ALUMINIUM DIETHYL PHOSPHINATE

CAS No: 225789-38-8

Aluminium Diethyl Phosphinate is a new efficient halogen-free flame retardant based on organic phosphinates. This product high phosphorus content, excellent thermal stability, and insoluble in water and common organic solvents.

Some of the benefits which can be highlighted are as follows.

- Non-hygroscopic, not hydrolysed and not precipitated
- Suited as flame retardant for thermoplastics and thermosets
- High efficiency due to its high phosphorus content
- UL 94 V-0 rating down to 0.4 mm thickness
- Suited for processing temperatures up to 350 degrees C
- Suitable for both glass fiber reinforced and unreinforced grades
- Suitable for lead free soldering

Aluminium Diethyl Phosphinate can be used in epoxy resin, electrical and electronic functional adhesives, retardant ink, epoxy electronic potting, label adhesive. It can meet the most stringent flammability standards.

Aluminium Diethyl Phosphinate is recommended for FCCL, FFC insulating films, FFC reinforcement plates and CCL which have high requirements in halogen-free flame retardant, the electrical properties and thermal stability.

Aluminium Diethyl Phosphinate can either be added individually, or in combination with other halogen-free flame retardants and inorganic fillers to achieve higher and better flame-retardant effect.

Package and storage

20kg per bag, using paper bags with PE inner. Products should be sealed storage, stored in a dry and cool place to avoid dusting.

Processing conditions

1. In high temperature polyamides of PA 6T/66 type, a dosage should not exceed 15 % (by wt.)
2. Aluminium Diethyl Phosphinate is usually sufficient to obtain the UL 94 V-0 classification for electrical compounds (at 1.6mm & 0.8 mm thicknesses).
3. Before incorporating Aluminium Diethyl Phosphinate, it is important to pre-dry the

polymer below 0.1 % (by wt.)

4. Pre-dry the high temperature polymers (PA, PBT= 0.05 % by wt & PET = 0.005% by wt.)
5. Pre-drying of Aluminium Diethyl Phosphinate is not necessary but can be incorporated in process (4h at 120 Deg C) if low moisture content is desired.
6. During processing the temperature of the polymer melt should not exceed 350 Deg C.

Grades

Specification and Technical Data					
		(ADP-9710)	(ADP-9730)	(ADP-5040)	
Characteristics	**Unit**	**Specification**	**Specification**	**Specification**	**Test Method**
Phosphorus	%(w/w)	23.0 - 24.0	23.0 - 24.0	23.0 - 24.0	AAS / ICP / XRF
Water / Moisture	%(w/w)	max. 0.35	max. 0.35	max. 0.35	Thermogravimetry
Bulk Density	kg/m³	100-250	400 - 600	400 - 600	
PH		4.5	4.5	4.5	PH meter
Decomposition Temperature	°C	> 350	> 350	> 350	TGA 1 % weight loss
Particle Size (D50)	µm	≤ 3	na	20-40	Particle size analyser
Particle Size (D97)	µm	≤ 10	≤ 30	na	Particle size analyser
Particle Size (D99.9)	µm	≤ 15	na	na	Particle size analyser