

LSR-241P

Polyether Urethane Methacrylate Resin

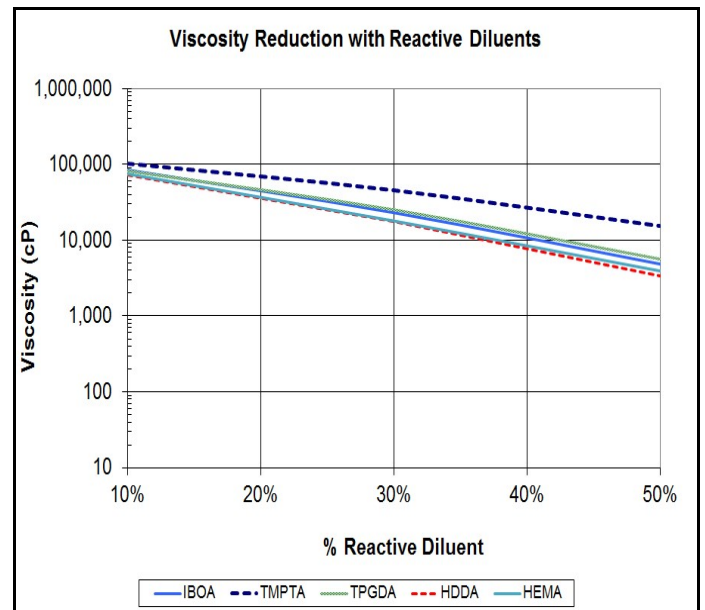
Applications	Features	Additional Features
<ul style="list-style-type: none"> Hybrid nail lacquer top coats 	<ul style="list-style-type: none"> Excellent hydrophobicity in the polymer backbone Can be formulated to yield fast dry times Dries to a tack-free film Polymer is flexible without plasticizers 	<ul style="list-style-type: none"> Inherent toughness improves chip resistance Reactive to cure with sunlight exposure Can be formulated to develop a high gloss finish

LumiSet™ LSR-241P is a hydrophobic urethane methacrylate resin designed for use in top coat applications for hybrid and long-wear nail lacquers. Synthesized using building blocks from nail gel chemistries, LSR-241P is a solvent-borne film-forming resin that can offer nail lacquer formulators the benefits of impact resistance and durability from nail gels while also achieving a tack-free finish without the need for UV or LED lamps. The combination of toughness, and hydrophobicity offers formulators an alternative to leachable plasticizers or potentially toxic gloss enhancers. Top coats formulated with LSR-241P should be paired with an adhesion-promoting base coat or base/color coat combo to ensure proper adhesion to the nail bed. LSR-241P is INCI registered and can be formulated to cure with sunlight exposure using appropriate INCI-registered photoinitiators. Adding cellulosic film formers to this neat polyurethane resin increases the tack free dry time to acceptable nail lacquer dry times of two minutes or less.

UNCURED PROPERTIES	
Property	Value
Viscosity, cP (25° C)	12,500
Yellowness Index (b*) †	0.01
Density, g/cm3 (25° C)	0.99
MEHQ Content (ppm)	Undetectable
% Solids	50% in butyl acetate
Tack Free Time (min.) #	18
† Per ASTM E313	
# Per ASTM D5895 5 mil wet film, reduced to 30% solid with butyl acetate	
* Brookfield – CAP 2000+ @ 25°C.	

STARTING POINT FORMULA	
Ingredient	% Weight
LSR-241P (50% Solids)	22.89
CAB, CAP or N/C (based on 100% solids)	11.44
Irgacure® 819	0.12
Ethyl Acetate	65.55
Total	100.0%

FILM PROPERTIES Reduced to 30% solids with butyl acetate		
Property	Air Dried	Sunlight Cured
Tensile Strength, psi**	1,500	5,800
Elongation, %**	700	460
Elastic Modulus, ksi**	3.7	15
Toughness (J)	2.7	5.0
Sward Hardness-30 minutes	1	3
24 hours	2	3
Contact Angle	94	88
** Per ASTM D882. Air dried and cured in Q-Sun for 1 hour at 0.19 W/m2		



Brookfield – CAP 2000+ @ 25°C

GENERAL INFORMATION

This product is intended for industrial use only. Keep out of the reach of children. Avoid breathing vapors. Avoid contact with skin, eyes, and clothing. Wear impervious gloves. Repeated or continuous skin contact with uncured material may cause irritation. Remove material from skin with soap and water. Never use organic solvents to remove material from skin and eyes. For more information on the safe handling of this material, please refer to the I Safety Data Sheet before use. The data provided in this document are based on historical testing that Dymax performed under laboratory conditions as they existed at that time, and are for informational purposes only. The data are neither specifications nor guarantees of future performance in a particular application. Dymax does not guarantee that this product's properties are suitable for the user's intended purpose. Numerous factors—including, without limitation, transport, storage, processing, the material with which the product is used, and the ultimate function or purpose for which the product was obtained—may affect the product's performance and/or may cause the product's actual behavior to deviate from its behavior in the laboratory. None of these factors are within Dymax's control. Conclusions about the behavior of the product under the user's particular conditions, and the product's suitability for a specific purpose, cannot be drawn from the information contained in this document. It is the user's responsibility to determine (i) whether a product is suitable for the user's particular purpose or application and (ii) whether it is compatible with the user's intended manufacturing process, equipment, and methods. Under no circumstances will Dymax be liable for determining such suitability or compatibility. Before the user sells any item that incorporates Dymax's product, the user shall adequately and repetitively test the item in accordance with the user's procedures and protocols. Unless specifically agreed to in writing, Dymax will have no involvement in, and shall under no circumstances be liable for, such testing. Dymax makes no warranties, whether express or implied, concerning the merchantability of this product or its fitness for a particular purpose. Nothing in this document should be interpreted as a warranty of any kind. Under no circumstances will Dymax be liable for any injury, loss, expense or incidental or consequential damage of any kind allegedly arising in connection with the user's handling, processing, or use of the product. It is the user's responsibility to adopt appropriate precautions and safeguards to protect persons and property from any risk arising from such handling, processing, or use. The specific conditions of sale for this product are set forth in Dymax's Conditions of Sale which are available at <https://www.dymax.com/index.php/en/resources/sales-terms-conditions>. Nothing contained herein shall act as a representation that the product use or application is free from patents owned by Dymax or any others. Nothing contained herein shall act as a grant of license under any Dymax Corporation Patent. Except as otherwise noted, all trademarks used herein are trademarks of Dymax. The "®" symbol denotes a trademark that is registered in the U.S. Patent and Trademark Office. The contents of this document are subject to change. Unless specifically agreed to in writing, Dymax shall have no obligation to notify the user about any change to its content.

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