

TECHNICAL DATASHEET

A: Product identification and description

MELAGARD P37 is an efficient flame retardant halogen free intumescent system use in Polyolefins (PP, PE, EVA) and in many rubber systems. It is not based on Ammonium Polyphosphate. MELAGARD P37 is based on Phosphorus, Nitrogen in an optimized specific ratio and in a single molecule. MELAGARD P37 offers the highest levels of flame retardancy, reduced emission of smoke and toxic or corrosive gases. Other features include low specific gravity, low water sensibility and high thermal stability.

MELAGARD P37 is easy to disperse in a polymer matrix.

Previously introduced as "EXP PP/37".

B: Physical properties (1)

Appearance:	Fine powder
Odor:	odorless
Color	off-white
Density (gr/cc)	~ 1,7 gr/cc
Humidity (%)	< 0,5%
Melting point (°C)	decompose > 270°C
Bulk density (Kg/m ³):	~ 400 kg/m ³
Particle size D98:	< 30 microns

Chemical properties

Composition	Nitrogen ≈ 19%; Phosphorus ≈ 20%
Solubility	< 0,04 g/cc at 20°C in water Pratically insoluble in organic solvents

C: Transport

Not regulated for the transportation. No needing of labelling according to ADR/RID, DOT, IMO, and IATA regulation.

D: Applications

MELAGARD P37 dosage ranges from 18% to 35%, depending on type of polymer, formulation, and FR standard to be achieved. For UL-94 V0 (1,6mm) on PP natural homopolymer without antidripping agents, a dosage of 30% is suggested.

E: Processing

Thermal stability stable up to 250°C. Lower melt temperature are always recommended.

COMPATIBILITY WITH OTHER ADDITIVES

Lubricants	The normally recommended lubricants may be used; however they should be kept at a minimum level, to avoid loss of flame retardant properties.
Antioxidants	Acceptable performances have been shown by (thio) alkylated phenols, thioesters, phosphites and their combination.
Colorants	Most pigments (inorganic and organic) used for coloring PP are compatible with MELAGARD P37; pigments of the phthalocyanine type (green and blue colors) show antagonistic effects.
UV stabilizers	Traditional UV stabilizers (benzophenones and/or benzotriazoles) can be used with MELAGARD P37, together with low basicity HALS as alkylated or NOR. Performances should be checked case by case.
Fillers	Talc, calcium carbonate, kaolin, mica can react antagonistically with MELAGARD P37. Care should be taken in using these products, small quantities (less than 10% on PP) can be used.
Others	Acidic products should be avoided because they cause degradation of MELAGARD P37 with resulting foaming while compounding. Other flame retardants (ATH, Mg(OH) ₂ , halogenated products) are antagonistic. Avoid storing pellets or finished articles in hot and humid environments.
Glass Fibers	The addition of Glass Fibers improves the flame retardancy performances of MELAGARD P37

(1) Typical properties; not to be constructed as specifications

The information provided is based on our present knowledge and given as guidance for product use. The loading reported should be only regarded as guidance, however experimental check is needed on the polymer used and the flame retardancy class desired. The data reported do not constitute a guarantee. Quality of product is guaranteed under Italmatch Chemicals General Conditions of Sale. Existing property rights, if any, must be observed.

MELAGARD— Halogen free melamine based flame retardants