

# DuPont™ Liveo™ Silicone Resin Blend technology

Offering formulation flexibility and diverse film-forming properties for topical applications

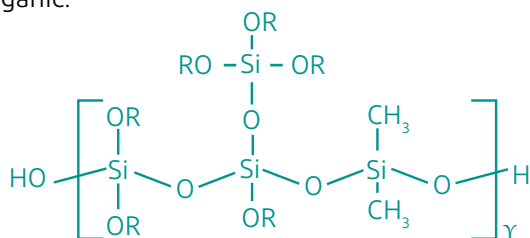


Safety, efficiency and substantivity benefits are key to formulating over-the-counter or pharmaceutical topical skin products that increase consumer satisfaction. Topical skin medications containing the right topical ingredients can make the difference in patient comfort and compliance while offering a long-lasting film barrier on the skin.

Liveo™ Silicone Resin Blend technology provides various film-forming and long-lasting benefits in formulations. It is designed to provide formulation flexibility with a wide range of materials offering diverse film-forming properties for a chosen application.

## Liveo™ Silicone Resin Blend technology

This technology is a blend of silicone resin solubilized in a range of carrier solvents – volatile or non-volatile/silicone or organic.



## A range of potential benefits and properties

By selecting the appropriate resin blend in terms of solid content and carrier solvent, desired specific benefits and properties can be achieved, including:

- Medium to long-lasting film
- Permeable to semi-permeable film
- Range of film flexibility and durability
- Drying time tunability
- Wash-off resistance
- Ability to deliver actives/drugs

## Applications

Liveo™ Silicone Resin Blend technology can be incorporated easily into many product forms:

- Creams for skin barrier applications
- Sprays that offer ease of application and protect the skin
- Gels for novel forms in challenging skin conditions

## Target indications

- **Ostomy care:** Skin barrier and protective film
- **Wound care:** Scar management, liquid bandages, skin barrier
- **Skin care:** UV protection, sunscreen
- **Dermal care:** Drug delivery therapy for acne, actinic keratosis, antifungal, pain management, etc.

# DuPont™ Liveo™ Silicone Resin Blend offering<sup>(1)</sup>

Product	Chemical description	Carrier	Main benefits
Liveo™ TE-9720 Resin Blend <sup>(1)</sup>	Dimethicone and Trimethylsiloxysilicate	Dimethicone 100 cSt	<ul style="list-style-type: none"> <li>Film-forming behavior</li> <li>Long-lasting film</li> <li>Wash-off resistance</li> <li>Non-occlusive/breathable material</li> </ul>
Liveo™ TE-9721 Resin Blend <sup>(1)</sup>	Caprylyl Methicone and Trimethylsiloxysilicate	Caprylyl Methicone	<ul style="list-style-type: none"> <li>Film-forming behavior</li> <li>Long-lasting film</li> <li>Wash-off resistance</li> <li>Non-occlusive/breathable material</li> <li>Good compatibility with various excipients</li> </ul>

<sup>(1)</sup>New development with low cyclosiloxane content. Has been designed to meet the substance of very high concern (SVHC) threshold for concerned cyclosiloxanes (below 0.1%) proposed by REACH regulation (EC) No 1907/2006.

## Proposed Liveo™ Silicone Resin Blend technology toolbox<sup>(2)</sup>

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Liveo™ representative prior to writing specifications on these products.

Carrier fluid	Resin level	Drying time	Occlusivity <sup>(3)</sup>	Film flexibility	Film integrity		Rub-off resistance	Substantivity on skin <sup>(4)</sup>	Substantivity vs. washes <sup>(4)</sup>	Product name <sup>(5)</sup>
					1 hr	6 hr				
Silicone volatile										
HMDS, 0.65 cSt	20%	++++	Non	0	+++	0	+	++++	+++	C
	40%	++++	Non	0	++++	++	++	++++	+++	C
	50%	++++	Non	0	++++	+++	++	++++	+++	C
Dimethicone, 2 cSt	40%	++	Non	0	++++	+	++	++	0	C
Organic volatile										
Isododecane	20%	+++	Non	0	+++	0	++	+	+	C
	40%	+++	Non	0	++	0	+++	+	+	C
Silicone fluid										
Dimethicone, 5 cSt	40%	0	Non	+++	+++	0	0	+	+	C
	50%	0	Non	+++	+++	0	0	+	0	C
Dimethicone, 100 cSt	30%	0	Non	+++	++++	+++	0	++	+	TE-9720
	40%	0	Semi	+++	++++	+++	0	++	+	C
Specialty silicone fluid										
Caprylyl Methicone	40%	+	Non	0	++++	+	0	++	+	C
	50%	+	Non	0	++++	+	+	++	+	TE-9721
Organic solvent										
Isopropyl Myristate	40%	0	Non	0	+++	0	0	+	+	C

<sup>(2)</sup>Other combinations are available on demand. | <sup>(3)</sup>Non = non-occlusive; Semi = semi-occlusive. |

<sup>(4)</sup>For substantivity evaluation versus time and washes, materials were diluted at 5% in solvent to avoid saturation of the peak. | <sup>(5)</sup>C = concept test.

Legend: + to ++++ = level of benefit (lowest to highest); 0 = no benefit.

## About DuPont™ Liveo™ Healthcare Solutions

DuPont™ Liveo™ is a globally recognized leader in technology for a broad range of innovations in medical devices, biopharmaceutical processing and pharmaceutical solutions. DuPont high-performance materials help create safer healthcare environments and protect the health of patients and healthcare providers worldwide. We help enable smarter healthcare and positive patient outcomes.



To learn more about DuPont™ Liveo™ Healthcare Solutions, visit [liveo.dupont.com](https://liveo.dupont.com).



Smarter Healthcare.  
Positive Patient Outcomes.

DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, ℙ or ® are owned by affiliates of DuPont de Nemours, Inc. unless otherwise noted.  
© 2022-2023 DuPont.

The information set forth herein is furnished free of charge and is based on technical data that DuPont believes to be reliable and falls within the normal range of properties. It is intended for use by persons having technical skill, at their own discretion and risk. This data should not be used to establish specification limits nor used alone as the basis of design. Handling precaution information is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Since conditions of product use and disposal are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. As with any product, evaluation under end use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate or a recommendation to infringe on patents.

Caution: Do not use DuPont materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from DuPont under a written contract that is consistent with DuPont policy regarding medical applications and expressly acknowledges the contemplated use. The customer is solely responsible to determine whether DuPont products are suited for customer's intended purpose or application and may contact DuPont technical experts for more product details prior to sourcing products. DuPont disclaims liability for any incidental or consequential damages resulting from customer's use of DuPont products. For further information, please contact your DuPont representative. You may also request a copy of DuPont POLICY Regarding Medical Applications H-50103-4 and DuPont CAUTION Regarding Medical Applications H-50102-4.