

NIAX* Catalyst KST-100NPF

URETHANE ADDITIVES - FLEXIBLE SLABSTOCK FOAM



Niax catalyst KST-100NPF is a liquid, low odour, water soluble tertiary amine composition which may be an excellent candidate for the production of flexible polyester polyurethane foams. It does not contain nonylphenol ethoxylate

Niax catalyst KST-100NPF exhibits lower residual odour compared to highly odoriferous conventional ester foam catalysts, such as N-methylmorpholine, N-ethylmorpholine or dimethylbenzylamine.

Key Features and Typical Benefits

- although Niax catalyst KST-100NPF is more specific to the blowing reaction, it also promotes the gelling reaction. Therefore the concentration of typical cross-linking catalysts such as dimethylbenzylamine, dimethylhexadecylamine or dimethylpiperazine should be decreased, as compared with N-methylmorpholine or N-ethylmorpholine
- the compatibility of Niax catalyst KST-100NPF with typical polyester silicone stabilisers is extremely good. Stable and clear pre-mixes with a relatively low viscosity can be easily prepared
- Niax catalyst KST-100NPF may be used as the main catalyst for the production of flexible polyester foam used for lamination and die-cuttable applications

Typical Physical Properties	
Form	Liquid
Viscosity @ 20°C, cSt	27
Solubility in Water @ 20°C	Complete
Flash Point, Pensky Martens Closed Cup (ASTM D 93), °C	43
Freezing Point, °C	<0
Specific Gravity @ 20/20°C	0.965
Vapour Pressure @ 20°C, mbar (ASTM D93-80)	<15

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Formulations

The following are typical polyester slabstock formulations using Niax catalyst KST-100NPF:

Component	pphp			
Polyester polyol I _{OH} 50	100	100	–	–
Polyester polyol I _{OH} 60	–	–	100	100
Water	3.5	4.0	3.5	4.0
Niax catalyst KST-100NPF	0.7	0.6	0.8	0.7
Niax catalyst DMP	–	0.15	0.1	0.15
Niax silicone SE-232	1.0	1.0	1.0	1.0
TDI Index	95	105	105	105
T80/T65	100/0	100/0	50/50	50/50
Reactivity				
Cream Time, s	7	7	6	6
Rise Time, s	111	86	70	69
Physical Properties				
Density, kg/m ³	29.5	24.1	25.8	23.6
PPI	100	100	85	85

Moulded Polyether Foam

Niax catalyst KST-100NPF has also found application as a co-catalyst at relatively low concentrations levels in high resilient moulded foam formulations. In addition to giving the possibility of wide processing latitude, Niax catalyst KST-100NPF may improve skin cure.

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Patent Status

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