

Niax* silicone L-618

Description

Niax silicone L-618 is specially designed and formulated to provide optimum foam stability with superior cost/performance benefit. This silicone surfactant provides broad process latitude in all grades of conventional flexible foams, including those of very low density where high loading with auxiliary blowing agents act to destabilize foams during production.

Key Features and Typical Benefits

- Provides excellent foam processing latitude
- Reduces density gradients in very tall buns
- Provides FR performance equivalent to Niax silicone L-5770
- Helps improve foam yield
- Provides fine, even cell structure

Typical Physical Properties

Appearance	Clear, straw colored liquid
Specific Gravity, 25°C	1.0313
Specific Gravity, 55°C	1.0079
Viscosity at 25°C, cSt	530
Flash Point, °F (°C)	220 (104)
Coefficient of Expansion, per °C	7.6×10^{-4}

Processing Recommendations

Surfactant Performance

The performance characteristics of Niax silicone L-618 are demonstrated by the effects that surfactant and tin catalyst concentration have on resulting foams. The two formulations below were used to demonstrate the effect of Niax silicone L-618 concentration and tin catalyst concentration on foam height.

Table 1:

Components	Effect of Surfactant	Effect of Tin Catalyst
Polyol (#OH=56)	100	100
Water	5.5	5.5
Methylene Chloride	10	10
Niax silicone L-618	Vary (0.5-1.5 php)	0.9
Niax catalyst A-200	0.2	0.2
Stannous Octoate	0.23	Vary (0.17-0.27 php)
Toluene Diisocyanate, 80/20	71.1	71.1
Index	112	112

Figure 1: Effect of Niax Silicone L-618 Concentration on Foam Height

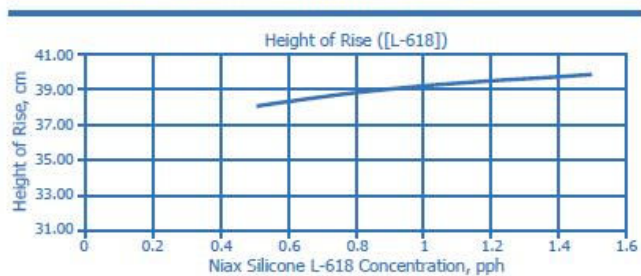
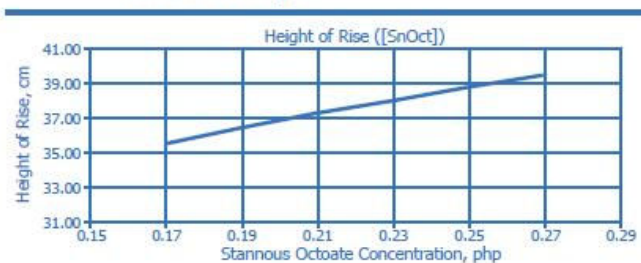


Figure 2: Effect of Tin Catalyst Concentration on Foam Height



Typical Starting Formulation

Niax silicone L-618 can be used in a very broad cross section of foam grade. These two formulations are typical of what might be used.

Table 2:

Components	Parts	Parts
Polyol (#OH=56)	100	100
Water	5.5	3.3
Methylene Chloride	10	0
Geolite* modifier 91		0.75
Niax silicone L-618	0.8	1.0
Niax catalyst A-230	0.2	
Niax catalyst A- 133		0.21
Niax catalyst D-19	0.25	0.18
Toluene Diisocyanate, 80/20	71.1	41.4
Index	115	100
Density, pcf	0.9	1.8
25% IFD	28	28
Air Flow, CFM	3.0	4.2

Patent Status

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