
Anti-oxidant and heat stabilizer for polymer

1. General

DEOX SP-3000 is a synergistic blend of a sterically hindered phenolic antioxidant, a phosphite stabilizer and a proprietary carbon-centered radical scavenger. Being a multi-functional antioxidant, DEOX SP-3000 provides outstanding performance in a variety of polymers such as PP, PE, PB, styrenics and adhesives. Its superior effectiveness over conventional antioxidant systems is particularly pronounced in improved MFR control, good color maintenance and long-term thermal stabilization.

2. Physical Data

Appearance	:	White to off-white powder
Odor	:	Odorless
Melting point	:	114-160 °C
Specific gravity		
(25 °C, g/mL)	:	0.93
Bulk density (g/mL)	:	ca. 0.60
Vapor pressure (20 °C)	:	< 1 mmHg

3. Solubility

(g in 100 ml solvent @25°C)

Acetone	:	4.5
Ethyl acetate	:	<1
Dichloromethane	:	6
Toluene	:	13
Water	:	<0.2

4. Specification

Appearance	:	White to off-white powder
Assay, %	:	95.0 min.
Melting point, °C	:	105 °C min
Volatile	:	0.5% max
Transmittance		
(5g in 100ml CH ₂ Cl ₂)	:	80% min. @450nm

5. Suggested Application

DEOX SP-3000 can be applied as a high efficient melt processing stabilizer system in polyolefins, styrenics and olefin-copolymers. The use levels of DEOX SP-3000 range between 0.075% and 0.5% are recommended for protection. It depends on the substrate and performance requirements of the final application.

Anti-oxidant and heat stabilizer for polymer

6. Performance data
PP* Polymer Melt Flow Stability

Extrusion pass**	1	2	3	4	5	ΔY
Control (MFI = 5.5)	9.78	16.60	27.20	42.80	---	33.02
DEOX B-225	5.79	7.55	9.12	12.20	15.00	9.21
Competitor's	5.78	6.53	7.85	8.61	9.56	3.78
DEOX SP-3000	5.79	6.16	6.57	7.09	7.48	1.69

*Polymer: PP (homo, MFI = 5.5)

**Processing condition: Multiple extrusion, twin screw extruder (ϕ = 35 mm, L/D = 36)

***Melt flow rate is measured by weight every 10 minutes at 230°C and 2.16kg pressure.

ABS* Polymer Melt Flow Stability

Extrusion pass**	1	2	3	4	5	ΔY
Control (MFI = 5)	7.46	7.65	7.74	7.89	8.10	0.64
DEOX B-225	7.19	7.32	7.44	7.58	7.67	0.48
Competitor's	5.76	5.91	6.08	6.37	6.62	0.86
DEOX SP-3000	5.96	6.08	6.18	6.34	6.40	0.44

*Polymer: ABS polylac[®] PA-709; Poly lac is a trade mark of Chi Mei Corporation.

**Processing condition: Multiple extrusion, twin screw extruder (ϕ = 35 mm, L/D = 36)

***Melt flow rate is measured by weight every 10 minutes at 230°C and 2.16kg pressure.

7. Packaging

20 Kg net / Carton