



## DATA SHEET NYACOL® AP50

### Non-Aqueous Dispersions of Colloidal Antimony Pentoxide Flame Retardant Additives

## NYACOL® AP50

Nyacol Nano Technologies, Inc. offers non-aqueous colloidal antimony pentoxide as a synergist with halogenated flame retardants for use with liquid polymers and solvents.

### ADVANTAGES OVER CONVENTIONAL ANTIMONY TRIOXIDE SYSTEMS

- Greater surface area for faster halogen reactivity on burning.
- Non-pigmenting for translucent composites and enhanced mass tone colors.
- Much less wear on pumps, valves and nozzles.
- More chemically resistant.
- Less potential health hazards through dust-free handling.
- Better penetration into the structure for improved dimensional consistency and no "spongy laminate" feel.

### FORM

NYACOL AP50 flame retardant additive is a dispersion of nano-sized (colloidal) antimony pentoxide particles in a liquid, high molecular weight, tertiary amine. The oxide particles are nearly 1/50 the size of powdered antimony trioxide.

### FUNCTION

NYACOL AP50 is recommended for liquid flame-retarded epoxy systems, in aerospace structural prepregs, and in printed circuit boards. Use of antimony oxide in such systems permits reduced bromine levels in the epoxy resins. The colloidal particles will not settle or segregate in the liquid resin system. The nano-sized particles will pass between the fibers of reinforcement, insuring uniformity of the composite structure. Also, unlike antimony trioxide, NYACOL AP50 is non-tinting, retaining the translucency of the resin and allowing mass tone colors.

The tertiary amine component of NYACOL AP50 does not catalyze the epoxy reaction in typical structural prepreg formulations but laboratory evaluation is recommended.

### TYPICAL PROPERTIES

Antimony Pentoxide, % by weight	50
Inert, %	8
Vehicle, %	42
Form	Viscous Liquid

### PACKAGING

30 Gallon / 113 Liter steel drum    450 lb. net / 204 kg.

### SHELF LIFE

The shelf life of NYACOL AP50 is not less than one year. The carrier is a liquid high-molecular weight tertiary amine.

### FOR ADDITIONAL INFORMATION OR TO PLACE AN ORDER

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