SONGCURE® CS Photoinitiators for high-performance UV curing applications

SONGWON is a leading producer of specialty chemicals for UV-curable applications.

Photoinitiators are crucial to UV curing.

SONGWON has designed a range to help customers achieve numerous different formulations, for applications ranging from non-pigmented clear coats to highly pigmented systems.



It's all about the chemistry™

# The key element in the fastest-growing coating technology

## Wide range of photoinitiators



Simple, cost-effective solutions High efficiency, low toxicity

## Proven reliability



More than 50 years' manufacturing experience

Backward integration of key raw materials

Global sales organization and distribution network

#### Technical expertise



Coating laboratory in South Korea Dedicated local support centers World class production facility in Asia

#### Strong commitment



Continuous innovation to meet new industry standards and product requirements Expert services worldwide

## SONGCURE<sup>®</sup> CS photoinitiators enable customers to overcome a wide variety of formulation challenges.

Photoinitiators are essential to the radiation curing process. Whether used on their own or in combination, they can impact the curing speed and 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 results, and tests should be performed to determine the right amounts and achieve the required speed and reactivity.

SONGCURE® CS 184 and SONGCURE® CS 1173 are designed for unpigmented clear coating systems, while SONGCURE® CS TPO is suitable for highly pigmented systems and applications requiring low odor and low yellowing.

SONGWON's team of experts is there to help customers develop new products or suggest the best curing package for specific applications.

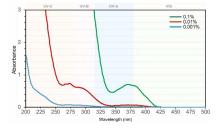
## SONGWON's range of photoinitiators covers a wide variety of requirements

	Structure	Chemical class	Chemical name	Appearance	Features
SONGCURE® CS 184		$\alpha$ -Hydroxyketone	1-Hydroxy-cyclohexyl- phenyl-ketone	White to off- white crystalline powder	<ul> <li>Recommended for clear wood, plastic, metal and UV-stabilized coatings</li> <li>Suitable for overprint varnishes</li> </ul>
SONGCURE® CS 1173	О СН, С-С-ОН СН,	<b>α</b> -Hydroxyketone	2-Hydroxy-2-methyl-1- phenyl-propan-1-one	Colorless to slightly yellow liquid	<ul> <li>Recommended for clear wood, plastic, metal and UV-stabilized coatings</li> <li>Suitable for overprint varnishes</li> </ul>
SONGCURE <sup>®</sup> CS 651		Benzyldimethyl-ketal	2,2-Dimethoxy-1,2- diphenylethan-1-one	White to light yellow crystalline powder	- Suitable for pigmented wood, plastic, metal and powder coatings
SONGCURE® CSTPO-L		Phosphine oxide	Ethyl phenyl (2,4,6-trimethylbenzoyl) phosphinate	Colorless to yel- lowish liquid	<ul> <li>Recommended for pigmented UV-curable coatings, printing inks and low-odor formulations</li> <li>Suitable for UV-stabilized topcoats for exterior coating applications</li> </ul>
SONGCURE® CSTPO		Mono acyl phosphine (MAPO)	Diphenyl (2.4,6-trimethylbenzoyl) phosphine oxide	Yellowish crystal powder	<ul> <li>Recommended for UV-stabilized clear coatings</li> <li>Suitable for pigmented wood, plastic and metal coatings and inks</li> </ul>
SONGCURE® CS 819		Bis acyl phosphine (BAPO)	Phenylbis (2,4,6-trimethylbenzoyl) phosphineoxide	Pale yellow crystal	<ul> <li>Recommended for pigmented wood, plastic, metal and powder coatings</li> <li>Suitable for UV-stabilized clear coatings and inks</li> </ul>

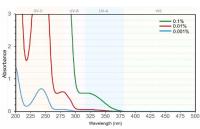
## Absorption spectrum (% in acetonitrile)



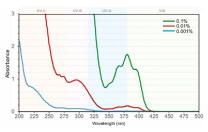
SONGCURE® CS TPO-L



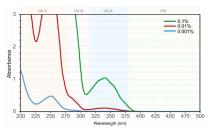
## SONGCURE® CS 1173



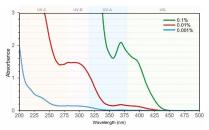
#### SONGCURE® CS TPO



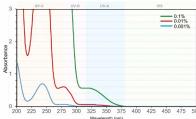
#### SONGCURE® CS 651



#### SONGCURE® CS 819









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.

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