



PRODUCT INFORMATION

Version 1

V-PLUS III

(Alternative for Antimony Trioxide Flame Retardant)

V-PLUS III is an inorganic flame retardant manufactured based on calcium phosphate.

V-PLUS III enhances the flame-retardant effect through a synergistic effect with halogen-based flame retardants, making it possible to replace antimony trioxide as a flame-retardant assistant when molding polymers that contain halogen elements, such as polyvinyl chloride.

V-PLUS III is a halogen-free and can achieve the flame-retardant standards of UL-UL94 V-0 and VTM-0 depending on the content when applied to the polymer.

Typical Properties

Chemistry	Magnesium/aluminum-based with calcium phosphate
Appearance	White powder
pH	7 ~ 9
Density	$2.5 \pm 0.05 \text{ g/cm}^3$
Bulk density	0.9 g/mL
Required Dosage	3~7 wt% ※equivalent to antimony trioxide

※ Not for specification purposes

Mechanism

The flame-retardant system of **V-PLUS III** is to absorb the heat on the surface of the burning material through the dehydration reaction, and increases the formation of a char through the endothermic reaction, thereby imparting flame retardancy.



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Advantages

- Halogen free
- White powder does not affect the color application of the resin
- Since V-PLUS III does not adversely affect plasticizers such as DOP and DOA, it can be used in existing recipes without changing the ratio of other ingredients when replacing antimony trioxide with V-PLUS III.
- High dispersibility

Applications

- PVC, ABS, polyolefin, HIPS, Nylon, Polyester, Engineering Plastics etc.
- For the thermal insulation and noise and vibration absorbing materials

Packaging

- 20kg Paper bag
- 500kg & 1ton Flecon bag

Product Storage, Handling and Safety

It is recommended that V-PLUS III flame-retardant be stored away from any heat and combustible media. **Any** used or unused material for disposal should be incinerated in an industrial or commercial facility in the presence of a combustible material. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste. **For** additional product safety and handling information, please read the product label and Safety Data Sheet before using this product.