



# APTALON™ REACTIVE

POLYAMIDE TECHNOLOGY



*Lubrizol*

Performance  
Coatings

# INTRODUCTION TO APTALON™ REACTIVE POLYAMIDE TECHNOLOGY



As a market-leading innovator of coating technology, Lubrizol is dedicated to delivering performance, productivity, and sustainability benefits to customers. Aptalon Reactive Polyamide Technology is no exception, as it delivers outstanding benefits.

- Durability**  
 Very high levels of hardness and toughness means outstanding scratch, mar and abrasion resistance.
- Temperature Resistance**  
 Excellent thermal resistance extends the operating limits of products.
- Chemical Resistance**  
 Powerful chemical resistance brings long-lasting aesthetic appeal with remarkable resistance to staining.
- Hydrolytic Resistance**  
 The strength and hydrophobicity of the polyamide backbone provides outstanding protection against water.

Aptalon™ Reactive Polyamide Technology is a Lubrizol technology platform that can take products to higher levels of performance and capability. Aptalon Reactive Polyamide Technology delivers resistance to hydrolysis, chemicals, abrasion and heat. It can impart toughness, hardness, adhesion and durability to a diverse range of products. Lubrizol uses this unique technology in the development of water-based polyurethanes for coatings. But now customers can formulate the technology into solvent-based coatings, powder coatings, urethane foams, adhesives, composites, and a potentially limitless range of other applications. With multiple functionalities, the technology can also be used to modify thermoset resins like epoxy or phenolics, as well as to make UV curable products.



Solvent-Based Protective Coatings

## Aptalon™ Reactive Polyamide Technology is very adaptable.

Lubrizol can engineer various functional end groups, such as hydroxyl, amine, carboxyl, and vinyl terminations. Lubrizol can provide customized molecular weights, control hardness, and build functionalities of 2, 3 or more. The potential applications for this exciting new polyol technology are only limited by the imagination.

Today, Lubrizol offers several polyamides, as listed in the table below. New reactive polyamide products will continue to emerge from this exciting platform. Please contact us to discuss your next product development challenge. We can customize Aptalon reactive polyamide technology to meet unique needs.

Reactive Polyamides	Hydroxyl (+Amine) Number* mgKOH/g	Acid Number	Amine Number	Functionality		Molecular Weight	Tg, °C	Viscosity, cP	Renewable Carbon %	Comments
<b>Aliphatic Polyamides</b>										
Aptalon™ 9500	65	<2	<15	2		1700	-26	5000 @90C	76	Good All-Around Performance.
Aptalon™ 9501	50	<2	<15	2		2200	-24	6000 @90C	80	Good Flexibility With High Hydrophobicity.
Aptalon™ XPD 8500 LV**	86	<2	<15	2		1300	-26	5000 @90C	64	Lower Viscosity; Higher Hardness
Aptalon™ XPD 8502**	35	<2	<15	2		3200	-23	7000 @90C	83	Very High Flexibility.
Aptalon™ XPD 8511**	<2	<2	40	2		2800	-28	4000 @90C	77	Hydrophobic-Amine Terminated Version of Aptalon™ 9500.
<b>Polyamide copolymers</b>										
Aptalon™ XPD 1000x550**	75	<2	<15	2		1500	-50	6000 @90C	46	Soft Elastomeric.
Aptalon™ 9911	100	<2	<5	2		1100	-53	15000 @110C	0	High Hardness. Semi-Crystalline.

\* Hydroxyl number determined by ASTM E 1899. \*\* Product in pilot stage; developmental samples are available.



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Lubrizol Performance Coatings is a market-driven innovator of specialty chemicals for advanced coatings, inks, and composites. Our portfolio of resin and additive technologies solve challenges across a wide range of markets and applications. Formulators choose Lubrizol to achieve unique performance, productivity, and sustainability benefits. More than just a supplier, we are a collaborator with extensive experience in surface protection, dispersion, adhesion, and barrier properties – working closely with customers to explore and develop truly differentiated solutions.



Aptalon™ Reactive Polyamides, polymers made from these reactive polyamides, compositions including these reactive polyamides and/or polymers, and/or methods of making/using these reactive polyamides, polymers, and/or compositions, may be covered by one or more patents or pending patent applications owned by Lubrizol. A license may be required to utilize Lubrizol's Aptalon™ reactive polyamides to manufacture, use, sell, offer to sell, or import polymers or other products made using these reactive polyamides in certain jurisdictions.

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