



DATA SHEET
BurnEx® A1582 ADP480 ADP494

Nano-Dispersible Dry Powder Colloidal Antimony Pentoxide Flame Retardant Additives

BurnEx® A1582, BurnEx® ADP480, BurnEx® ADP494

Nyacol® Nano Technologies, Inc. offers nano-dispersible dry powder colloidal antimony pentoxide (Sb₂O₅) for use as synergists with halogenated flame retardants in polymers, solvents and adhesives.

ADVANTAGES OVER CONVENTIONAL ANTIMONY TRIOXIDE SYSTEMS

- Low chemical reactivity will not interfere with electroless plating solutions.
- Non-pigmenting for light transmission and mass tone colors.
- Disperses to nano-size particles.
- Free-flowing particles provide exceptional consistency, better mixing and easy processing.

SUMMARY

FORM: BurnEx A1582, BurnEx ADP480 and BurnEx ADP494 are powders made by spray-drying aqueous solutions of colloidal antimony pentoxide. These grades are surface-treated to aid dispersion to colloidal size. All are free-flowing agglomerates approximately 10-40 microns in size.

FUNCTION: BurnEx A1582, BurnEx ADP480 and BurnEx ADP494 act as synergists with halogen flame retardants. The nano-sized antimony pentoxide allows greater retention of the original physical properties in most systems.

TYPICAL PROPERTIES

	BurnEx A1582	BurnEx ADP480	BurnEx ADP494
Antimony Pentoxide, weight %:	80	74	74
Form:	White powder	White powder	White powder
Agglomerate size, micron:	10 - 40	10 - 40	10 - 40
Ultimate particle size, micron:	0.03	0.04	0.04
Surface treatment:	Triethanolamine	Ethoxylated amine	Ethoxylated amine
Solvent compatibility:	Highly polar solvents and water	Non-polar solvents such as toluene and alkanes	Polar solvents such as acetone, DMAC and DMF
End uses:	Flexible vinyl, Thermoplastic polyester	Polyolefins, HIPS, Adhesives	Solution-spun fibers, ABS, Epoxy-ketones

APPLICATIONS: HANDLING AND COMPOUNDING

Stable and non-settling dispersions are formed in solvents with gentle mixing. Polymer solutions can be blended with such dispersions and will yield transparent films when dried.

Epoxy resins can be blended with BurnEx ADP494 dissolved in a ketone, and used to completely impregnate a reinforcement to produce a transparent laminate.

BurnEx ADP480 and BurnEx ADP494 can be blended into ABS, HIPS and polypropylene in compounding equipment

such as a twin screw extruder.

Since both BurnEx ADP480 and BurnEx ADP494 contain some free and chemically bonded water, it is important that the compounding equipment be vented. In hot melt adhesive applications, some foaming may occur during the initial melt blending.

Contact Nyacol Nano Technologies, Inc. for specific recommendations for compounding BurnEx ADP480 and BurnEx ADP494 in thermoplastics.

PACKAGING

	BurnEx A1582	BurnEx ADP480	BurnEx ADP494
15-gallon / 56-liter fiber drum	150 lb. net/68 kg.	150 lb. net/68 kg.	150 lb. net/68 kg.

FOR ADDITIONAL INFORMATION OR TO PLACE AN ORDER

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