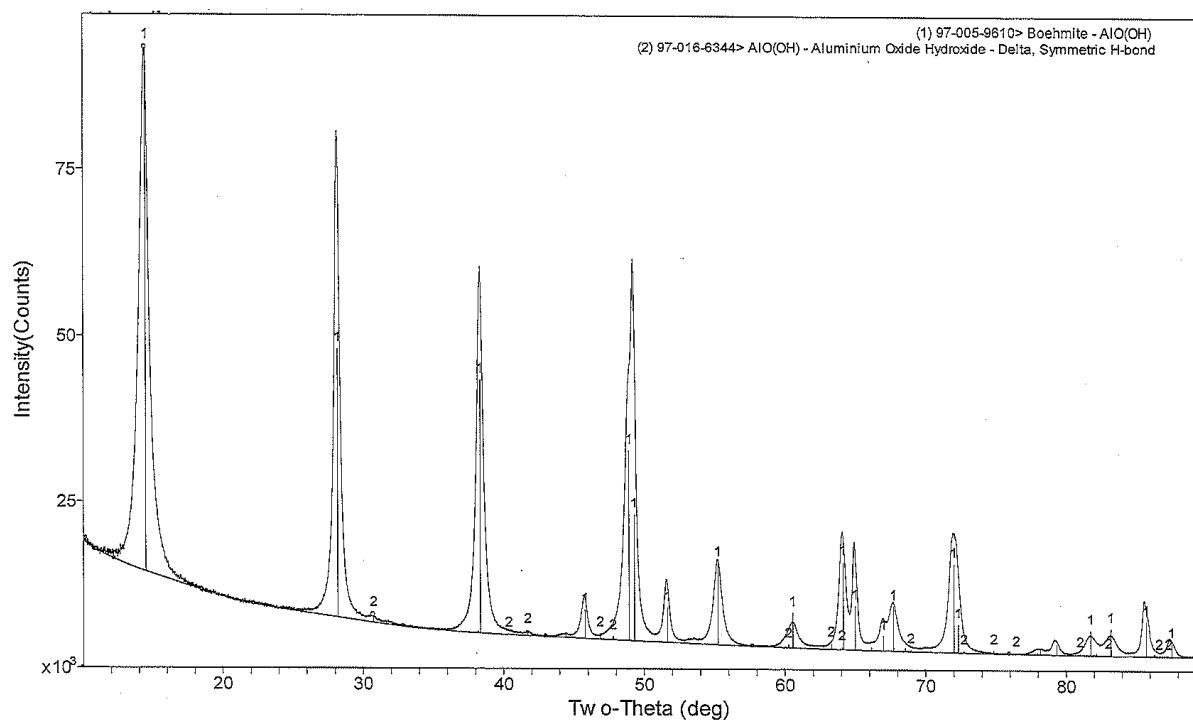
BurnEx 608 is a nano-structured non-halogen flame retardant synergist and additive developed by Nyacol[®]. BurnEx 608 is a well-crystallized boehmite alumina, or AlOOH, produced in a proprietary process. Typical surface area is 120 m²/g and the powder is approximately 10 - 12 microns, average size.

BurnEx 608 is a high temperature material compared to the commonly used alumina trihydrate. Figure 1 shows the typical XRD pattern for BurnEx 608. Figure 2 is a TGA of BurnEx 608 and shows only surface moisture being lost up to 300°C. Figure 3 shows a ramp and hold at 250°C, demonstrating no weight loss at 250°C following initial surface water removal. The recommended applications are described in detail on Page 2.

TYPICAL PROPERTIES

Form:	White powder
Al ₂ O ₃ , %:	80
Surface Area:	100 - 180 m ² /g after calcining at 550°C
Crystallite Size by XRD:	159 Ang.
Crystalline Phase:	>99% AlO(OH) (Boehmite)
pH:	4.0

Figure 1: BurnEx 608 Typical XRD





DATA SHEET
BURNEX® 608

APPLICATIONS:

Epoxy – BurnEx 608 can be used as a flame retardant synergist with phosphorus compounds for epoxy, particularly with the FR-4 laminates. BurnEx 608 offers a more stable performance in lead free soldering due to the higher thermal stability. Contact Nyacol for starting point formulations.

Unsaturated Polyester/Vinylester – BurnEx 608 can be used as a flame retardant synergist with phosphorous compounds in UPE. Contact Nyacol for initial formulations.

Polypropylene – BurnEx 608 with a surface coating can be used in PP as a flame retardant. The high decomposition temperature of the product enables it to be used in PP extrusion compounding without degradation. Surface modifications is critical to achieve a high quality dispersion as the untreated BurnEx 608 is hydrophilic. Nyacol offers two types of surface modification technologies. Contact Nyacol to discuss your particular requirements.

PC/ABS and PBT – BurnEx 608 is used as a flame retardant synergist and drip suppressant in PC/ABS and PBT engineering plastics to avoid the use of PTFE anti-drip additives. Typical use levels are 1 – 2% of BurnEx 608.

Figure 2: TGA of BurnEx 608

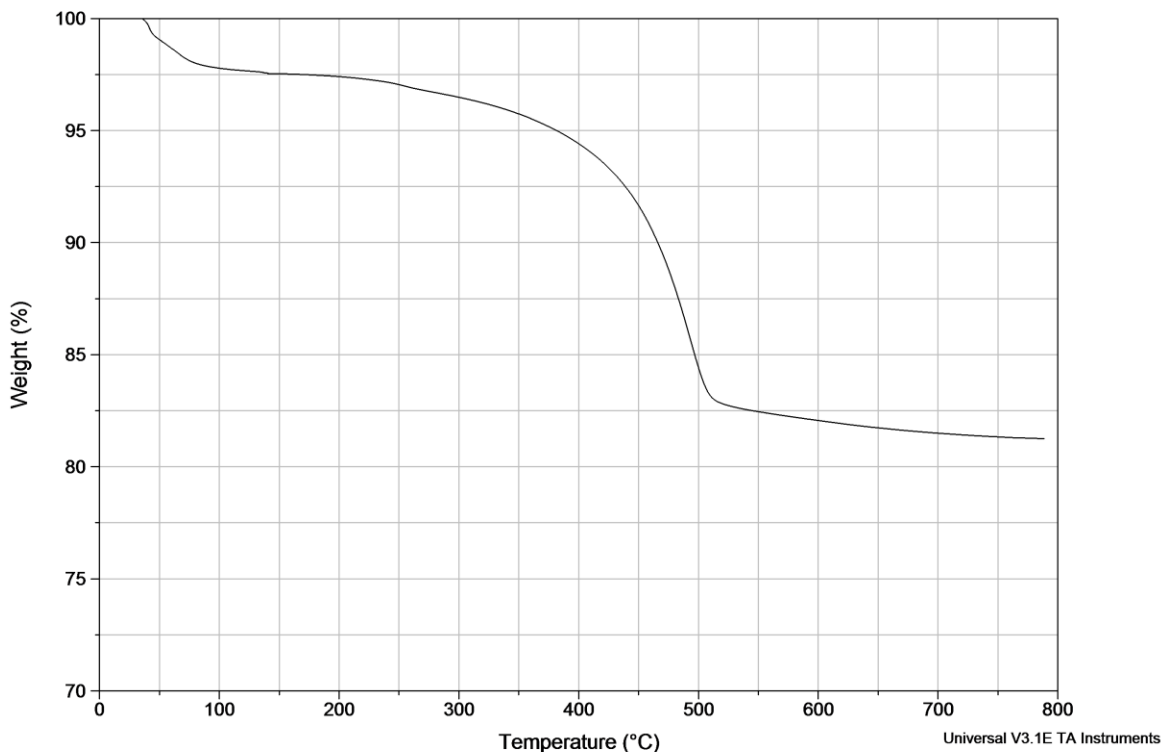
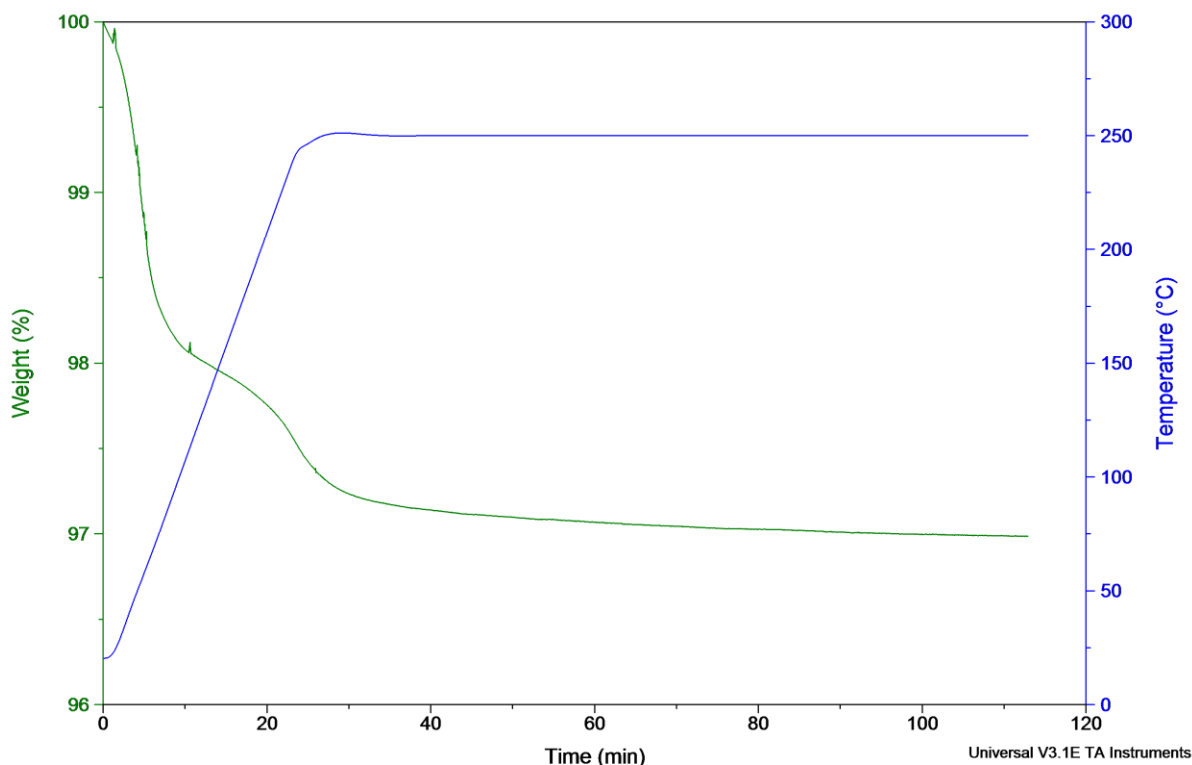


Figure 3: BurnEx hold at 250°C



PACKAGING

BurnEx 608 is available in 15-gallon drums containing 100 pounds net weight.

SAFETY

BurnEx 608 is acidic and may cause eye and skin irritation. Users should observe precautions printed on the package label. A Safety Data Sheet for this product will be supplied on request.

FOR ADDITIONAL INFORMATION OR TO PLACE AN ORDER

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