



Tin Intermediates and Catalysts

Extensive and long-standing
experience in tin intermediates

SONGWON makes use of its expertise in alkyl tin oxides to refine processes for producing organotin compounds based on butyl and octyl oxide (DBTO and DOTO). Applications include electrodeposition coatings, tin catalysts and stabilizers for PVC.

Butyl and octyl oxides are the main catalysts used in electrodeposition coating technology, which is applied extensively in the global automotive industry.

Tin catalysts based on butyl, methyl and octyl derivatives support various chemical reactions such as esterification.

Tin stabilizers prevent degradation of PVC resins, which require particularly high heat resistance.

Customers can select from a wide range of SONGWON's tin intermediates, depending on applications and requirements.

It's all about **the chemistry™**



Product range selection guide

		Electrodeposition	Urethanes	Electrical conductive films	Glass coatings	Saturated polyesters	Unsaturated polyesters	PVC stabilization	Acryl acid esters	Silicones	Dense coatings	Organic chemistry	Drugs
Butyltin Compounds	SONGCAT™ DBTO	■	■			■	■	■	■	■			
	SONGCAT™ MBTC			■	■			■	■		■		
	SONGCAT™ TBT							■				■	■

Octyltin Compounds	SONGCAT™ DOTO	■				■	■	■	■	■			
	SONGCAT™ DOTC					■	■	■	■	■		■	■
	SONGCAT™ TOT							■				■	■

Methyltin Compounds	SONGCAT™ DMTC		■	■	■			■			■		
	SONGCAT™ MTW-50		■	■	■			■			■		
	SONGCAT™ MTM-70		■								■		

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Recommended

■

Suitable

Tin Intermediates

		Molecular Weight	Sn Content (%)	Specific Gravity	Bulk Density at 20°C	Applications
SONGCAT™ DBTO Di-n-butyltin oxide CAS NO. 818-08-6 PW, DF	$(C_4H_9)_2-Sn=O$	248.9	47.5 ± 0.5	—	approx. 0.6 g/ml (PW) approx. 0.8 g/ml (DF)	<ul style="list-style-type: none"> Intermediate for outstanding heat-resistant and weatherable butyltin PVC stabilizers Catalyst for electrodeposition paints Catalyst for esterification and trans-esterification reaction Raw material for polyurethane catalysts
SONGCAT™ MBTC Mono-n-butyltin trichloride CAS NO. 1118-46-3 LQ	$C_4H_9-Sn-Cl_3$	282.2	> 41.0	1.70 ~ 1.75 g/ml (at 25°C)	—	<ul style="list-style-type: none"> Intermediate for butyltin PVC stabilizers Protection against damage caused by extraneous contact on glass surfaces Humidity reduces stability
SONGCAT™ TBT Tetra butyltin CAS No. 1461-25-2 LQ	$(C_4H_9)_4-Sn$	347.1	> 33.0	1.06 ~ 1.09 g/ml (at 20°C)	—	<ul style="list-style-type: none"> Intermediate for non-toxic FDA-approved butyltin PVC stabilizers Raw material for manufacturing organotin compounds
SONGCAT™ DOTO Di-n-octyltin oxide CAS NO. 870-08-6 PW, DF	$(C_8H_{17})_2-Sn=O$	361.1	32.7 ± 0.5	—	approx. 0.6 g/ml (PW) approx. 0.6 g/ml (DF) approx. 0.2 g/ml (FPW)	<ul style="list-style-type: none"> Intermediate for non-toxic FDA-approved octyltin PVC stabilizers Catalyst for electrodeposition paints Raw material for polyurethane catalysts
SONGCAT™ DOTC Di-octyltin dichloride CAS NO. 3542-36-7 SL	$(C_8H_{17})_2-Sn-Cl_2$	416.1	28.0 ± 1.0	1.15 ~ 1.18 g/ml (at 50°C)	—	<ul style="list-style-type: none"> Intermediate for non-toxic FDA-approved octyltin PVC stabilizers Raw material for manufacturing organotin compounds
SONGCAT™ TOT Tetra-octyltin CAS NO. 3590-84-9 LQ	$(C_8H_{17})_4-Sn$	571.6	> 20.0	0.92 ~ 0.99 g/ml (at 20°C)	—	<ul style="list-style-type: none"> Intermediate for non-toxic FDA-approved octyltin PVC stabilizers Raw material for manufacturing organotin compounds
SONGCAT™ DMTC Dimethyltin dichloride CAS NO. 753-73-1 SL	$(CH_3)_2-Sn-Cl_2$	219.7	> 53.0	—	—	<ul style="list-style-type: none"> Intermediate for methyltin PVC stabilizers Raw material for polyurethane catalysts Coating material for glass and protection against damage on glass surfaces Sourcing material for developing electrically conductive thin film
SONGCAT™ MTW-50 Dimethyltin dichloride and water mixture LQ	$(CH_3)_2-Sn-Cl_2$ H_2O	—	25.0 ~ 28.0	1.39 ~ 1.43 g/ml (at 25°C)	—	<ul style="list-style-type: none"> Used for manufacturing of organotin compounds Intermediate for methyltin PVC stabilizers Coating material for glass and protection against damage on glass surfaces Sourcing material for developing electrically conductive thin film
SONGCAT™ MTM-70 Dimethyltin dichloride and MeOH mixture LQ	$(CH_3)_2-Sn-Cl_2$ CH_3OH	—	36.0 ~ 38.0	1.40 ~ 1.48 g/ml (at 25°C)	—	<ul style="list-style-type: none"> Suitable for manufacturing organotin compounds Suitable for polyurethane form baking for carpet

Tin Catalysts

	Dosage (PHR)	Characteristics	Applications
SONGSTAB™ TL-100 Dibutyltin dilaurate LQ	(100 ~ 2000 ppm for Catalyst) 0.5 ~ 1.5	<ul style="list-style-type: none"> Pure dibutyltin dilaurate Slow cure catalyst for RTV (room temperature vulcanizing) silicone systems and PU foams and elastomers Excellent initial lubricity and weatherability Initial colorless products are obtainable when used in combination with other organotin, liquid organic stabilizers 	<ul style="list-style-type: none"> Catalyst for polyurethanes and silicone RTV Rigid, flexible PVC calenderings and extrudings
SONGSTAB™ TL-190 Dibutyltin dilaurate LQ	(100 ~ 2000 ppm for Catalyst) 0.5 ~ 1.5	<ul style="list-style-type: none"> Dibutyltin dilaurate Slow cure catalyst for RTV (room temperature vulcanizing) silicone systems and PU foams and elastomers Much lower freezing temperature than TL-100 Excellent initial lubricity and weatherability Initial colorless products are obtainable when used in combination with other organotin, liquid organic stabilizers 	<ul style="list-style-type: none"> Catalyst for polyurethanes and silicone RTV Rigid, flexible PVC calenderings and extrudings
SONGSTAB™ BT-300 Mono butyltin tris (2-ethylhexanoate) LQ	100 ~ 2,000 ppm	<ul style="list-style-type: none"> Catalyst has a moderate activity that allows a longer pot life for silicone emulsions and adhesives that cure at room temperature 	<ul style="list-style-type: none"> Catalyst for polyesters and silicone RTV
SONGSTAB™ TL-710 Diocetyl tin dilaurate LQ	100 ~ 2000 ppm	<ul style="list-style-type: none"> Slow cure catalyst for RTV (room temperature vulcanizing) silicone systems and PU foams and elastomers Less moisture sensitivity and higher activation temperature than conventional dibutyltin dilaurate 	<ul style="list-style-type: none"> Catalyst for polyurethanes and silicone RTV
SONGSTAB™ TL-720 Diocetyl tin dilaurate LQ	100 ~ 2000 ppm	<ul style="list-style-type: none"> Slow cure catalyst for RTV (room temperature vulcanizing) silicone systems and PU foams and elastomers Less moisture sensitivity and higher activation temperature than conventional dibutyltin dilaurate Much lower freezing temperature than TL-710 	<ul style="list-style-type: none"> Catalyst for polyurethanes and silicone RTV
SONGSTAB™ T-320 Diocetyl tin di-neodecanoate LQ	100 ~ 2000 ppm	<ul style="list-style-type: none"> Slow cure catalyst for RTV (room temperature vulcanizing) silicone systems and PU foams and elastomers Less moisture sensitivity and higher activation temperature than conventional dibutyltin dilaurate 	<ul style="list-style-type: none"> Catalyst for polyurethanes and silicone RTV
SONGSTAB™ MT-710 Dimethyltin di-neodecanoate LQ	100 ~ 2000 ppm	<ul style="list-style-type: none"> Moderate to rapid cure catalyst for RTV (room temperature vulcanizing) silicone systems and PU foams and elastomers When evaluating MT-710 in comparison to dibutyltin dilaurate (TL-100), an initial amount of one third is recommended 	<ul style="list-style-type: none"> Catalyst for polyurethanes and silicone RTV

Standard Packaging

- **DBTO, DOTO, Solids:** 20 kg Paper Bag
- **MBTC, Liquids:** 45 kg PE Drum
50 kg Steel Drum
- **DOTC, MTW-50, MTM-70, Liquids:** 220 kg Steel Drum
- **TOT, Liquids:** 200 kg Steel Drum

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:
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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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