

Polymer Stabilizers
Antioxidants and
Light Stabilizers

Polymer stabilizers protect plastics during manufacture and use

Thanks to light weight, cost effectiveness, flexibility and ease of processing, plastics are being used on an increasing scale in a wide and ever-growing variety of industries and applications. To prevent degradation when exposed to heat, cold and light, plastics require stabilization. Specially designed stabilizers protect the polymer during processing and ensure that plastic end products retain their physical properties during use, prolonging their life.

SONGWON offers a comprehensive range of processing, heat and light stabilizers in a variety of blends and physical forms that facilitate handling and application.

It's all about **the chemistry™**

 **SONGWON**

Product range selection guide

		ABS	PC/ABS	PC	PU Fibers	Polyamides	Polyesters	Polyethylene	Polypropylene	Polystyrene	Polyurethane	PVC	Elastomers	Acrylics	Polyacetal	TPU
Phenolic Antioxidants	SONGNOX® 1010				■	■	■	■					■			■
	SONGNOX® 1076	■	■	■			■		■	■	■		■	■		
	SONGNOX® 1135						■		■	■			■	■		
	SONGNOX® 2450	■			■	■	■		■	■	■		■	■	■	■
	SONGNOX® 3114							■	■							
	SONGNOX® 1035							■	■							
	SONGNOX® 1098				■	■										
	SONGNOX® 4425	■				■	■			■			■			■
	SONGNOX® 1330				■	■	■	■					■			
	SONGNOX® 5650												■			
	KUMANOX™ 3020	■	■										■			
	KUMANOX™ 5010L	■	■										■			
	SONGNOX® 1024				■			■	■							■
Phosphite Antioxidants	SONGNOX® 1680	■	■	■		■	■	■	■	■				■	■	■
	SONGNOX® 6260					■		■	■			■				
	SONGNOX® 6280					■		■	■			■				
	SONGNOX® PQ	■	■			■		■	■				■			
Thioester Antioxidants	SONGNOX® DSTDP	■	■					■	■	■	■	■				
	SONGNOX® DLTPD	■	■					■	■	■	■	■				
	SONGNOX® DMTDP	■	■					■	■	■	■	■				
	SONGNOX® DTDP	■	■					■	■	■	■	■				

■ Recommended
■ Suitable

All KUMANOX™ products are exclusively produced by Kumho Petrochemical Co., Ltd.

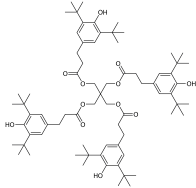
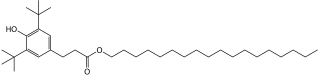
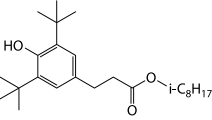
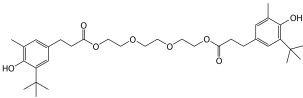
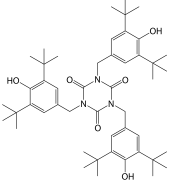
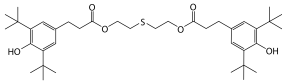
Hindered Amine Light Stabilizers (HALS)

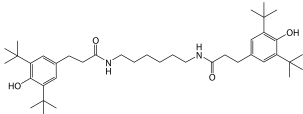
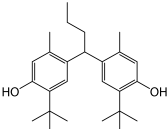
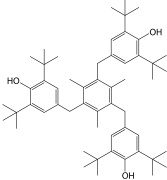
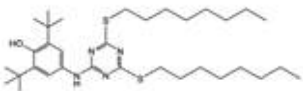
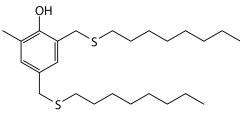
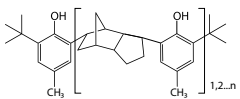
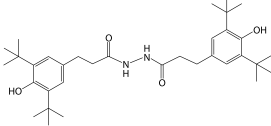
	ABS	PC/ABS	PC	PU Fibers	Polyamides	Polyesters	Polyethylene	Polypropylene	Polystyrene	Polyurethane	PVC	Elastomers	Acrylics	Polyacetal	TPU
SABO®STAB UV 40					■		■	■		■	■	■			■
SABO®STAB UV 62				■	■	■	■	■		■	■			■	
SABO®STAB UV 65	■				■		■	■	■	■	■				■
SABO®STAB UV 70	■				■	■	■	■		■	■			■	■
SABO®STAB UV 79	■				■		■	■	■	■	■				■
SABO®STAB UV 91				■		■	■		■					■	
SABO®STAB UV 91 50 PP						■	■					■			
SABO®STAB UV 94	■				■		■		■	■				■	
SABO®STAB UV 119	■	■	■		■	■	■	■	■	■	■	■	■	■	■
SABO®STAB UV 228 50 PP						■	■								
SABO®STAB UV 229 50 PP						■	■								

UV Absorbers (UVAs)

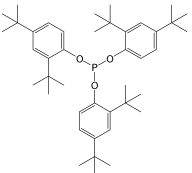
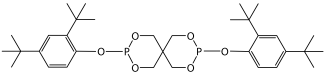
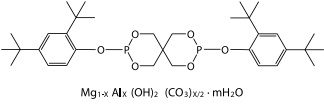
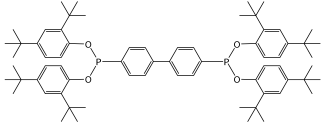
SONGSORB® 1000	■	■				■			■		■	■	■		
SONGSORB® 2340		■	■	■	■	■		■	■		■	■		■	
SONGSORB® 3260	■					■	■	■	■	■	■	■	■		■
SONGSORB® 3270	■	■	■	■		■	■	■	■	■	■	■	■		
SONGSORB® 3280	■			■	■	■	■	■			■	■	■	■	■
SONGSORB® 3290	■	■	■			■			■			■	■		
SONGSORB® 3600	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SONGSORB® 7120	■					■	■		■	■	■	■	■		■
SONGSORB® 2908						■	■			■	■				
SONGSORB® 8100	■	■	■			■	■	■	■	■	■	■	■		
SABO®STAB UV 312				■	■		■		■	■			■		
SONGSORB® 1577		■	■	■											

Phenolic Antioxidants

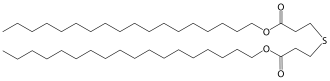
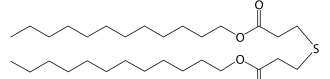
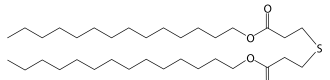
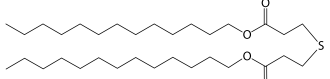
		Molecular Weight	Melting Range (°C)	Solubility (g/100 g solvent at 25°C)	TGA (°C, % mass loss)
SONGNOX® 1010 Tetrakis[methylene-3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate] methane CAS NO. 6683-19-8 PW, FF, DF		1178	110.0 ~ 125.0	Squalane < 0.05 n-Hexane < 0.1 Acetone < 50.0 Ethanol < 0.1 Toluene 48.0 Xylene 24.2 Ethyl acetate > 50.0	353 5% 370 10% 425 50%
SONGNOX® 1076 Octadecyl-3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate CAS NO. 2082-79-3 PW, CP, SB, LQ		531	50.0 ~ 55.0	Squalane 0.5 n-Hexane > 50.0 Acetone > 50.0 Ethanol < 0.1 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	330 5% 347 10% 387 50%
SONGNOX® 1135 Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters CAS NO. 125643-61-0 LQ		390	—	Squalane > 50.0 n-Hexane > 50.0 Acetone > 50.0 Ethanol > 50.0 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	257 5% 278 10% 328 50%
SONGNOX® 2450 Triethylene glycol-bis-3-(3-tert-butyl-4-hydroxy-5-methylphenyl) propionate CAS NO. 36443-68-2 PW, FF, DW		587	76.0 ~ 80.0	Squalane < 0.05 n-Hexane < 0.1 Acetone > 50.0 Ethanol 9.0 Toluene 10.0 Xylene 0.5 Ethyl acetate > 50.0	326 5% 345 10% 396 50%
SONGNOX® 3114 Tris(3,5-di-tert-butyl-4-hydroxybenzyl) isocyanurate CAS NO. 27676-62-6 PW, FF		784	218.0 ~ 223.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 45.0 Ethanol < 0.1 Toluene 22.0 Xylene 21.0 Ethyl acetate 45.0	330 5% 344 10% 374 50%
SONGNOX® 1035 Thiodiethylenebis[3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate] CAS NO. 41484-35-9 PW, FF		643	> 65.0	Squalane < 0.05 n-Hexane 0.8 Acetone > 50.0 Ethanol 1.1 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	322 5% 339 10% 375 50%

SONGNOX® 1098 N,N'-hexamethylenebis(3,5-di-tert-butyl-4-hydroxyhydrocinnamide) CAS NO. 23128-74-7 PW, FF, GR, DW		637	156.0 ~ 162.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 2.5 Ethanol 5.5 Toluene < 0.1 Xylene < 0.1 Ethyl acetate 0.7	336 350 418	5% 10% 50%
SONGNOX® 4425 4,4'-butylidenebis(6-tert-butyl-3-methylphenol) CAS NO. 85-60-9 PW		383	208.0 ~ 214.0	Squalane < 0.05 n-Hexane < 0.1 Acetone > 50.0 Ethanol 29.0 Toluene 1.0 Xylene < 0.1 Ethyl acetate > 50.0	249 265 316	5% 10% 50%
SONGNOX® 1330 1,3,5-trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl)benzene CAS NO. 1709-70-2 PW, FF		775	241.0 ~ 247.0	Squalane < 0.05 n-Hexane 0.9 Acetone 22.0 Ethanol < 0.1 Toluene 30.0 Xylene 22.0 Ethyl acetate 36.0	368 391 446	5% 10% 50%
SONGNOX® 5650 2,6-di-tert-butyl-4-(4,6-bis(octylthio)-1,3,5-triazin-2-ylamino)phenol CAS NO. 991-84-4 PW, GR		589	94 ~ 96	Squalane < 0.05 n-Hexane 6.50 Acetone > 50.0 Ethanol < 0.1 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	348.35 361.67 401.26	5% 10% 50%
KUMANOX™ 3020 4,6-bis(octylthiomethyl)-o-cresol CAS NO. 110553-27-0 LQ		425	–	Squalane > 50.0 n-Hexane > 50.0 Acetone > 50.0 Ethanol > 50.0 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	276 286 311	5% 10% 50%
KUMANOX™ 5010 L Butylated reaction of p-cresol and dicyclopentadiene CAS NO. 68610-51-5 PW, PS		650	> 105.0	n-Hexane < 0.1 Acetone 165.0 Ethanol 0.3 Ethyl acetate 140.0	341 362 420	5% 10% 50%
SONGNOX® 1024 1,2-bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl)hydrazine CAS NO. 32687-78-8 PW, FF, FG		553	221.0 ~ 232.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 5.0 Ethanol 1.0 Toluene < 0.1 Xylene < 0.1 Ethyl acetate 0.6	307 319 359	5% 10% 50%

Phosphite Antioxidants

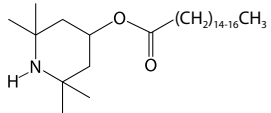
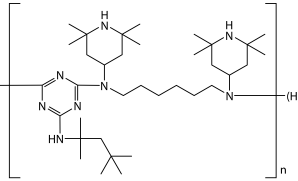
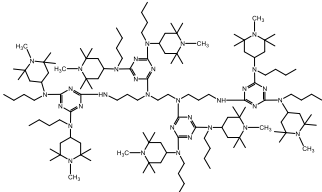
		Molecular Weight	Melting Range (°C)	Solubility (g/100 g solvent at 25°C)	TGA (°C, % mass loss)
SONGNOX® 1680 Tris(2,4-di-tert-butylphenyl) phosphite CAS NO. 31570-04-4 PW, FF		647	181.0 ~ 187.0	Squalane < 0.05 n-Hexane 10.0 Acetone 1.3 Ethanol < 0.1 Toluene 25.0 Xylene 24.0 Ethyl acetate 5.0	286 5% 305 10% 362 50%
SONGNOX® 6260 Bis(2,4-di-tert-butylphenyl) pentaerythritol diphosphite CAS NO. 26741-53-7 PW, FF		605	170.0 ~ 180.0	Squalane < 0.05 n-Hexane 2.0 Acetone 3.0 Ethanol < 0.1 Toluene 26.0 Xylene 17.0 Ethyl acetate 0.7	306 5% 329 10% 382 50%
SONGNOX® 6280 SONGNOX® 6260: Mg, Al talcite = 93 : 7 CAS NO. 26741-53-7, 11097-59-9 PW, FF		–	–	–	–
SONGNOX® PQ Phosphorous trichloride, reaction products with 1,1'-biphenyl and 2,4-bis(1,1-dimethylethyl) phenol CAS NO. 119345-01-6 PW, SB		1035	75.0 ~ 100.0	Squalane 0.1 n-Hexane > 50.0 Acetone 9.0 Ethanol < 0.1 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	296 5% 325 10% 423 50%

Thioester Antioxidants

		Molecular Weight	Melting Range (°C)	Solubility (g/100 g solvent at 25°C)	TGA (°C, % mass loss)
SONGNOX® DSTDP Distearyl thiodipropionate CAS NO. 693-36-7 PW, SB		683	63.5 ~ 68.5	Squalane 0.1 n-Hexane 0.1 Acetone < 0.1 Ethanol < 0.1 Toluene 4.6 Xylene 4.1 Ethyl acetate < 0.1	324 5% 348 10% 389 50%
SONGNOX® DLTDP Dilauryl thiodipropionate CAS NO. 123-28-4 PW, SB, LQ		515	38.0 ~ 41.0	Squalane 2.6 n-Hexane > 50.0 Acetone > 50.0 Ethanol 0.3 Toluene > 50.0 Xylene 46.0 Ethyl acetate 29.0	284 5% 313 10% 361 50%
SONGNOX® DMTDP Dimyristyl thiodipropionate CAS NO. 16545-54-3 PW, SB		571	49.0 ~ 54.0	Squalane < 0.05 n-Hexane 8.0 Acetone 2.0 Ethanol < 0.1 Toluene 41.0 Xylene 33.0 Ethyl acetate 4.1	296 5% 316 10% 367 50%
SONGNOX® DTDTP Ditridecyl thiodipropionate CAS NO. 10595-72-9 LQ		543	–	Squalane > 50.0 n-Hexane > 50.0 Acetone > 50.0 Ethanol 5.0 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	300 5% 331 10% 374 50%

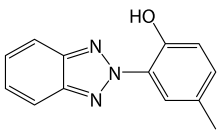
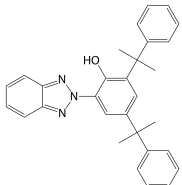
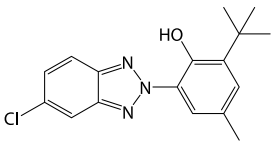
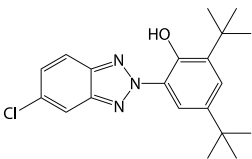
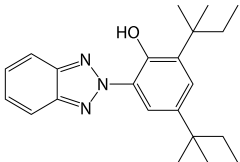
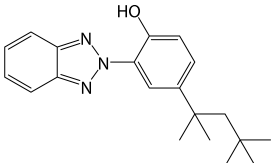
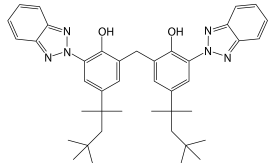
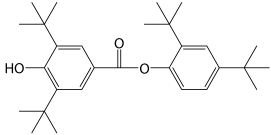
Hindered Amine Light Stabilizers (HALS)

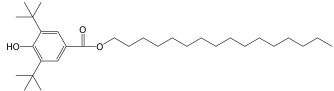
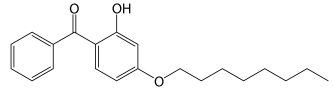
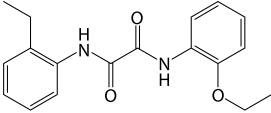
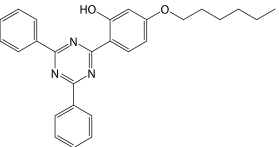
		Molecular Weight	Melting Range (°C)	Solubility (g/100 g solvent at 25°C)	TGA (°C, % mass loss)
SABO®STAB UV 40 1,6-hexanediamine, N,N'-bis(2,2,6,6-tetramethyl-4-piperidinyl)-, polymer with 2,4,6-trichloro-1,3,5-triazine, reaction products with N-butyl-1-butanamine and N-butyl-2,2,6,6-tetramethyl-4-piperidinamine CAS NO. 192268-64-7 MB		2600 ~ 3400	120.0 ~ 150.0	n-Hexane > 50.0 Acetone > 50.0 Water < 0.0001	390 5% 420 10%
SABO®STAB UV 62 Butanedioic acid, 1,4-dimethyl ester, polymer with 4-hydroxy-2,2,6,6-tetramethyl-1-piperidine-ethanol CAS NO. 65447-77-0 PW, BD		3100 ~ 4000	(Softening) 50.0 ~ 70.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 39.0 Ethanol < 0.1 Toluene 7.1 Xylene 35.0 Ethyl acetate 21.0	334 5% 342 10% 366 50%
SABO®STAB UV 65 Bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate CAS NO. 41556-26-7 LQ		509	—	Squalane > 50.0 n-Hexane > 50.0 Acetone > 50.0 Ethanol > 50.0 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	265 5% 293 10% 347 50%
SABO®STAB UV 70 Bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate CAS NO. 52829-07-9 GR		481	81.0 ~ 85.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 35.0 Ethanol > 50.0 Toluene > 50.0 Xylene 49.0 Ethyl acetate 38.1	249 5% 264 10% 301 50%
SABO®STAB UV 78 Mixture of SABO®STAB UV 62 and SABO®STAB UV 94 BD	SABO®STAB UV 62 : SABO®STAB UV 94 = 1 : 1	—	—	—	—
SABO®STAB UV 79 1,6-hexanediamine, N1, N6-bis(2,2,6,6-tetramethyl-4-piperidinyl)-, polymer with 2,4-dichloro-6-(4-morpholinyl)-1,3,5-triazine CAS NO. 82451-48-7 PS		1440 ~ 1760	90.0 ~ 100.0	Acetone 67.0 Toluene 25.0 Ethyl acetate 62.0	400 5% 415 10%
SABO®STAB UV 91 Fatty acids, C12-21 and C18-unsaturated, 2,2,6,6-tetramethyl-4-piperidinyl esters CAS NO. 167078-06-0 SL	 n=10-19 mainly 14-16	—	> 28.0	Squalane 1.0 n-Hexane 0.5 Acetone 1.5 Ethanol 8.5 Toluene 29.0 Xylene 23.2 Ethyl acetate 2.5	227 5% 241 10% 278 50%

<p>SABO®STAB UV 91 50 PP</p> <p>2,2,6,6-tetramethylpiperidine-4-yl-hexadecanoate and 2,2,6,6-tetramethylpiperidine-4-yl-octadecanoate</p> <p>CAS NO. 86403-32-9 (EU) 167078-06-0 (rest of the world)</p> <p>GR</p>		-	-	<p>n-Hexane 49.0 Acetone 2.2 Ethanol 37.0 Toluene 25.0 Ethyl acetate 4.0 Water < 0.01</p>	<p>248 5% 261 10%</p>
<p>SABO®STAB UV 94</p> <p>1,6-hexanediamine, N,N'-bis(2,2,6,6-tetramethyl-4-piperidyl)-, polymer with 2,4,6-trichloro-1,3,5-triazine, reaction products with 2,4,4-trimethyl-2-pentanamine</p> <p>CAS NO. 70624-18-9</p> <p>BD</p>		2000 ~3100	(Softening) 100.0 ~ 135.0	<p>Squalane < 0.05 n-Hexane 6.0 Acetone > 50.0 Ethanol < 0.1 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0</p>	<p>403 5% 426 10% 472 50%</p>
<p>SABO®STAB UV 119</p> <p>1,3,5-triazine-2,4,6-triamine, N₂,N₂'-1,2-ethanediylbis [N₂-[3-[[4,6-bis[butyl(1,2,2,6,6-pentamethyl-4-piperidyl)amino]-1,3,5-triazin-2-yl]amino]propyl]-N',N''-dibutyl-N',N''-bis(1,2,2,6,6-pentamethyl-4-piperidyl)-</p> <p>CAS NO. 106990-43-6</p> <p>PS</p>		2286	115.0 ~ 150.0	<p>Squalane < 0.05 n-Hexane < 0.1 Acetone 0.2 Ethanol < 0.1 Toluene 25.0 Xylene 24.0 Ethyl acetate 0.9</p>	<p>362 5% 381 10% 457 50%</p>
<p>SABO®STAB UV 228 50 PP</p>	For automotive interior use (e.g., dashboards or door panels); for building and construction applications (e.g., TPO roofing membranes)				
<p>SABO®STAB UV 229 50 PP</p>	For automotive interior use (e.g., dashboards or door panels); for building and construction applications (e.g., TPO roofing membranes)				



UV Absorbers (UVAs)

		Molecular Weight	Melting Range (°C)	Solubility (g/100 g solvent at 25°C)		TGA (°C, % mass loss)	
SONGSORB® 1000 2-(2'-hydroxy-5'-methylphenyl) benzotriazole CAS NO. 2440-22-4 PW		225	128.0 ~ 132.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 3.0 Ethanol < 0.1 Toluene 7.1 Xylene 6.1 Ethyl acetate 5.1	225 242 289	5% 10% 50%	
SONGSORB® 2340 2-[2-hydroxy-3,5-di(1,1-dimethylbenzyl) phenyl]-2H-benzotriazole CAS NO. 70321-86-7 PW, FF		448	137.0 ~ 141.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 2.5 Ethanol < 0.1 Toluene 18.1 Xylene 13.1 Ethyl acetate 5.1	337 357 409	5% 10% 50%	
SONGSORB® 3260 2-(2'-hydroxy-3'-tert-butyl-5'-methylphenyl)-5-chlorobenzotriazole CAS NO. 3896-11-5 PW		316	138.0 ~ 141.0	Squalane 0.7 n-Hexane 1.5 Acetone 1.5 Ethanol 0.1 Toluene 10.4 Xylene 11.8 Ethyl acetate 3.2	217 232 287	5% 10% 50%	
SONGSORB® 3270 2-(2'-hydroxy-3',5'-di-tert-butylphenyl)-5-chlorobenzotriazole CAS NO. 3864-99-1 PW		358	154.0 ~ 157.0	Squalane 0.9 n-Hexane 4.0 Acetone 2.0 Ethanol 0.1 Toluene 23.3 Xylene 20.6 Ethyl acetate 6.2	223 239 290	5% 10% 50%	
SONGSORB® 3280 2-(2'-hydroxy-3',5'-di-tert-amylphenyl)benzotriazole CAS NO. 25973-55-1 PW		352	80.0 ~ 88.0	Squalane 3.3 n-Hexane 20.0 Acetone 8.0 Ethanol 0.3 Toluene < 50.0 Xylene < 50.0 Ethyl acetate 30.0	222 236 283	5% 10% 50%	
SONGSORB® 3290 2-(2H-benzotriazole-2-yl)-4-(1,1,3,3-tetramethylbutyl) phenol CAS NO. 3147-75-9 PW, FF		323	103.0 ~ 105.0	Squalane 0.3 n-Hexane 6.0 Acetone 11.5 Ethanol < 0.1 Toluene 44.7 Xylene 49.0 Ethyl acetate 21.3	223 243 302	5% 10% 50%	
SONGSORB® 3600 Bis[2-hydroxy-5-tert-octyl-3-(benzotriazole-2-yl)phenyl] methane CAS NO. 103597-45-1 PW, FF		659	192.0 ~ 198.0	Squalane < 0.05 n-Hexane < 0.1 Acetone < 0.1 Ethanol < 0.1 Toluene 3.7 Xylene 2.6 Ethyl acetate 0.4	369 393 449	5% 10% 50%	
SONGSORB® 7120 2,4-di-tert-butylphenyl-4'-hydroxy-3',5'-di-tert-butyl benzoate CAS NO. 4221-80-1 PW		439	194.0 ~ 197.0	Squalane < 0.05 n-Hexane 0.8 Acetone 11.0 Ethanol 0.3 Toluene 16.4 Xylene 10.0 Ethyl acetate 13.2	252 268 318	5% 10% 50%	

SONGSORB® 2908 Hexadecyl-3,5-di-tert-butyl-4-hydroxybenzoate CAS NO. 67845-93-6 PW		475	55.0 ~ 65.0	Squalane 0.9 n-Hexane 35.0 Acetone 14.0 Ethanol 0.6 Toluene > 50.0 Xylene > 50.0 Ethyl acetate 26.0	271 288 349	5% 10% 50%
SONGSORB® 8100 2-hydroxy-4-n-octoxybenzophenone CAS NO. 1843-05-6 PW		326	> 47.0	Squalane 0.3 n-Hexane 18.0 Acetone > 50.0 Ethanol 1.0 Toluene > 50.0 Xylene > 50.0 Ethyl acetate > 50.0	280 297 344	5% 10% 50%
SABO®STAB UV 312 2-ethyl-2'-ethoxy-oxanilide CAS NO. 23949-66-8 PW		312	124.0 ~ 128.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 4.0 Ethanol < 0.1 Toluene 7.3 Xylene 5.2 Ethyl acetate 5.0	266 286 333	5% 10% 50%
SONGSORB® 1577 2-(4,6-diphenyl-1,3,5-triazin-2-yl)-5-hexyloxyphenol CAS NO. 147315-50-2 PW		425	147.0 ~ 151.0	Squalane < 0.05 n-Hexane < 0.1 Acetone 0.2 Ethanol < 0.1 Toluene 6.3 Xylene 5.5 Ethyl acetate 0.8	313 329 378	5% 10% 50%

All SABO®STAB products are exclusively produced by SABO S.p.A.



Binary Blends

Product Name	SONGNOX® 1680	SONGNOX® 1010	SONGNOX® 1076	SONGNOX® 3114	SONGNOX® 1024	Physical Forms
SONGNOX® 11B	1	1	0	0	0	PW, FF
SONGNOX® 21B	2	1	0	0	0	PW, FF
SONGNOX® 31B	3	1	0	0	0	PW, FF
SONGNOX® 35B	3	5	0	0	0	PW, FF
SONGNOX® 41B	4	1	0	0	0	PW, FF
SONGNOX® 43B	4	3	0	0	0	PW, FF
SONGNOX® 56B	5	6	0	0	0	PW, FF
SONGNOX® 117B	1	0	1	0	0	PW, FF
SONGNOX® 217B	2	0	1	0	0	PW, FF
SONGNOX® 317B	3	0	1	0	0	PW, FF
SONGNOX® 417B	4	0	1	0	0	PW, FF
SONGNOX® 147B	1	0	4	0	0	PW, FF
SONGNOX® 311B	1	0	0	1	0	PW, FF
SONGNOX® 321B	2	0	0	1	0	PW, FF
SONGNOX® 331B	3	0	0	1	0	PW, FF
SONGNOX® 1711B	0	1	1	0	0	PW, FF
SONGNOX® 1911B	0	1	0	0	1	PW, FF

One Pack System Blends (OPS)

SONGNOX® OPS (One Pack Systems) are customized additive blends that are available in different physical forms. OPS products increase operational efficiency and can lower overall additivation costs.

SONGXTEND® – Stabilizer Solutions

- **SONGWON solutions for polypropylene film grades**
SONGXTEND® 1101, SONGXTEND® 1102
- **SONGWON solutions for the stabilization of polypropylene fiber and thin walled injection molded grades**
SONGXTEND® 1140, SONGXTEND® 1141
- **SONGWON solutions for high heat stabilization for polypropylene based automotive applications**
SONGXTEND® 2121, SONGXTEND® 2122, SONGXTEND® 2123, SONGXTEND® 2124

Standard Packaging

- **Antioxidants, Solids:** 20 kg PE Bag
(20 kg aluminum coated bags for SONGNOX® 6260, 6280 and 621B)
500 kg Big Bag
for US and selected products only: 50 kg Fiber Drum
- **Antioxidants, Liquids:** 200 kg Steel Drum
900 kg IBC
20 MT ISO Tank
- **Thioesters:** 20 kg PE Bag (SONGNOX® 4120: 25 kg Carton Box)
- **Hindered Amine Light Stabilizers:** 25 kg PE Bag
(for SABO®STAB 119: 15 kg PE Bag; for SABO®STAB 312: 20 kg PE Bag)
- **UV Absorbers:** 20 kg Carton Box
25 kg Carton Box

Standard pallet size is CP1.

Key to Abbreviations of Physical Forms

- | | | | |
|------------------------|-------------------------------|---------------------------------|-----------------------------|
| • PW: Powder | • DW: Dispersion | • BD: Beads | • GR: Granule |
| • SB: Semi Bead | • MB: Micro Beads | • DF: Dust Free Flow | • FG: Fine Grind |
| • SL: Solid | • FC: Fusion Crystal | • CP: Crystalline Powder | • VL: Viscous Liquid |
| • FF: Free Flow | • LQ: Liquid or Molten | • PS: Pastilles | |



Transport and Storage

As a general guideline, we recommend storing the products mentioned in this brochure in their original sealed containers in a cold and dry place. For more detailed information on a specific product, please refer to the corresponding **Technical Data Sheet**.

By law, a number of chemical products must be labeled in respect of transport, storage and handling. Thus corresponding care is a prerequisite for their appropriate handling. Furthermore, local legal regulations may apply.

Detailed information is given in the respective **Safety Data Sheets**.

About SONGWON Industrial Group

SONGWON, which was founded in 1965 and is headquartered in Ulsan, South Korea, is a leader in the development, production and supply of specialty chemicals.

The second largest manufacturer of polymer stabilizers worldwide, SONGWON Industrial Group operates companies all over the world, offering the combined benefits of a global framework and readily accessible local organizations.

Dedicated experts work closely together with customers to develop tailor-made solutions that meet individual requirements.

For further information, please go to:
www.songwon.com





For further information, please go to:

www.songwon.com

techservice@songwon.com

SONGWON provides customers with warranties and representations as to the chemical or technical specifications, compositions and/or the suitability for use for any particular purpose exclusively in individual written agreements.

The facts and figures contained herein have been carefully compiled to the best of SONGWON's knowledge but are essentially intended for informational purposes only.

SONGWON Industrial Group does not accept any liability whatsoever for any information, reference or advice provided in this document or any similar SONGWON publication.

Version 3, September 2017