

# Medical lubricant coatings you can rely on





## Products and features

### Liveo™ 360 Medical Fluid

- Silicone lubricant for glass, plastics, rubbers, metals
- Water repellent/hydrophobic
- Can be spray-applied undiluted
- Can be diluted in solvents for bath treatment
- Pyrogen controlled
- Tested to meet all the requirements of the Dimethicone NF monograph — and, depending on the fluid's viscosity, the "Dimeticone" and the "Silicone Oil Used as a Lubricant" European Pharmacopoeia (Ph. Eur.) monographs
- Certificate of Suitability held for both Ph. Eur. monographs, and a Drug Master File is maintained with the United States FDA



### Liveo™ 365, 35% Dimethicone NF Emulsion

- Aqueous siliconization emulsion that contains 35% Liveo™ 360 Medical Fluid, 350 cSt
- Avoids the use of flammable and/or ozone-depleting organic solvents

### Liveo™ 366, 35% Dimethicone NF Emulsion

- Waterborne silicone fluid for lubrication and siliconization of glass, metals, plastics, rubbers
- Not formulated with OPE surfactant
- Not formulated with parabens
- Contains 35% NF Dimethicone

### Liveo™ MDX4-4159, 50% Medical Grade Dispersion

- Functional silicone capable of bonding with many substrates
- Especially suited for siliconization of metals (e.g., needles and cutting edges)
- Cures at room temperature on exposure to atmospheric moisture
- Applied by wiping or dip-coating with a diluted solution

### Liveo™ Q7-9180 Silicone Fluid\*

- Volatile linear silicone fluid
- Diluent for Liveo™ 360 Medical Fluid and Liveo™ MDX4-4159 50% Medical Grade Dispersion
- Non-ozone depleting
- Cleaning agent for medical materials and equipment

## Supporting you and your medical materials

DuPont™ Liveo™ can help you meet your functional, regulatory and processing needs with both well-established and next-generation medical materials that offer excellent performance.

For many years, DuPont™ Liveo™ has supported the healthcare industry with a comprehensive range of high-quality silicone coating materials. We are also committed to supplying these products, providing technical expertise and supporting the advancement of these applications and innovations in the years to come.

	Benefits	Product Description	Typical Applications
<b>Liveo™ 360 Medical Fluid*</b>	<ul style="list-style-type: none"> <li>• High water repellency/hydrophobicity</li> <li>• Excellent lubricating characteristics</li> <li>• Manufactured in a dedicated healthcare facility</li> </ul>	Clear, colorless polydimethylsiloxane (PDMS) liquid	<ul style="list-style-type: none"> <li>• Siliconization lubricant</li> <li>• Hydrophobic lubricant for glass, metals, plastics, rubbers</li> <li>• Demolding agent</li> </ul>
<b>Liveo™ 365, 35% Dimethicone NF Emulsion</b>	<ul style="list-style-type: none"> <li>• Excellent lubricating and release characteristics</li> <li>• Manufactured in a dedicated healthcare facility</li> </ul>	White, liquid emulsion containing 35% National Formulary Dimethicone	<ul style="list-style-type: none"> <li>• Waterborne silicone fluid for lubrication and siliconization of glass, metals, plastics, rubbers</li> <li>• Hydrophobic lubricant for medical materials and parenteral containers</li> </ul>
<b>Liveo™ 366, 35% Dimethicone NF Emulsion<sup>1</sup></b>	<ul style="list-style-type: none"> <li>• Excellent lubricating and release characteristics</li> <li>• Not formulated with OPE surfactant<sup>1</sup></li> <li>• Not formulated with parabens</li> <li>• Manufactured in a dedicated healthcare facility</li> </ul>	White, liquid emulsion containing 35% National Formulary Dimethicone	<ul style="list-style-type: none"> <li>• Waterborne silicone fluid for lubrication and siliconization of glass, metals, plastics, rubbers</li> <li>• Hydrophobic lubricant for medical materials and parenteral containers</li> </ul>
<b>Liveo™ MDX4-4159, 50% Medical Grade Dispersion</b>	<ul style="list-style-type: none"> <li>• High adhesion to metal, providing durability</li> <li>• Cures at room temperature between 55 to 60% relative humidity</li> <li>• Manufactured in a dedicated healthcare facility</li> </ul>	Colorless to slightly hazy liquid aminofunctional silicone dispersion with 50% active silicone ingredients	<ul style="list-style-type: none"> <li>• Lubricant for cutting edges and needles</li> </ul>

<b>Liveo™ Q7-9180 Silicone Fluid*</b>	<ul style="list-style-type: none"> <li>• High volatility</li> <li>• High spreadability</li> <li>• Non-ozone depleting</li> </ul>	Clear, colorless, high-purity volatile methylsiloxane fluid	<ul style="list-style-type: none"> <li>• Diluting solvent for Liveo™ 360 Medical Fluid and Liveo™ MDX4-4159, 50% Medical Grade Dispersion</li> <li>• Medical materials cleaning solvent</li> <li>• Equipment cleaning solvent</li> </ul>
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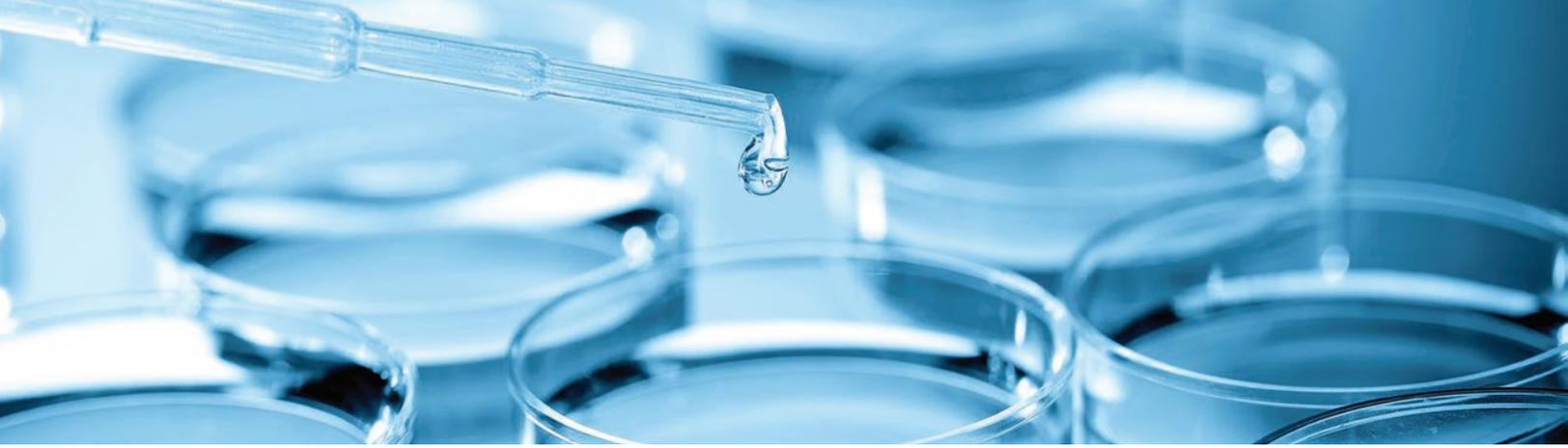
Product Viscosity	Regulatory Status					
	FDA Drug Master File	European Technical File**	Conform to NF Monograph Req. for Dimethicone NF	Conform to Ph. Eur. Monograph Req. for Dimeticone	Conform to Ph. Eur. Monograph Req. for Silicone Oil Used as Lubricant	VOC Exempted in U.S. by EPA
20 cSt	•	•	•	•	•	•
100 cSt	•	•	•	•	•	•
350 cSt	•	•	•	•	•	•
1,000 cSt	•	•	•	•	•	•
12,500 cSt	•	•	•	•	•	•
0.65 cSt	•	•	•	•	•	•
1 cSt	•	•	•	•	•	•

Physical Properties							
Viscosity at 25°C (77°F), mm <sup>2</sup> ·s <sup>-1</sup>	Specific Gravity at 25°C (77°F)	Drying Rate Similar to	Color, APHA	Acid No., BPB (Bromophenyl Blue)	Refractive Index at 25°C (77°F)	Flash Point, closed cup, °C (°F)	pH
20	0.951		<15	<0.02	1.4018	>100 (>212)	
100	0.967		<15	<0.02	1.4032	>100 (>212)	
350	0.971		<15	<0.02	1.4042	>100 (>212)	
1,000	0.972		<15	<0.02	1.4046	>100 (>212)	
12,500	-		<15	<0.02	1.4047	>100 (>212)	
	0.99	Water					5.0
	0.99	Water					5.0
130		Mineral Spirits			1.4089	13.3 (56)	
0.65	0.76	Acetone				-3 (27)	
1	0.82	Isopropanol				34 (93)	

<sup>1</sup> One emulsifier used in Liveo™ 365, 35% Dimethicone NF Emulsion has recently been added to the REACH Authorisation List (Annex XIV). For more information: <https://echa.europa.eu/authorisation-list>. The list at the link above includes the OPE class listed there as "4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated" [covering well defined substances and UVCB substances, polymers and homologues]

\* Not intended for human injection.  
\*\* DuPont has the capability to provide Safety Data Sheets as needed to meet requirements.

Product properties are nominal and not to be used for specification writing.



## Focusing on what matters most to you

You want a responsive and flexible global supplier with the material and service support you need to succeed. That's why we provide:

- Consistent quality and safety of materials
- Stability and reliability as a material supplier
- Innovative solutions and collaboration with you
- Supportive regulatory practices
- Unique silicones, with properties that make them suitable for many healthcare applications

## Consistent quality

From lot to lot, year after year, you can be sure the products you order from DuPont will live up to their specifications.

Many DuPont materials for healthcare, including those described in this brochure, are manufactured in a dedicated, FDA-registered (CFN 1816403) and inspected facility that uses appropriate current Good Manufacturing Practices (cGMPs) for the intended applications.

Special attention is given to producing products that meet the highest quality standards. This is achieved through:

- An integrated supply chain and full documentation (from raw material testing through production, to final testing and lot sample retention) to ensure complete traceability of our materials
- Meticulous control and documentation of change, as well as a policy of notifying customers of all significant changes
- Rigorous procedures for cleanliness to ensure high product purity



To learn more about DuPont's healthcare solutions visit:  
[www.dupont.com/healthcare.html](http://www.dupont.com/healthcare.html)

For country-level information, visit:  
[www.dupont.com/corporate-functions/our-company/global-locations.html](http://www.dupont.com/corporate-functions/our-company/global-locations.html)

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