

# **Moisture Scavengers for Reduced Surface Defects**

## Additive TI<sup>™</sup> • Additive OF

for Solventborne 1K and 2K Polyurethane Systems

### Help prevent moisture-related issues such as gloss reduction, haze, and foam building

Product	Focus	Content	Dosage	Notes
Additive TI <sup>™</sup>	Short-term dehydration of raw materials	<ul> <li>100% active</li> <li>Transparent liquid</li> <li>Low viscous</li> <li>Highly reactive</li> </ul>	12 g additive is needed to react with 1 g water	<ul> <li>Add 50 - 100% more product to increase storage stability</li> <li>Processing period of ≈24 hours</li> <li>Do not add to the polyol component</li> </ul>
Additive OF	Package stabilizer for long-term dehydration	<ul><li>100% active</li><li>Transparent liquid</li><li>Low viscous</li></ul>	9 g additive is needed to react with 1 g water	<ul> <li>0.5 - 1.0% recommended for storage stability</li> <li>Can add directly to the polyol or isocyanate component</li> </ul>



#### Slow reaction (hours) with Additive OF 1.38 Refractive Index 1.375 1.37 1.365 1.36 1.355 0 500 1000 1500 2000 2500 3000 3500 Time (min)

- Additive OF (#4154002) - Ethanol - Additive OF (#601515C1) - Formic Acid Ethyl Ester

### **Reduced moisture in storage and final application**



Without Additive TI<sup>™</sup>

Gassing test in isocyanate component (2.4% water) stored at 23°C for 1 month



Without Additive TI<sup>™</sup> Additive TI"

### Improved long-term stability



Without Additive OF

Additive OF

Isocvanate hardener component (0.4% water) stored at 23°C for 4 months

Formulate with these additives together



# Use Moisture Scavengers <u>Together</u> for Optimal Results

### Additive TI<sup>™</sup> + Additive OF

for Solventborne 1K and 2K Polyurethane Systems

### For best surface appearance, add as little water as possible to your formulations



### Semi-gloss 1K polyurethane parquet clear coat

Raw Material	Material	Supplier	% by wt.
Vinylite VROH, 10% in butyl acetate	Vinyl resin	DOW	9.0
Methoxy propyl acetate	Solvent	-	20.0
Acematt TS 100	Silica	Evonik	1.3
Ceraflour 950	Matting additive	BYK	1.4
Borchi® Gol LA 200	Deaerator	Deaerator	
Borchi® Gol OL 17 LC, 10% in butyl acetate	Flow and leveling agent	Milliken	0.2
Additive TI <sup>™</sup>	Moisture scavenger		2.3
Desmodur E 1660	Aromatic polyisocyanate	Covestro	51.0
Desmodur E 1361	prepolymer		12.3
Additive OF	Moisture scavenger	Milliken	2.3
Total	100.0		

Chemical reaction of Additive OF with water (fast evaporating solvent, reduced viscosity, improved wetting, OH functional)  $OC_2H_5$   $C_2H_5O$  -C -H +  $H_2O$  + C + C +  $2C_2H_5OH$   $OC_2H_5$  $OC_2H_5$ 

Triethyl ortho formate

Formic acid ethyl ester Ethanol

Solids Co	ontent	approx. 42%
Binder C	ontent	approx. 40%
Flow time, DIN 53211-cup 4 mm, at 23°C		approx. 40s
Drying	Dust free:	approx. 30min
	Tack Free:	approx. 60min
Pendulum Hardness, DIN EN ISO 1522 after 1 day		approx. 120s

Homogenize const, 1-6, stir in const. 7, then stir slowly further for 30 min. After maturing for one day, stir in slowly const. 8-10 and homogenize



### For more information, please reach us at borchers.com/contact

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