NIAX ADDITIVES BY MOMENTIVE

ALWAYS ONE STEP AHEAD

AMERICAS

POLYURETHANE ADDITIVES FOR

SPRAY FOAM

A LEADER IN POLYURETHANE ADDITIVES

Niax™ polyurethane additives offer a broad range of products able to satisfy the latest requirements of spray foam systems for the production of high-performance insulation foam.

The success of innovative and cost effective foam production depends largely upon selecting the right surfactants, catalysts, and other additives. In support of your success, Momentive Performance Materials, Inc. has a team of experts available with the technical know-how to help solve your production challenges, or to craft Niax Additives solutions tailored to your development needs.

SILICONE SURFACTANTS

MAIN ROLE & TYPICAL BENEFITS

Reduced surface tension of reactants:

- Easy mixing and emulsification
- Avoidance of phase separation after mixing
- Use of different base polyols and fillers/extenders
- Support for emulsification of insoluble blowing agents
- Support of reaction efficiency and uniform foam formation

Bubble formation:

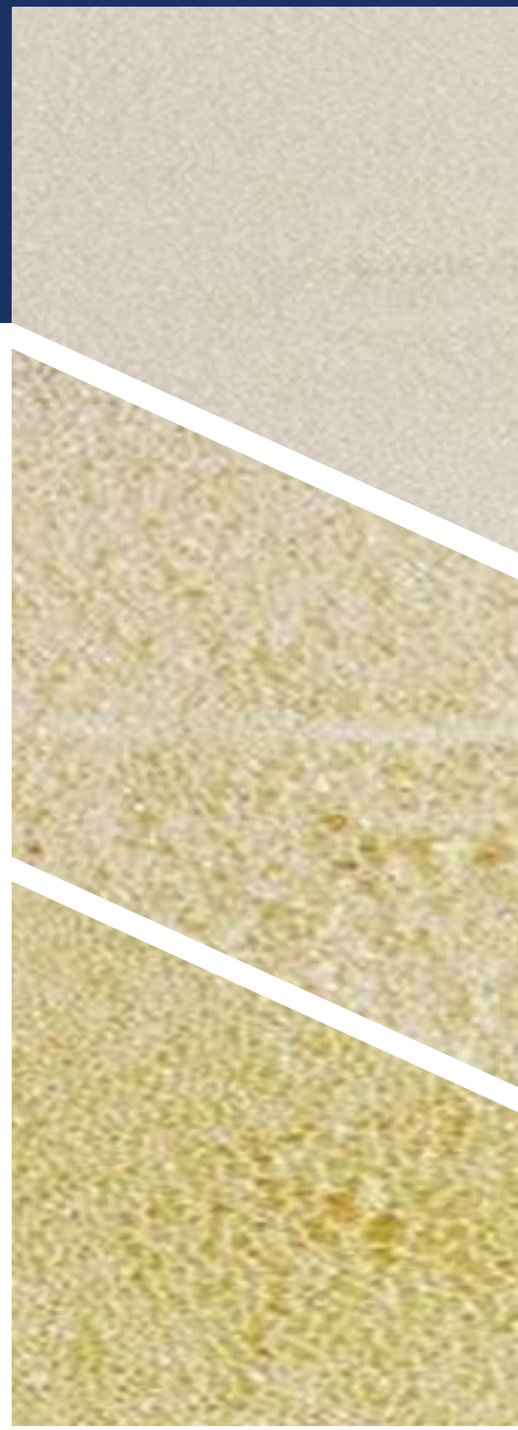
- Increased nucleation of air and blowing gas
- Regular and uniform cell formation
- Enhanced blowing efficiency and reduced loss of blowing agent

Bubble stabilization:

- Maximized closed cell content when desired
- Stabilization of cells during foam expansion
- Reduced voids and defects
- Generate open cells when desired

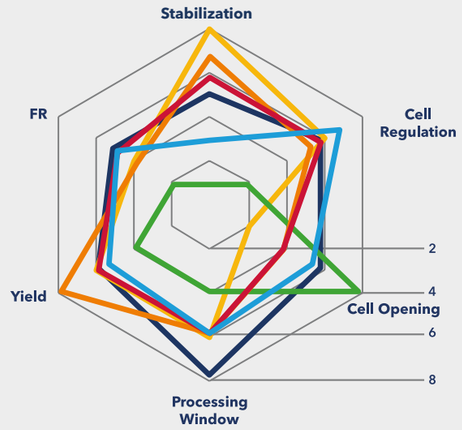
Bubble growth/coalescence:

- Control of average cell size
- Isotropy
- Improved key foam properties such as thermal conductivity and compression strength

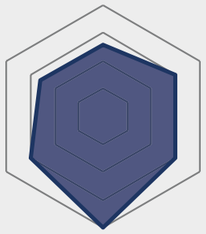


Example of the effect that the surfactant choice can have on final foam characteristcs

SILICONES FOR OPEN-CELL SPRAY FOAM

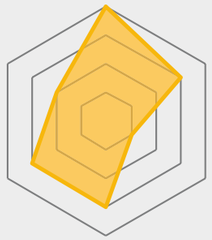


L-6189



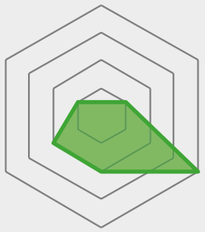
First choice for OCX formulations, can improve formulation compatibility and shelf-life.

L-5388



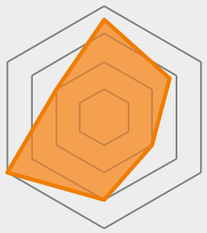
Excellent foam cell structure and foam stability. May need a cell-opening additive. May be used at lower use levels.

L-6186



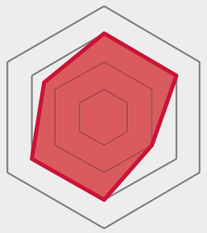
Excellent cell opening at medium-low density and good polyol compatibility.
May require a co-surfactant.

Y-16312



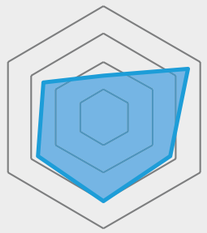
Surfactant for improved yield and processing.

L-6630



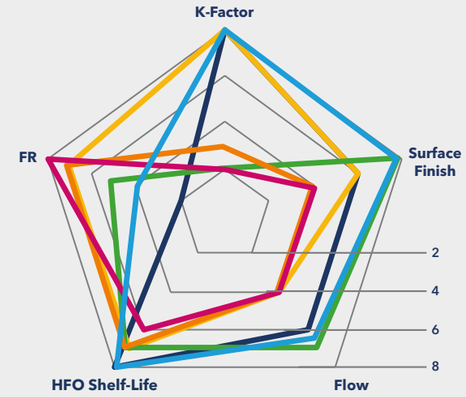
Balanced foam stabilizer for open-cell foam with fine cell structure.

L-6165

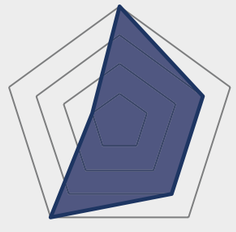


Balanced surfactant that provides good dimensional stability, yield, processing window, and cell opening.

SILICONES FOR CLOSED-CELL SPRAY FOAM

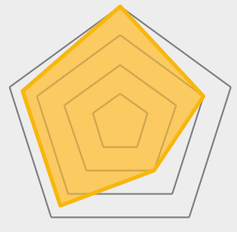


L-6972



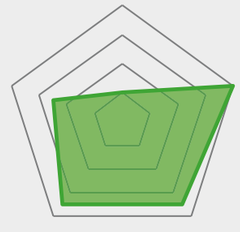
Excellent thermal insulation properties via good flow and fine cells. Excellent chemical stability to support shelf-life.

L-6888



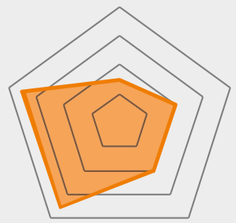
Good thermal conductivity and surface quality. Improved performance in small-scale fire test.

L-5107LF



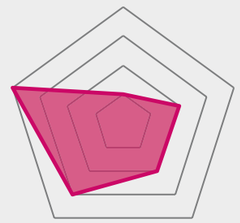
Excellent cell stabilization for improved mechanical properties and compressive strength. Excellent cell isotropy and good flow.

L-5420



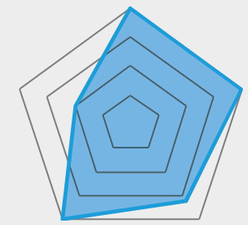
Medium high-efficient silicone, wide processing latitude. Excellent cell stabilization and control. Maximized blowing agent retention via avoidance of cell coalescence.

L-6110



Good dimensional stability and improved fire properties.

L-6642



Good flow, surface voids reduction and storage stability in fully formulated systems. Compatibility with a large variety of blowing agents, including pentane isomers and HFOs.

FR = Fire Rating Contribution

HFO = Hydroflouoro Olefin

NIAX CATALYSTS

MAIN ROLE & TYPICAL BENEFITS

In spray foams, catalysts are responsible for activation of crosslinking reactions, as well as water reaction with development of CO^2 blowing gas. Exothermic reaction causes physical blowing agent evaporation and further foam blowing.

Catalyst balance between blow and gel determines the viscosity build-up and the overall catalyst level defines the rise and curing times.

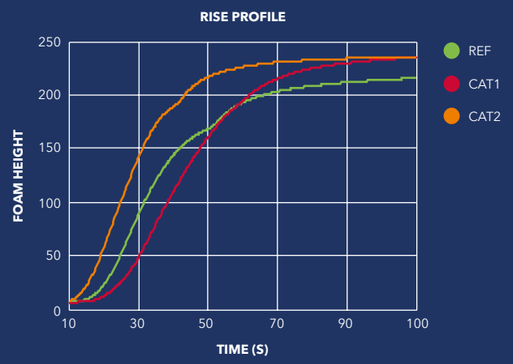
Catalyst level and balance are important for maximizing productivity and achieving a sufficient degree of polymerization. The Niax portfolio includes a range of standard grades, as well as catalysts able to meet specific requirements of PIR boardstock production.

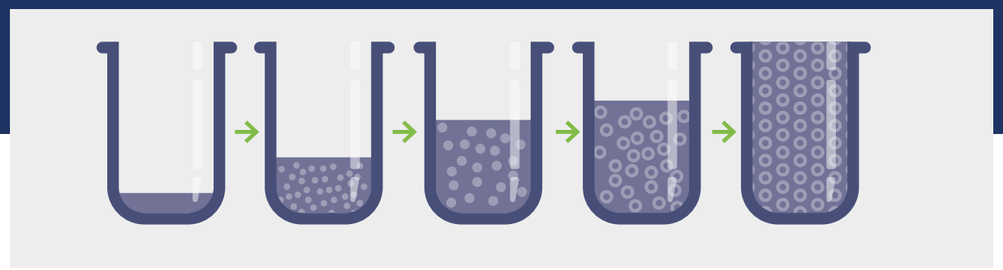
A TYPICAL ROLE SPLIT OF CATALYSTS IS:

Blowing catalysts: promoting MDI-water reaction, thus increasing expansion rate.

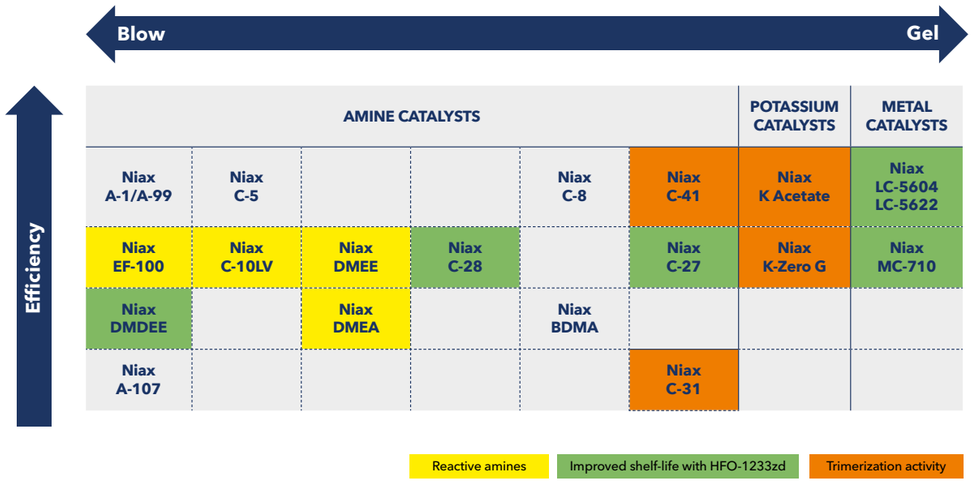
Gelling catalysts: promoting the crosslinking reaction, mainly with –OH groups.

Trimerization catalysts: promoting the isocyanurate formation (PIR foams).





Test data. Actual results may vary.



NIAX PRODUCT RANGE

Product	Viscosity @25 °C cps	Specific Gravity @25 °C
Niax catalyst A-1	4.1	0.90
Niax catalyst A-99	1.4	0.85
Niax catalyst BDMA	26	0.9
Niax catalyst C-5	1.6	0.83
Niax catalyst C-8	3.0	0.85
Niax catalyst C-10LV	10	0.91
Niax catalyst C-27	10	1.04
Niax catalyst C-28	14	1.08
Niax catalyst C-31	100	1.18
Niax catalyst C-41	32	0.92
Niax catalyst DMDEE	29	0.96
Niax catalyst DMEA	3.8	0.89
Niax catalyst DMEE	10	0.96
Niax catalyst EF-100	12	0.95
Niax catalyst K-ZERO G	3000	1.07
Niax catalyst K-ZERO LV	600	1.07
Niax catalyst Potassium Octoate LV	2500	1.11
Niax Potassium Octoate	6000	1.12
Niax catalyst Potassium Acetate	120	1.27
Niax catalyst MC-710	4500	1.16
Niax silicone L-5107 LF	400	1.06
Niax silicone L-5420	350	1.06
Niax silicone L-5388	2500	1.02
Niax silicone L-6110	400	1.08
Niax silicone L-6165	300	1.02
Niax silicone L-6186	320	1.05
Niax silicone L-6189	400	1.02
Niax silicone L-6630	500	1.05
Niax silicone L-6888	1018	1.03
Niax silicone L-6972	2200	1.03
Niax silicone Y-16312	2000	1.03
Niax additive AP-01	6	1.08

NIAX ADDITIVES

CUSTOMER SERVICE CENTERS

Worldwide

Email: commercial.services@momentive.com

Americas

+1 800 295 2392 Toll free
+1 704 805 6946 Direct number

EMEAI - Europe, Middle East, Africa & India

Europe
+39 0875 758888 Direct number

India, Middle East & Africa
+91 44 71212207 Direct number*
*All Middle Eastern countries, Africa, India, Pakistan, Bangladesh, Sri Lanka

Asia Pacific

China
800 820 0202 Toll free
+86 21 3860 4892 Direct number

Japan
Sales-JP.Silicones@momentive.com

South Korea
+82 2 6201 4600 Direct number

South East Asia, Australia & New Zealand

+60 3 9206 1543 Direct number

MOMENTIVE®
SOLUTIONS FOR A SUSTAINABLE WORLD™