

FLAME RETARDAND: C001

Description

C001 is suitable for use as a flame retardant in copolymer PP with high ethylene content ($\geq 8\%$). It also requires a low dosage (2–4 wt%), does not require antimony trioxide, and supports the addition of 10–20% inorganic fillers like talc or barium sulfate. It is non-halogen-free flame retardants. During combustion, dripping may occur, and the material achieves a UL94 V-2 rating.

Technical Data

Test Item	Testing Protocol	Unit	Copolymer PP with High Ethylene Content ($\geq 8\%$)	Pipe-Grade Copolymer PP
			(2.0-3.5% C001)	(2.0-4.0% C001)
Density	ISO 1183	g/cm ³	0.91	0.91
Melt Flow Rate	ISO 1133	g/10min	5	1-Feb
Tensile Strength	ISO 527	MPa	24	26
Elongation at Break	ISO 527	%	>100	>100
Flexural Modulus	ISO 178	MPa	1050	1150
Flexural Strength	ISO 178	MPa	28	31
Notched Impact Strength	ISO 180	kJ/m ²	11	15
Flame Rating (3.20 mm)	UL94	—	V-2	V-2
Flame Rating (1.60 mm)	UL94	—	V-2	V-2
GWIT (2.0mm)	IEC 60695-2-13	°C	775	775
GWIT (2.0mm)	IEC 60695-2-13	°C	960	960



Processing Precautions

- Avoid adding calcium carbonate filler, as it may negatively affect the flame-retardant performance.
- Precise temperature control of equipment is essential. Local overheating can cause flame retardant volatilization, reducing its effectiveness. Recommended processing temperature: 170–180 °C.
- Use a low-shear screw configuration to prevent excessive shear that could lead to material degradation.

Disclaimer

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Regulatory Notes

This product is manufactured in compliance with applicable regional chemical control regulations. Regulatory status may vary by jurisdiction, and users should verify compliance with local requirements prior to use. Certification for specific applications (such as food contact, potable water, medical, or electrical uses) is not implied and must be confirmed separately upon request. Users are responsible for ensuring that the product, its additives, and any processing aids meet all relevant regulatory and end-use obligations.

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