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# **Rubber Chemicals for Elastomers**

## **Antidegradants**

#### **Antioxidants**

Alkylated Phenols / BIS-Phenols							
Trade Name	Chemical Name	CAS Registration Number	Non- Staining	Discoloration (Compound)	Comments		
Wingstay® L	Butylated reaction product of p-cresol and dicyclopentadiene	68610-51-5	Y	N	Highly active antioxidant with very low volatility and excellent color stability		
Wingstay® SP	Styrenated Phenol	61788-44-1	Y	N	Active antioxidant with good activity, persistence, and color properties		
Ethanox® 4702	4,4'-methylenebis (2,6-di-tert- butylphenol)	118-82-1	Υ	Υ	A primary antioxidant with low volatility; ensures long term performance at high temperatures		

Amino Phenol						
Trade Name	Chemical Name	CAS Registration Number	Non- Staining	Discoloration (Compound)	Comments	
Antioxidant 103	2,6-Di-tert-butyl- alpha-dimethylamino- p-cresol	88-27-7	N	Υ	Unique, primary antioxidant with highly polar chemical structure that provides excellent protection in high heat environments and is used in plastics applications	

## **Antidegradants**

## **Antioxidants (continued)**

Benzimidazole						
Trade Name	Chemical Name	CAS Registration Number	Non- Staining	Discoloration (Compound)	Comments	
Ekaland™ MMBI	Methyl-2-mercapto benzimidazole	53988-10-6	Υ	N	Nitrosamine-free, non-blooming antidegradant. In synergy with amine or phenolic antioxidants, provides good protection against oxygen, heat, and metals. Provides dimensional stability to extrudates.	
Stangard® 500	Mercaptobenzimidazole /Amine antioxidant blend	53988-10-6	Υ	N	Excellent high temperature antioxidant when used in NBR, BR, and CR with excellent resistance to solvents and fuels at high temperatures	

Diphenylamines						
Trade Name	Chemical Name	CAS Registration Number	Non- Staining	Discoloration (Compound)	Comments	
Stangard® ODP	Octylated Diphenylamine	101-67-7	N	Υ	Excellent for flex and heat resistance, particulary in polychloroprene compounds	
Wingstay® 29A	Mixed para oriented styrenated diphenylamine	68442-68-2	N	Υ	High active, multipurpose antioxidant used for stabilization of synthetic polymers and latices	

Quinolines						
Trade Name	Chemical Name	CAS Registration Number	Non- Staining	Discoloration (Compound)	Comments	
Kemai TMQ	2,2,4-Trimethyl-1,2- Dihydroquinoline	26780-96-1	N	Υ	General purpose high activity, high molecular weight antioxidant good for oxidative and thermal aging	

### **Antidegradants**

### **Antiozonants**

#### **Paraphenylenediamines**

Trade Name	Chemical Name	CAS Registration Number	Non- Staining	Discoloration (Compound)	Comments	
Stangard® 6PPD	N-(1,3-Dimethylbutyl)- N'-phenyl-p- phenylenediamine	793-24-8	N	Υ	High activity antidegradant which acts as an antioxidant and antiozonant	
Stangard® IPPD	N-Isopropyl-N'-phenyl-p- phenylenediamine	101-72-4	N	Υ	High activity antidegradant which mostly acts as an antiozonant but also has excellent high temperature resistance	
Stangard® DTPD	N, N'-ditolyl- phenylenediamine- mixed	68953-84-4	N	Υ	High activity antidegradant with excellent compatibility with elastomeric systems	

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