

# Catalysts for 1K & 2K Polyurethane Systems

Tin-free metal carboxylates for urethanes



## Tin-free catalysts for polyurethane systems provide:

- Reduced cure times
  - Excellent mechanical properties
  - Prevention of labelling required for popular dibutyltin dilaurate (DBTDL) catalysts
- In the European Union, appropriate labelling is required in products with more than 0.1% DBTDL (which is classified as a Mutagen and Reproductive toxicant)

Product Name	Chemistry	Metal Content (%)	Use (%) <sup>*</sup>	Reactivity	Description
<b>Borchi® Kat 315 EU</b>	Bi	16	0.01-0.03	High	<ul style="list-style-type: none"> <li>▪ Solvent-free catalyst based on bismuth neodecanoate; specially designed for one- and two-component polyurethane systems and RTV silicones</li> <li>▪ Accelerates the chemical reaction between the polyol and isocyanate component of polyurethane foam systems</li> </ul>
<b>Borchi® Kat 21</b>	Bi	21	0.01-0.03	High	<ul style="list-style-type: none"> <li>▪ Highly reactive solvent-free catalyst based on bismuth neodecanoate for solventborne one- and two-component polyurethane clearcoats and pigmented coating systems</li> </ul>
<b>Borchi® Kat 24</b>	Bi	24	0.01-0.03	High	<ul style="list-style-type: none"> <li>▪ Solvent-free catalyst based on bismuth 2-ethylhexanoate; specially designed for one- and two-component polyurethane systems</li> <li>▪ Accelerates the chemical reaction between the alcohol and isocyanate component of polyurethane coatings systems, thus allowing optimum control of the drying properties</li> </ul>
<b>Borchers® Deca Copper 8</b>	Cu	8	0.001-0.010	Medium	<ul style="list-style-type: none"> <li>▪ Copper neodecanoate dissolved in white spirit</li> <li>▪ Provides longer processing time and lowers the exothermic peak of unsaturated polyester formulations</li> </ul>
<b>Borchers® Deca Potassium 12</b>	K	12	0.2-1.0	Low	<ul style="list-style-type: none"> <li>▪ Primary neodecanoate catalyst for rigid urethane foams, accelerator additive for unsaturated polyesters and pot life stabilizer for two-component polyurethane systems</li> <li>▪ Diluted in diethylene glycol</li> </ul>
<b>15% Potassium Hex-Cem® EU</b>	K	15	0.2-1.0	Low	<ul style="list-style-type: none"> <li>▪ Specially designed for unsaturated polyesters and pot life stabilizers for two-component polyurethane systems</li> <li>▪ Potassium 2-ethylhexanoate dissolved in diethylene diglycol which combined with cobalt supports the accelerating effect and discoloration of unsaturated polyesters dissolved in styrene, ultimately requiring less cobalt in the system</li> </ul>
<b>Borchi® Kat 15</b>	Zn	15	0.01-0.04	Low	<ul style="list-style-type: none"> <li>▪ Based on pure zinc neodecanoate with moderate reactivity for solventborne one- and two-component polyurethane coatings and other chemical systems</li> <li>▪ Diluted in dearomatized white spirit</li> </ul>
<b>Borchi® Kat 0761</b>	Zn	15	0.01-0.04	Low	<ul style="list-style-type: none"> <li>▪ Based on pure zinc neodecanoate with moderate reactivity for solventborne one- and two-component polyurethane coatings and other chemical systems</li> <li>▪ Diluted in fatty ester</li> </ul>
<b>Borchi® Kat 19</b>	Zn	19	0.01-0.03	Medium	<ul style="list-style-type: none"> <li>▪ Solvent-free catalyst based on zinc neodecanoate for solventborne one- and two-component polyurethane clearcoats and pigmented coating systems</li> </ul>
<b>Borchi® Kat 22</b>	Zn	22	0.01-0.03	Low	<ul style="list-style-type: none"> <li>▪ VOC- and solvent-free catalyst based on zinc 2-ethylhexanoate with moderate reactivity for solventborne and solvent-free one- and two-component polyurethane coatings and chemical synthesis</li> </ul>
<b>Borchi® Kat 0243</b>	Bi, Li	11.75	0.02-0.06	Medium	<ul style="list-style-type: none"> <li>▪ Catalyst based on a combination of metal neodecanoates for polyurethane reactions diluted in dearomatized white spirit</li> <li>▪ Especially for solventborne one- and two-component polyurethane clear coats and two-component polyurethane adhesives as well as for the modification of silicones</li> </ul>
<b>Borchi® Kat 0244</b>	Bi, Zn	24	0.01-0.03	Medium	<ul style="list-style-type: none"> <li>▪ VOC- and solvent-free catalyst based on a combination of metal carboxylates for polyurethane reactions</li> <li>▪ Especially for solventborne and solvent-free one- and two-component polyurethane clear coats and two-component polyurethane adhesives</li> </ul>
<b>Borchi® Kat 0245</b>	Zn, Ca	4	0.05-0.20	Low	<ul style="list-style-type: none"> <li>▪ Metal carboxylate-based catalyst with moderate reactivity especially for solventborne pigmented one- and two-component polyurethane coatings</li> <li>▪ Dissolved in xylene</li> </ul>

<sup>\*</sup>Calculated on total solid binder

Application recommendations and data on the back →

# Catalysts for 1K & 2K Polyurethane Systems

Tin-free metal carboxylates for urethanes



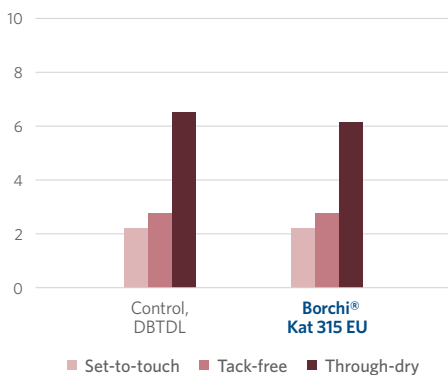
## Catalyst recommendations for specific applications

Metal	Product Name	Waterborne	Solventborne	Solvent-Free	Unsaturated Polyester	2-comp. PU Coatings		Silicones	
						Clear	Pigmented	RTV 2-	PU- mod.
Bismuth	Borchi <sup>®</sup> Kat 21	○	●	●	○	●	●	○	○
	Borchi <sup>®</sup> Kat 24	○	●	●	○	●	●	○	●
	Borchi <sup>®</sup> Kat 315 EU	○	●	●	○	●	●	●	●
Zinc	Borchi <sup>®</sup> Kat 15	○	●	○	○	●	●	○	●
	Borchi <sup>®</sup> Kat 0761	○	●	●	○	●	●	○	○
	Borchi <sup>®</sup> Kat 19	○	●	●	○	●	●	○	○
	Borchi <sup>®</sup> Kat 22	○	●	●	○	●	●	○	●
Mixed Metals	Borchi <sup>®</sup> Kat 0243	○	●	○	○	●	●	○	●
	Borchi <sup>®</sup> Kat 0244	○	●	●	○	●	●	○	○
	Borchi <sup>®</sup> Kat 0245	○	●	○	○	○	●	○	○
Potassium	Borchers <sup>®</sup> Deca Potassium 12	○	●	○	●	○	○	○	○
	15% Potassium Hex-Cem <sup>®</sup> EU	●	●	○	●	○	○	○	○
Copper	Borchers <sup>®</sup> Deca Copper 8	○	●	○	●	○	○	○	○

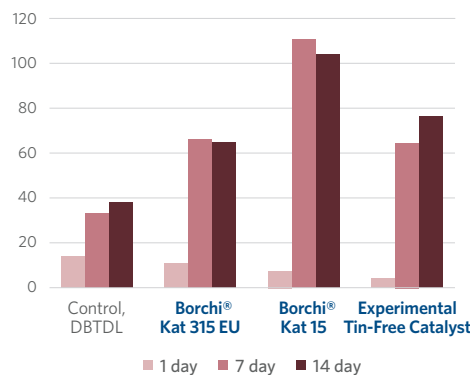
● Recommended   ● Suitable   ● Only in specific applications   ○ Not suitable

## Good dry times, hardness, and pot life with tin-free catalysts\* compared to DBTDL

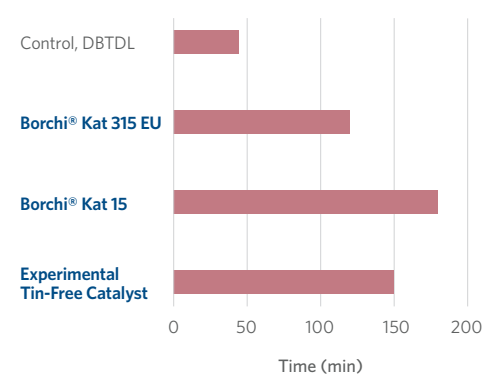
**Faster Through-Drying Times with Borchi<sup>®</sup> Kat 315 EU**  
in hours, white topcoat for protective and marine



**Better Hardness with Tin-Free Catalysts**  
in seconds, high solids white topcoat for metal



**Longer Pot Life with Tin-Free Catalysts**  
40°C, white topcoat for airmix and airless application



\*includes experimental tin-free catalyst currently in development



For more information, please reach us at [borchers.com/contact](http://borchers.com/contact)

PLEASE NOTE: As each customer's use of our product may be different, information we provide, including without limitation, recommendations, test results, samples, care/labelling/processing instructions or marketing advice, is provided in good faith but without warranty and without accepting any responsibility/liability. Each customer must test and be responsible for its own specific use, further processing, labelling, marketing, etc. All sales are exclusively subject to our standard terms of sale posted at [www.milliken.com/terms](http://www.milliken.com/terms) (all additional/different terms are rejected) unless explicitly agreed otherwise in a signed writing. Borchi is a trademark of Borchers Americas.

TIN-EU-11.11.24

