

JLS-PNP1A Non-Halogen intumescent Flame Retardant For Polyolefin

PEARANCE: white, free flowing powder

SPECIFICATIONS

Phosphorus	%(m/m)	21 1
Thermal decomposition	° C	≥ 250
Apparent density	g/cm ³	approx 0.7
Density at 25° C	g/cm ³	approx 1.8
Water content	%(m/m)	≤ 1.0
Particle size	μ m	≤ 25

PRODUCT DESCRIPTION

JLS -PNP2 is a non-halogenated and phosphorus/nitrogen flame retardant. When incorporated into polyolefine, it shows high processing stability and no migration.

JLS-PNP2 differs in its mode of action from halogenated flame retardants in the fire. When the polyolefine foams on exposure to flame, the carbon foam layer formed protects the polymer through its heat-insulating effect to reduce further oxygen access and prevent dripping of the polymer. By addition JLS -PNP2. There are no harmful halogen hydride gases to produce.

JLS -PNP2 may be mostly used in a range of thermoplastics, especially PP, PE, EVA and polyolefine blend, which is suitable for extrusion and injection moulding applications. Of course it may be suitable for use in hot melt adhesives or coating compounds.

FORMULATIONS AND ACHIEVABLE FLAME-RETARDANT EFFECT

The following table shows the typical level of addition required to satisfy UL94 V-0 for polyolefine.

Polymer	JLS-PNP2 addition level (%wt)	Classification
PP homopolymer	28-30	UL94: V-0
PP copolymer	28-30	UL94: V-0
HDPE	30	UL94: V-0
LDPE	30-35	UL94: V-0
EVA	30	UL94: V-0

These data are just supplied to consult, you must change the addition level slightly in fact.

LS-PNP2 EFFECT ON THE PROPERTIES OF MODIFIED PLASTIC

The mechanical properties of plastics are slightly altered by addition of JLS -PNP2. The following table shows the effect of this product on the mechanical properties of a PP homopolymer and copolymer, it should be noted that the melting index value of the modified polymer remains virtually the same as that of the base polymer. Hence when processing polymers modified with FR-PNP, it is no change the machine setting.

formulation(%wt)	1	2	3	4	
JLS-PNP1	-	30	-	30	
PP homopolymer	100	70	-	-	
PP copolymer	-	-	100	70	
fire test(UL94)	no	V-0	no	V-0	
Mechanical properties	Melting index g/10min	13	13	5	6
	Tensile strength MPa	20	15	20	12
	Elongation at break%	500	350	200	140
	Notched impact strength KJ/m ³	4	4	50	27
	Heat transition ° C(4.6x10 ⁴ Pa)	110	116	105	110

these data are just supplied to consult, according to ASTM standard.
no=not classifiable

JLS -PNP2 is non-hygroscopic. However, when stored in an open container, the product can still absorb small amounts of moisture owing to the surface area of the powder. The plastics granules containing JLS -PNP2 also absorb small amounts of water after processing. It is advisable to store JLS -PNP2 and plastics granules in sealed containers in a dry place.

PROCESSING INSTRUCTIONS

The plastics addition JLS-PNP2 is suitable for extrusion and injection moulding applications. The processing temperature remains the same as that of the PP, the melt temperature should not exceed 250 ° C, otherwise will be caused product to decompose. Predrying JLS -PNP2 is not generally necessary.

The processing temperature above 220 ° C will cause roughness and air hole on the surface of the plastics granules because the fluidity of melting plastics increases to reduce the extruder export pressure, moreover the flame retardant is not decomposed. There are no obvious influence on the plastics fire resistance, processing and mechanical properties. In case there are this phenomenon, it may be pelletized again to improve apparent of the plastics granules.

When a water bath is used in pelletization, there are a small quantity of the flame retardant to be taken out. There is no bad influence on the fire resistance. The plastics granules modified JLS -PNP2 can be extruded and injected time and time not to bring color and badness responses else. In case the plastics granules modified JLS -PNP2 may be decomposed to foam and yellows above 250 ° C.

SAFETY AND TOXICITY

JLS -PNP2 is innocuous, safety step should be used owing to that the powder is very thin.

PACKAGE

20KG bags with PE lining.