MOMENTIVE

NIAX* Catalyst A-300

URETHANE ADDITIVES - MOLDED FOAM



Niax catalyst A-300 can help in the production of your molded polyurethane foams. This liquid, water-soluble tertiary amine composition promotes the gelation reaction during the production process. But all resemblance to other catalysts ends with the Niax catalyst A-300's unique delayed-action enhancement. Niax catalyst A-300 and Niax catalyst A-400 belong to a new class of delayed-action catalysts that jump-start the efficiency of your operation by delaying the reaction while producing substantially more open foam.

Niax catalyst A-300 is the better-flow choice for automotive and upholstered furniture applications. This performanceoriented catalyst readily adapts to your operation: add the Niax catalyst A-300 as a separate stream or blend it with water or polyol for metering to the mixing head of the machine.

Key Features and Typical Benefits

Niax catalyst A-300 delivers added value with performance features that include:

- improved flow in the mold for
 Easier production of complex parts
 - Density reduction of 1-5%
- considerable reduction in force-tocrush, signifying enhanced production of open foam when compared with competitive delayed-action catalysts
- much lower amine fugitivity
- far less corrosive to mild steel

Potential Applications

Niax catalyst A-300 is a targeted catalyst for use in the production of a wide variety of automotive seating and worldwide contact upholstered furniture. Excellent flow in the mold performance and other unique features also make the Niax catalyst A-300 very suitable for a wide variety of automotive interior parts applications.

Please note that:

- the activity of Niax catalyst A-300 is similar to that of Niax catalyst A-33
- the Niax catalyst A-300's delayed action feature is particularly useful with MDI and TDI/MDI blends
- in a typical molded-foam application, the delayed gel provided by Niax catalyst A-300 should be used in combination with a blowing catalyst such as Niax catalyst A-1.

Typical Physical Properties			
Specific Gravity at 25°C	1.108		
Viscosity at 25°C, cP	0.6		
Solubility in Water at 20°C	Complete		

(1) ASTM Test Method D93

Performance Data

Table 1 shows the performance of Niax catalyst A-300 in a typical MDI formulation and clearly illustrates the Niax catalyst A-300 details that make the difference:

- Niax catalyst A-300 yields more open foam than competitive delayed-action gel catalysts
- The flow is significantly better than that of competitive products
- Of considerable importance is the 56% reduction in the force-to-crush at low index while preserving cure (as shown by the hot ILD values)
- In the maze mold, Niax catalyst A-300's improved flow benefits allow a reduction in the minimum weight to fill the mold, resulting in a density reduction across the index range

Table: 1 Performance of Niax Catalyst A-300 in Molded Foam

MDI FORMULATION, NCO = 29.4		php	php		
Components A		A	Α		
Polyol OH# 28		100.0	100.0		
Water		3.8	3.8		
Niax Catalyst A-1		0.2	0.2		
Niax Catalyst A-300		0.8	0.8		
Competitive Catalyst		-	-		
Diisopropanolamine		2.0	2.0		
Niax Silicone Surfactant Y-10366 (RS-171)		1.0		1.0	
FOAM PROPERTIES ^(1, 2)					
Square Mold					
MDI Index	80		80		
Foam Weight, g	402	402		400	
F.T.C., N	376		850		
Hot ILD, N	202		192		
Exit Time, Sec	47	47		48	
Maze Mold					
MDI Index	80	80		80	
Minimum Weight to fill, g	410	410		419	
Flowability	Good	Good		Subsurface Collapse	
Shrinkage	Slight	Slight		Severe	
Maze Mold					
MDI Index	100	100			
Minimum Weight to Fill, g	372	372		395	
Exit Time, sec	49		46		

(1) F.T.C. is the force to indent at 50% an uncrushed cushion at 1 min. after demold.

(2) Hot ILD is the force to indent at 50% a crushed cushion at 3 min. after demold.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

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