

K-KAT[®] XK-651 Urethane Catalyst



Science Road
Norwalk, CT 06852
(800) 431-7900
Fax: (203) 866-1268
E-Mail: coatings@kingindustries.com

K-KAT XK-651 is a versatile bismuth carboxylate catalyst designed for blocked isocyanate, two component urethanes, and one and two component silane terminated coatings. K-KAT XK-651 is designed to provide improved hydrolytic stability compared to other bismuth carboxylate catalysts.

ADVANTAGES: Excellent replacement for tin catalysts
Can be used in ambient, force dry and bake systems
Excellent gloss retention
Excellent exterior durability
Improved hydrolytic stability compared to other bismuth carboxylates

TYPICAL PROPERTIES:	Appearance	Clear, amber liquid
	% Metal	25
	Specific gravity, 25°C	1.2

SOLUBILITY: K-KAT XK-651 is soluble in aromatics, aliphatics and glycol ethers. It has limited solubility in esters and alcohols. K-KAT XK-651 is insoluble in water.

APPLICATIONS: K-KAT XK-651 is recommended for 2K and blocked isocyanate coatings. K-KAT XK-651 can replace many heavy metal and/or toxic catalysts used in the production of urethane elastomers, foams and coatings.

TYPICAL USAGE LEVELS: 0.1-0.5% as supplied on total resin solids for 2-component polyurethanes.
1.0-2.5% as supplied on total resin solids for blocked isocyanates.

INCORPORATION: K-KAT XK-651 can be added directly to a single component blocked isocyanate system or the polyol component of a 2K system.

SHELF LIFE: 24 months from the date of manufacture, when stored at ambient conditions in the original container.

HANDLING & STORAGE: Safe handling of this product should include the use of a respirator, safety glasses and gloves. Avoid breathing vapors - use with adequate ventilation. K-KAT XK-651 is sensitive to moisture; therefore, exposure to atmosphere during storage should be avoided. Product should be stored in a cool, dry environment away from sunlight and excessive heat. Consult the Material Safety Data Sheet prior to use.

REGULATORY: Please refer to Section 15 of the Material Safety Data Sheet for information.

K-KAT XK-651 Improved Hydrolytic Stability vs. Competitor Bismuth Carboxylate

The graph below demonstrates improved stability with K-KAT XK-651 compared to a competitive bismuth catalyst in a 2-component urethane system. The graph includes surface dry times of films prepared with catalyzed polyol components that were aged for 5 weeks. The catalyst dosages were based on equal bismuth content on total resin solids (0.2% Bi), and the systems were spiked with 0.1% water based on total resin solids. The results show only a slight increase in the surface dry times of the films prepared with the aged K-KAT XK-651 catalyzed polyol components while the surface dry times of the films catalyzed with the competitor bismuth carboxylate increased significantly.

Polyol Component	Weight %
K-FLEX® XM-359	38.90
PM Acetate	29.95
Flow and leveling agent	0.14
Water	0.07
Isocyanate Component	
Hexamethylene diisocyanate biuret	30.94
	100.00
Formulation Characteristics	
NCO:OH	1.04
% water spike on total resin solids	0.1
Total Resin Solids, %	69.8

