

Lubricant Formulators Guide to Albemarle Antioxidants



Benefits

Product Name	Description	Radical Scavenger	Peroxide Decomposer	Multi-Functional	Low Volatility	High Temperature Performance	Deposit Control	Non-Sludging	Wear Control	Non-Corrosive	Seal Compatible	TTBP-Free	Synergistic With
Single-Ring Hindered Phenolic													
ETHANOX 4716	Hindered Phenolic Ester	x			x	x	x	x		x	x	x	diphenylamines
ETHANOX 4701	2,6-Di-tert-butylphenol	x						x		x	x	x	diphenylamines
ETHANOX 4703	2,6-Di-tert-butyl-alpha-dimethylamino-p-cresol	x	x	x								x	diphenylamines
ETHANOX 4735	Low Melting ETHANOX 4701	x						x		x	x		diphenylamines
Ethanox 376	High Molecular Weight Single-Ring Phenolic	x			x	x	x	x		x	x	x	diphenylamines
Multi-Ring Hindered Phenolic													
ETHANOX 4702	4,4'-Methylenebis(2,6-di-tert-butylphenol)	x			x	x	x	x		x	x	x	diphenylamines
ETHANOX 4710	Non-Dusting ETHANOX 4702	x			x	x	x	x		x	x	x	diphenylamines
ETHANOX 4727J	Multi-ring tert-butylphenolic, 30% active	x			x	x	x	x		x	x	x	diphenylamines
ETHANOX 4782J	Multi-ring tert-butylphenolic, 53% active	x			x	x	x	x		x	x	x	diphenylamines
Ethanox 310	High Molecular Weight Multi-Ring Phenolic	x			x	x	x	x		x	x	x	diphenylamines
Arylamines													
ETHANOX 4780	Nonyldiphenylamine	x			x	x	x			x	x	x	phenolics, sulfur
Sulfurized Antioxidants													
Ethanox 323	Sulfurized Alkylphenol	x	x	x	x	x			x			x	phenolics, diphenylamines
Phosphorus Containing Antioxidants													
Ethaphos 368	Triarylphosphite		x		x	x						x	phenolics, diphenylamines
Antioxidant Blends													
ETHANOX 4726	50% ETHANOX 4701, 50% ETHANOX 4716	x			x	x	x	x		x	x	x	sulfur
ETHANOX 4795	Multi-Ring Phenolic / Diphenylamine Blend	x		x	x	x	x	x		x	x	x	sulfur

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Product Name	Description	Crankcase Applications					Specialities Applications									
		PCMO	HDDEO	NGEO	MSD	Treat Rate Range % wt.	R&O	AWHO	Turbine	Circulating	Gear	Slideway	Grease	ATF	Transformer Oil	Treat Rate Range % wt.
Single-Ring Hindered Phenolic																
ETHANOX 4716	Hindered Phenolic Ester	x	x	x	x	0.2 - 0.8	x	x	x	x		x	x	x		0.15 - 0.75
ETHANOX 4701	2,6-Di-tert-butylphenol	x	x	x	x	0.2 - 0.8	x	x	x	x		x	x	x	x	0.15 - 0.75
ETHANOX 4703	2,6-Di-tert-butyl-alpha-dimethylamino-p-cresol											x	x			0.15 - 0.5
ETHANOX 4735	Low Melting ETHANOX 4701	x	x	x	x	0.2 - 0.8	x	x	x	x		x	x	x		0.15 - 0.75
Ethanox 376	High Molecular Weight Single-Ring Phenolic	x	x	x	x		x	x	x					x		0.2 - 0.5
Multi-Ring Hindered Phenolic																
ETHANOX 4702	4,4'-Methylenebis(2,6-di-tert-butylphenol)	x	x	x	x	0.2 - 0.4								x		0.1 - 0.3
ETHANOX 4710	Non-Dusting ETHANOX 4702	x	x	x	x	0.2 - 0.4								x		0.1 - 0.3
ETHANOX 4727J	Multi-ring tert-butylphenolic, 30% active	x	x	x	x	0.7 - 2.6	x	x	x	x		x		x		0.7 - 1.3
ETHANOX 4782J	Multi-ring tert-butylphenolic, 53% active	x	x	x	x	0.4 - 1.6	x	x	x	x		x		x		0.4 - 0.75
Ethanox 310	High Molecular Weight Multi-Ring Phenolic									x						
Arylamines																
ETHANOX 4780	Nonyldiphenylamine	x	x	x	x	0.1 - 0.8	x	x	x	x		x	x	x		0.1 - 0.3
Sulfurized Antioxidants																
Ethanox 323	Sulfurized Alkylphenol	x			x	0.1 - 0.4	x	x	x	x	x	x	x			0.015 - 1.0
Phosphorus Containing Antioxidants																
Ethaphos 368	Triarylphosphite					0.05 - 0.25	x	x	x		x					0.05 - 1.0
Antioxidant Blends																
ETHANOX 4726	50% ETHANOX 4701, 50% ALBetec 4716	x	x	x	x	0.2 - 0.8	x	x	x	x		x	x	x		0.15 - 0.75
ETHANOX 4795	Multi-ring Phenolic / Diphenylamine Blend	x	x	x	x	1.0 - 2.0	x	x	x	x		x	x	x		0.4 - 1.0