



Adhesives & Sealants

Long-lasting protection against degradation caused by light and heat

Additives such as antioxidants, UV absorbers and hindered amine light stabilizers enable formulators to create durable adhesives and sealants, thereby extending the life of adhesively bonded goods. These high-performance products are therefore key to sustainable product development in a circular economy. Leading specialty chemicals manufacturer SONGWON Industrial Group offers a comprehensive range of high-value, best-in-class additives.

It's all about **the chemistry™**

 **SONGWON**

SONGWON offers a broad range of coating, adhesive and sealant stabilizers and photoinitiators

Although often invisible, adhesives and sealants are part of our daily lives. They ensure that our food is packaged and advertised safely, that our houses are wind- and waterproof, and that our communication and mobility needs are served in safe and efficient ways. Thousands of everyday items such as mobile phones, washing machines, personal hygiene products, shoes, clothing, building products, batteries, automobiles, trains, ships and airplanes are nowadays only practicable thanks to the use of high-performance adhesives and sealants.

SONGNOX® CS antioxidants and SONGSORB® CS UV absorbers & light stabilizers for durability

A broad range of chemistries and polymeric organic materials is required to cover the myriad bonding parameters of adhesives and sealants. Polymers and organic materials have an inherent tendency to change properties and degrade throughout their value chain – from manufacturing, processing, transportation and storage right to end use. Stabilizers are key elements for the formulation of top-class coatings, adhesives and sealants.

SONGCURE® CS Photoinitiators allow efficient curing of UV systems

Photoinitiators are essential to the radiation curing process. Whether used individually or in combination, they can accelerate curing and improve the final properties – such as chemical resistance and adhesion – of the cured coating, ink or adhesive. Appropriate choice is therefore essential to achieve the desired curing performance and end-product characteristics.



The most important adhesive technologies

Acrylic

Acrylic chemistry provides a highly versatile platform for the creation of adhesives and sealants. It is mostly used for water-based acrylic dispersion adhesives for paper, wood and pressure-sensitive applications. Solvent-based acrylic adhesives provide high-performance characteristics thanks to higher molecular weights and crosslinking mechanisms. Reactive acrylics can be used in 1K anaerobic cure systems or as liquid adhesives that crosslink under UV radiation. 2K acrylic adhesives enable structural bonding through peroxide-induced crosslinking.

Polyurethane

Polyurethane, a reaction product of polyalcohols (polyols) and multifunctional isocyanates, offers numerous options for the creation of adhesive systems. Typical applications are solvent- or water-based thermoplastic polyurethane solutions/dispersions for film lamination processes or shoe construction. 1K moisture-cure polyurethane systems are available as liquids, hot-melt adhesives or paste-like sealants. Application areas range from load-bearing wood, textile bonding and furniture manufacturing to glass bonding for automotive and construction end uses. In applications where no moisture is available, for example composite panels or metal working, polyurethane 2K types come into play. Their exceptional versatility makes them suitable for end uses ranging from very soft and flexible products to highly resilient products and even structural applications.

Hot melts

Hot melts, a type of adhesive that covers several different polymer classes, are applied at the molten stage. Depending on their composition, they can be heat-activated, pressure-sensitive, or moisture- or UV-crosslinkable. Hot melts are formulated from various polymer platforms, for example from olefinic polymers and copolymers, or from styrene-, isoprene- or butadiene-block copolymers (SBC). Alternatively, hot melt adhesives can be based on polyurethane or acrylic chemistry. Free of solvents and water, they are suitable for a broad variety of applications, ranging from paper, packaging, foam bonding, medical devices and hygiene products to automotive interior materials.

Silane-modified polymers

Modification of polymer backbone structures with a reactive silane group provides the industry with a class of materials with numerous valuable features. Polyether or polyurethane backbones are end-capped with silanes to form polymers that can be formulated to produce room-temperature, moisture-cure sealants, adhesives and coatings. These can be used to manufacture isocyanate-free 1K or 2K products for building, construction, roofing, marine and transportation applications, thanks to the availability of materials and the variety and versatility of formulation options.

Epoxies

Epoxy adhesives are the products of choice when it comes to high-temperature performance requirements. Epoxies can be formulated as liquids, pastes, films or solids and are suitable for 1K or 2K room-temperature curing or 1K hot-cure systems. Performance characteristics are dictated by the choice of epoxy resins or mixtures thereof and the reaction mechanism. Curing agents include primary and secondary amines, polyamides, polythiols and anhydrides. Epoxy systems exhibit high adhesion and very high shear strength, forming rigid structural bonds with a broad range of substrates. Application areas include automotive, marine, aerospace, construction, composites, electronics and optical instruments.

A wide array of bonding solutions

The adhesive systems described above are just some of the options available today. Numerous niche technologies have been developed for the broad variety of applications. Working together with customers, SONGWON's research and development teams design specific solutions to support the industry in mastering existing and future bonding challenges.

Antioxidants (AO)

	Physical form	Acrylic			UV curing	Polyurethane			Hot melt	Styrene block copolymers (SIS, SBS, SEBS, etc.)			Silane-modified polymers	
		Waterborne	Solventborne	Reactive		Waterborne	Solventborne	Reactive		Olefinic	Acrylic	Epoxy		
SONGNOX® CS 1010	solid	■	■	■					■	■				
SONGNOX® CS 1076	solid		■	■			■	■	■	■	■			
SONGNOX® CS 2450	solid		■	■			■	■		■			■	■
SONGNOX® CS 2450 WB	liquid	■				■								
SONGNOX® CS 1035	solid						■	■						■
SONGNOX® CS 1135	liquid						■	■					■	■
SONGNOX® CS 4425	solid								■	■				
SONGNOX® CS 565	solid								■	■				
SONGNOX® CS 1680	solid		■	■					■	■	■			
SONGNOX® CS 6260	solid		■	■					■	■				
SONGNOX® CS PQ	solid								■	■				
SONGNOX® CS DSTDP	solid						■	■	■	■				
SONGNOX® CS DTDTP	liquid						■	■						
SONGNOX® CS 11B	solid		■						■	■				
SONGNOX® CS 21B	solid		■						■	■				
SONGNOX® CS 31B	solid		■						■	■				
SONGNOX® CS 41B	solid		■						■	■				
SONGNOX® CS 417B	solid		■						■	■	■			

The products listed in the grey cells are liquid

■ Recommended ■ Suitable



UV Absorbers (UVA)

	Physical form	Acrylic	Waterborne	Solventborne	Reactive	UV curing	Polyurethane	Waterborne	Solventborne	Reactive	Hot melt	Olefinic	Styrene block copolymers (SIS, SBS, SEBS, etc.)	Acrylic	Silane-modified polymers	Epoxy
SONGSORB® CS 1130	liquid							■	■						■	■
SONGSORB® CS 928	solid										■	■	■		■	
SONGSORB® CS 329	solid		■	■	■							■	■	■		
SONGSORB® CS 328*	solid							■	■			■	■	■	■	
SONGSORB® CS 326	solid		■	■	■							■	■	■	■	
SONGSORB® CS 326 WB	liquid	■					■									
SONGSORB® CS 384-2	liquid		■	■	■			■	■						■	■
SONGSORB® CS 900	solid										■	■	■			
SONGSORB® CS 81	solid										■	■	■			
SONGSORB® CS 312	solid							■	■			■	■	■	■	
SONGSORB® CS UV1	liquid							■	■							■
SONGSORB® CS 3035	solid											■	■	■		
SONGSORB® CS 1577	solid											■	■	■		
SONGSORB® CS 400	liquid		■	■	■			■	■						■	■
SONGSORB® CS 400 WB	liquid	■					■	■	■							

Hindered Amine Light Stabilizers (HALS)

SONGSORB® CS 292	liquid		■	■	■			■	■						■	■
SONGSORB® CS 770	solid		■	■	■							■	■	■	■	
SONGSORB® CS 622	solid							■	■			■	■	■	■	
SONGSORB® CS 119	solid		■	■	■							■	■	■	■	
SONGSORB® CS 944	solid		■	■	■							■	■	■	■	
SONGSORB® CS 144	solid							■	■			■	■	■	■	
SONGSORB® CS 5100	liquid		■	■	■										■	
SONGSORB® CS AQ01	liquid	■	■	■	■		■								■	

Photoinitiators

SONGCURE® CS 184	solid				■									■		
SONGCURE® CS 1173	liquid				■									■		
SONGCURE® CS 651	solid				■									■		
SONGCURE® CSTPO	solid				■									■		
SONGCURE® CSTPO-L	liquid				■									■		
SONGCURE® CS 819	solid				■									■		

The products listed in the grey cells are liquid

*not available in all countries

■ Recommended ■ Suitable

Key to Abbreviations of Physical Forms

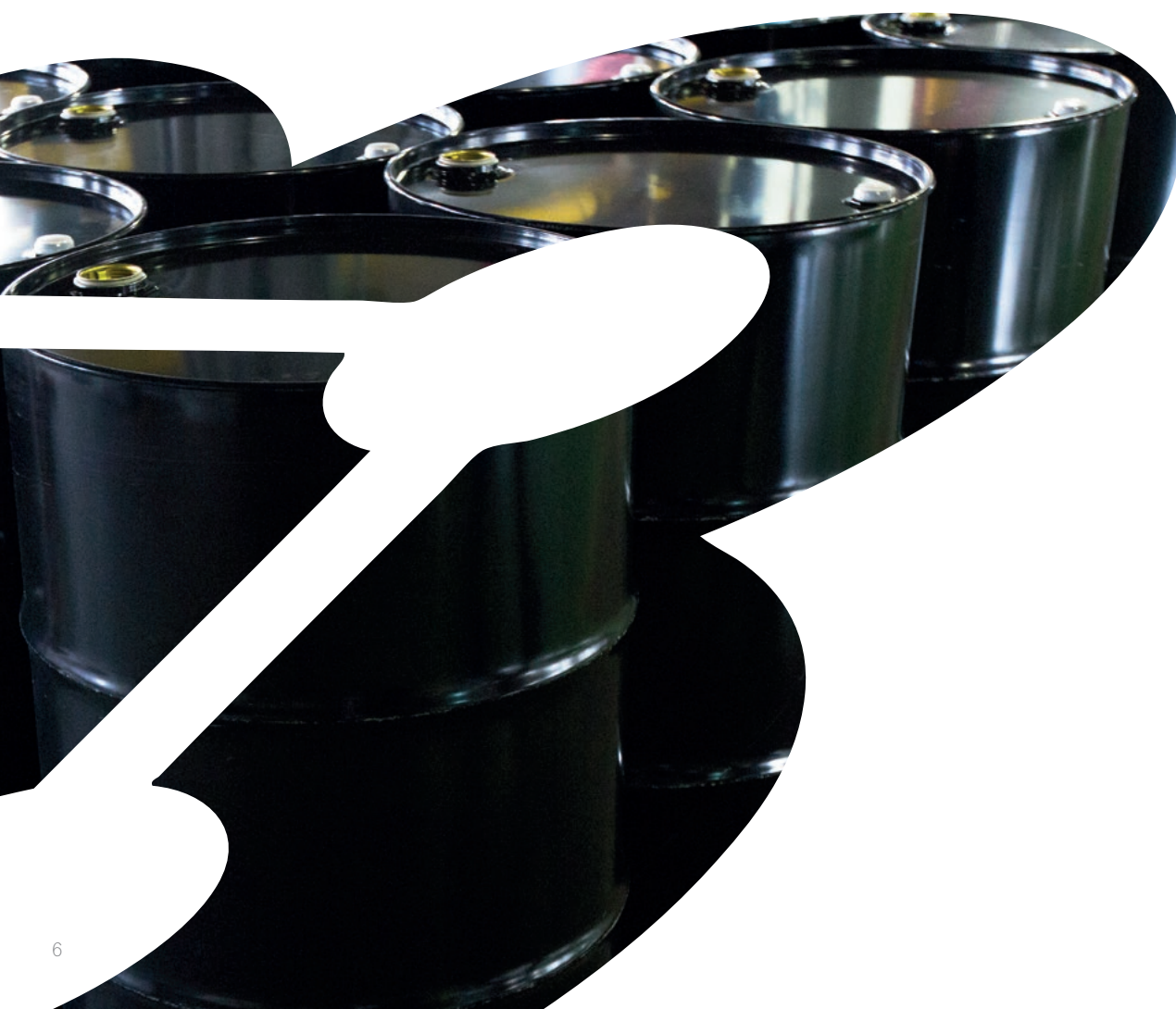
- **PW:** Powder
- **SB:** Semi Bead
- **SL:** Solid
- **FF:** Free Flow
- **DW:** Dispersion
- **MB:** Micro Beads
- **FC:** Fusion Crystal
- **LQ:** Liquid or Molten
- **BD:** Beads
- **DF:** Dust Free Flow
- **CP:** Crystalline Powder
- **PS:** Pastilles
- **GR:** Granule
- **FG:** Fine Grind
- **VL:**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

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 operates group 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





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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.

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