

A: Product identification and description

Product name: Melamine Cyanurate

Condensed Formula: $C_6H_9N_3O_3$

CAS: 37640-57-6

EINECS: 2535757

Molecular weight: 255,2

General description and use: salt of melamine and cyanuric acid intended to be used as halogen free flame retardant/smoke suppressant agent for organic polymers.

B: Physical properties

Appearance:	Fine powder
Odor:	odorless
Color	off-white
Specific gravity (23°C):	1,7 (g/cc)
Bulk density (Kg/m3):	250-350
Water solubility (g/100 ml):	0,001 (at 20°C)
PH (saturated sol.):	5-6
Particle size:	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

Melamine cyanurate is the elective product for flameproofing clear unfilled PA articles with halogen free additive.

As sole additive at a concentration ranging from 8 to 12% w, it is in position to achieve high demanding applications (UL 94 V0) in nylons (PA66 and PA6) showing also good retention of tensile strength properties and significant increase of tensile modulus.

It is also effective in polyesters, PU foams, epoxy resins, styrenics, polyolefins and back side coatings, in combination with suitable coagents. Other applications: lubricants and adhesion agents.

F: Processing

Safest MC 25 is endowed with high thermal stability, therefore it is in position to overcome both extrusion and injection moulding processing conditions typical of engineering plastics.

In order to maximize the flame proofing effect of the product, the compounding processes are generally carried out on corotating twin screw extruders by feeding the product in the main hopper and using predried polymers, if necessary. Can also be used in single screw extruders, internal batch mixers (Bandbury) and roll mills.

Safest MC 25 does not interact with the common processing additives like: stabilisers, crosslinking agents, processing aids, inorganic fillers, pigments, etc.

G: Packaging

The product is available in 20 Kg polyethylene bags in cardboard boxes or in 400 Kg big bags.

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.

SAFEST — Halogen free powder flame retardants