

A: Product identification and description

Product name: Melamine Phosphate

Condensed Formula: $C_3H_9N_9O_4P$

CAS: 41583-09-9

EINECS: 255-449-7

General description and use: salt of melamine and phosphoric acid intended to be used as halogen free flame retardant/smoke suppressant agent for thermoplastics, polyofins, elastomers, engineering resins, paints and intumescent fire retardant coatings, it can partly replace Ammonium Polyphosphate (APP).

B: Physical properties

Appearance:	Fine powder
Odor:	odorless
Color	off-white
Phosphorus content:	min. 12.5%
Nitrogen content:	min. 37.0%
Moisture content:	max. 0.5%
Decomposition pt (°C):	> 250
Specific gravity (23°C):	1,7 (g/cc)
Bulk density (Kg/m ³):	300-400
Water solubility (g/100 ml):	0.35 (at 20°C)
PH (saturated sol.):	4-6

Particle size:	MP
D 50%:	< 4 µm
D 98%:	< 25 µm

C: Toxicology

Oral toxicity LD₅₀ (rat): > 2000 mg/kg
Maximum allowable workplace concentration: not stipulated

D: Transport

ADR/RID: not restricted

E: Applications

Melagard MP is a salt of Melamine and Phosphoric Acid, when it decomposes under high temperature, it undergoes endothermic decomposition thus acting as a heat sink and cooling the combustion source. The released phosphoric acid acts to coat and therefore shield the condensed combustible polymer or surface of the combustible materials.

25-30% Melagard MP is the suggested dosage for Polymer or Intumescent Coatings

F: Processing

Melagard MP can be processed up to 250°C on typical polymer processing equipments (single or twin screw extruders, internal batch mixers (Banbury type) and roll mills). Molding operations such as injection molding and composites thermal forming are easily accomplished.

G: Packaging

The product is available in 15 Kg polyethylene bags in cardboard boxes of 300 kg net, on pallet. Alternatively can be supplied in 10 kg net Al barrier paper bags on a 500 kg pallet.

H: Storage and handling

The product is stable if maintained in the original bags and in a dry place at room temperature.
Handle the product in compliance with good industrial practice avoiding dust formation.

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