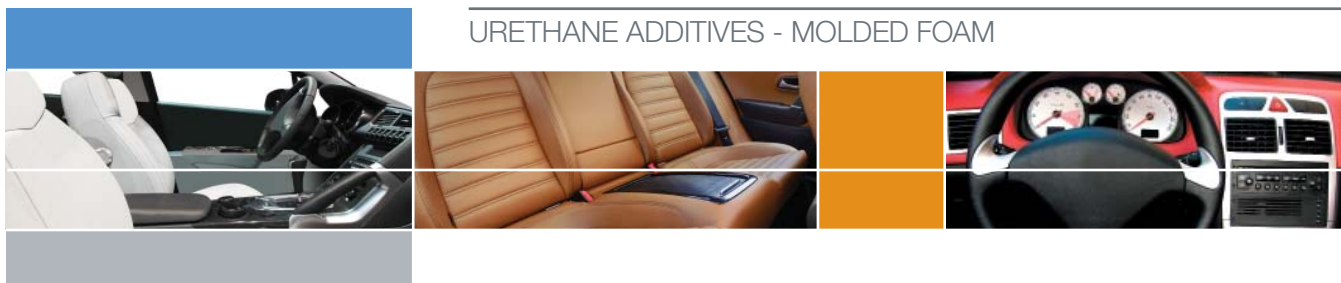


NIAX* silicone L-3556

URETHANE ADDITIVES - MOLDED FOAM



Niax silicone L-3556 is a surfactant that is an excellent candidate to consider for flexible TDI molded foam that has very low emission properties as measured with VDA method 278.

Niax silicone L-3556 typically provides wide processing latitude with excellent foam stabilization, while maintaining foam openness and shear collapse resistance.

Key Features and Typical Benefits

- very low emission properties in the finished molded foam
- highly efficient silicone stabilizer for TDI HR molded foams
- highly efficient silicone stabilizer for low stability TDI/MDI or modified TDI formulations in combination with a cell regulating surfactant
- excellent shear collapse resistance

Typical Physical Properties

Physical Form	Clear liquid, light yellow
Viscosity at 25°C, cSt	45
Specific Gravity at 25°C	0.93
Flash Point, Pensky Martens Closed Cup (ASTM D 93), °C	183
Solubility in Water at 20°C	Insoluble

Typical data are average data and actual values may vary.
Typical data shall not be used as product specifications.

NIAX* silicone L-3556

Performance

The following data was generated comparing the performance of Nix silicone L-3556, Nix silicone L-3640 and a low emission competitive surfactant in a flexible TDI molded foam formulation.†

Material	pphp	pphp	pphp
Polyether Polyol (OH# 31.5)	80	80	80
Polymer Polyol (OH# 18.5)	20	20	20
Water (Total)	3.0	3.0	3.0
Diethanolamine	0.77	0.77	0.77
Nix silicone L-3556	0.8	–	–
Nix silicone L-3640	–	0.8	–
Competitive Silicone Grade	–	–	0.8
Nix catalyst EF-705	0.5	0.5	0.5
Nix catalyst EF-600	1.0	1.0	1.0
TDI Index	95	95	95
Processing and Physical Test Results			
Exit Time (sec.)	48	48	48
Density (kg/m ³)	45.3	45.6	45.1
FTC (N) @ 50%	665	725	861
Hot ILD (N) @ 50%	140	131	130
Dry CS (%) @ 70%	7.2	6.8	9.1
CFD @ 40% (kPa)	2.9	2.7	2.8
VDA 278 Test Results			
Total Silicone Emission (ppm)	15	81	96
Silicone VOC (ppm)	13	68	72
Silicone FOG (ppm)	2	14	24
Total Emission (ppm)	212	268	476
Total VOC (ppm)	55	133	201
Total FOG (ppm)	158	135	275

Note: Test data. Actual results may vary.

† Comparing molded foam formulated using Nix silicone L-3556, Nix silicone L-3640 and a competitive surfactant, the foam containing Nix silicone L-3556 was found to exhibit very low emission according to VDA Method 278.

VDA Method 278 is a test method used for the determination of organic emissions from non-metallic trim components used to manufacture the interior of motor vehicles. This includes an enormous range of materials such as upholstery, carpets, glues, sealing compounds, plastics, foam, leather, coatings, paint, etc.

The method classifies the emitted organic compounds into two groups:

- VOC value - the sum of the volatile and semi-volatile compounds up to n-C20 and
- FOG value - the sum of the semi-volatile and heavy compounds from n-C16 to n-C32

NIAX* silicone L-3556

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.

Product Safety, Handling and Storage

Customers should review the latest Material Safety Data Sheet (MSDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, and any special storage conditions required for safety. MSDS are available at www.momentive.com or, upon request, from any Momentive Performance Materials (MPM) representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

Emergency Service

Momentive Performance Materials maintains an around-the-clock emergency service for its products.

<u>Location</u>	<u>Emergency Service Provider</u>	<u>Emergency Contact Number</u>
Mainland U.S., Puerto Rico	CHEMTREC	1-800-424-9300
Alaska, Hawaii	CHEMTREC	1-800-424-9300
Canada	CHEMTREC	1-800-424-9300
Europe, Israel	NCEC	+44 (0) 1235239670
Middle East	NCEC	+44 (0) 1235239671
Asia Pacific (except China)	NCEC	+44 (0) 1235239670
China	NCEC	+86-10-5100-3039
Latin America (except Brazil)	NCEC	+44 (0) 1235239670
Brazil	SOS Cotec	08000111767 or 08007071767
All other locations world wide	NCEC	+44 (0) 1235239670
At sea	Radio U.S. Coast Guard in U.S. waters NCEC in International waters	+44 (0) 1235239670

For Health related calls, contact Momentive Performance Materials at +1-518-233-2500 (English only).

DO NOT WAIT. Phone if in doubt. You will be referred to a specialist for advice.

Customer Service Centers

Worldwide

4information@momentive.com

+1 614 986 2495 / T +1 800 295 2392

North America

Silicones

T +1 800 332 3390

Consumer Sealants/ Construction Sealants and Adhesives

T +1 877 943 7325

Latin America

South America

T +55 11 4534 9650

Mexico and Central America

T +52 55 2169 7670

Europe, Middle East, Africa and India

T +00 800 4321 1000 / +40 21 3111848

Pacific

China

T +800 820 0202 / +86 21 3860 4892

Japan

T +0120 975 400 / +81 276 20 6182

Korea

T +82 2 6201 4600

Malaysia

T +60 3 9206 1532

DISCLAIMER: THE MATERIALS, PRODUCTS AND SERVICES OF MOMENTIVE PERFORMANCE MATERIALS INC., MOMENTIVE PERFORMANCE MATERIALS USA INC., MOMENTIVE PERFORMANCE MATERIALS ASIA PACIFIC PTE. LTD., MOMENTIVE PERFORMANCE MATERIALS WORLDWIDE INC., MOMENTIVE PERFORMANCE MATERIALS GmbH, THEIR SUBSIDIARIES AND AFFILIATES DOING BUSINESS IN LOCAL JURISDICTIONS (collectively "SUPPLIERS"), ARE SOLD BY THE RESPECTIVE LEGAL ENTITY OF THE SUPPLIER SUBJECT TO SUPPLIERS' STANDARD CONDITIONS OF SALE, WHICH ARE INCLUDED IN THE APPLICABLE DISTRIBUTOR OR OTHER SALES AGREEMENT, PRINTED ON THE BACK OF ORDER ACKNOWLEDGMENTS AND INVOICES, AND AVAILABLE UPON REQUEST. ALTHOUGH ANY INFORMATION, RECOMMENDATIONS, OR ADVICE CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SUPPLIERS MAKE NO WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, (i) THAT THE RESULTS DESCRIBED HEREIN WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN INCORPORATING SUPPLIERS' PRODUCTS, MATERIALS, SERVICES, RECOMMENDATIONS OR ADVICE. AFOREMENTIONED EXCLUSIONS OR LIMITATION OF LIABILITY ARE NOT APPLICABLE TO THE EXTENT THAT THE END-USE CONDITIONS AND/OR INCORPORATION CONDITIONS CORRESPOND TO THE RECOMMENDED CONDITIONS OF USE AND/OR OF INCORPORATION AS DESCRIBED BY SUPPLIER IN ITS PRODUCT DATA SHEET AND/OR PRODUCT SPECIFICATIONS. EXCEPT AS PROVIDED IN SUPPLIERS' STANDARD CONDITIONS OF SALE, SUPPLIERS AND THEIR REPRESENTATIVES SHALL IN NO EVENT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS OR SERVICES DESCRIBED HEREIN. Each user bears full responsibility for making its own determination as to the suitability of Suppliers' materials, services, recommendations, or advice for its own particular use. Each user must identify and perform all tests and analyses necessary to assure that its finished parts incorporating Suppliers' products, materials, or services will be safe and suitable for use under end-use conditions. Nothing in this or any other document, nor any oral recommendation or advice, shall be deemed to alter, vary, supersede, or waive any provision of Suppliers' Standard Conditions of Sale or this Disclaimer, unless any such modification is specifically agreed to in a writing signed by Suppliers. No statement contained herein concerning a possible or suggested use of any material, product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right of Suppliers or any of its subsidiaries or affiliates covering such use or design, or as a recommendation for the use of such material, product, service or design in the infringement of any patent or other intellectual property right.

*Niax is a trademark of Momentive Performance Materials Inc.

Momentive and the Momentive logo are trademarks of Momentive Performance Materials Inc.



22 Corporate Woods Boulevard
Albany, NY 12211 USA
momentive.com