



High performance delivered: DuPont silicone adhesives combined with 3M release liners



3M™ Scotchpak™ Release Liners and DuPont™ Liveo™ brand BIO-PSA Silicone Adhesives

To help ensure a successful outcome for patients, a consistent and accurate dose of medication is critical. That's why it's critical that the materials used in the construction of transdermal patches perform well together and stay active for the right amount of time.

Material compatibility is especially important when it comes to your adhesive and release liner, which can both have a significant impact on product performance. 3M™ Scotchpak™ Release Liners are formulated to provide optimal performance with adhesives commonly used in drug delivery patches, and we have the research to prove it.

Over a three-month study, DuPont measured the performance of Scotchpak release liners with four Liveo™ brand BIO-PSA Silicone Adhesives (4200, 4300, 4560 and 4600). These tests showed that Scotchpak release liners performed well with all four adhesives, including when an amine-containing drug (API) was used.





Trusted Performance

3M™ Scotchpak™ Release Liners are available in fluoropolymer and fluorosilicone formulations (see chart below). All Scotchpak liners performed well with each of the DuPont™ Liveo™ brand BIO-PSA Silicone Adhesives tested, the best results were observed with the Liveo™ BIO-PSA 7-42XX Silicone Adhesives and Liveo™ BIO-PSA 7-43XX Silicone Adhesives series.

- 3M™ Scotchpak™ Release Liner 1022 consistently displayed the highest release force, followed by 3M™ Scotchpak 9744 and 9709
- When used with an amine-containing drug* and amine-compatible adhesive 7-42XX and 7-43XX, Scotchpak 9709 release liners displayed stable performance during the 3-month test
- All three Scotchpak release liners are compatible with major transdermal adhesive systems and carry regulatory supporting documentation including drug master file (DMF)
- 3M release liners were developed for use with silicone adhesives. It is important that silicone release liners should not be used with silicone adhesives
- Release liner must be chosen depending on the adhesive/API combination
- Additional 3M release liner options are available

DuPont tested three 3M liners for compatibility with different DuPont adhesives for use in transdermal drug delivery patch design.

	1022	9744	9709
	Fluoropolymer release coating	2X the fluoropolymer release coating	Fluorosilicone release coating**
	PET Backing	PET Backing	PET Backing
Liveo™ BIO-PSA 7-4560 Silicone Adhesive	Highest release	High release	Standard release
Liveo™ BIO-PSA 7-46XX Silicone Adhesives	High release	Standard release	Standard release
Liveo™ BIO-PSA 7-42XX Silicone Adhesives and Liveo™ BIO-PSA 7-43XX Silicone Adhesives	Standard release	Standard release	Standard release
Liveo™ BIO-PSA 7-4302 Silicone Adhesives with clonidine (Amine-Compatible Silicone Adhesives)	N/A	Increased release with time	Standard release

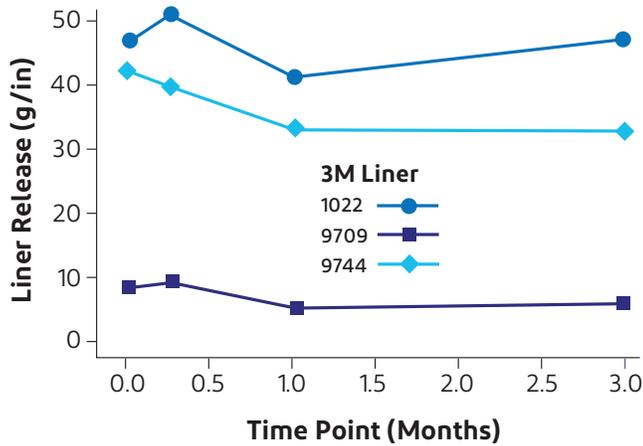
* Amine-containing functional drugs may exhibit increasing release force over time with fluoropolymer liners (1022 and 9744).

**Designed for use with amine based API formulations.

Backed by Science

Liner release (g/in) vs time point (months)

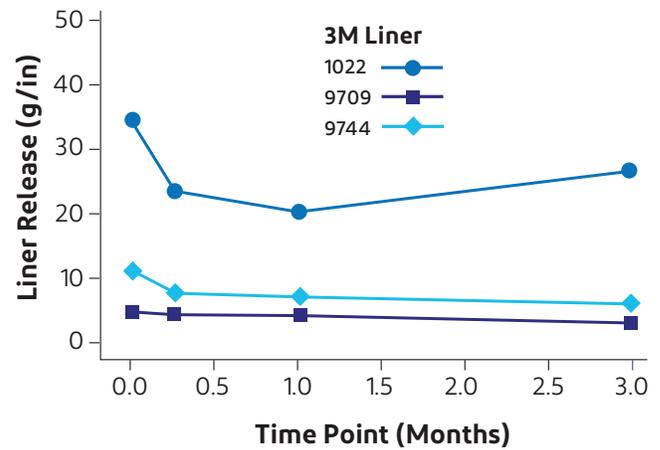
Adhesive = Liveo™ BIO-PSA 7-4560 Silicone Adhesive



Choice of liner makes a significant difference for the Liveo™ BIO-PSA 7-4560 Silicone Hot Melt Adhesive.

Liner release (g/in) vs time point (months)

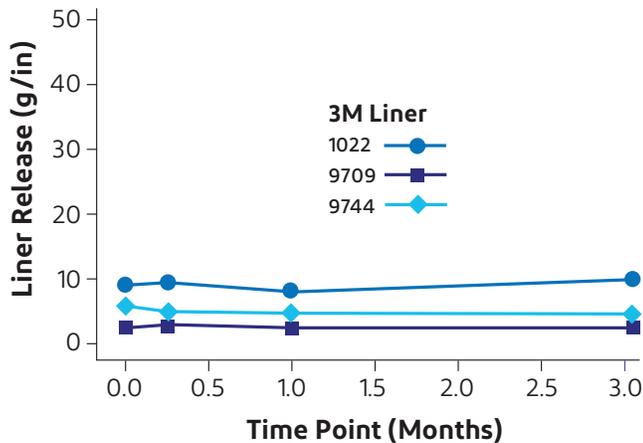
Adhesive = Liveo™ BIO-PSA 7-4602 Silicone Adhesive



For the Liveo™ BIO-PSA 7-46XX Silicone Adhesive series, the 1022 will give higher release than the 9700 series liners.

Liner release (g/in) vs time point (months)

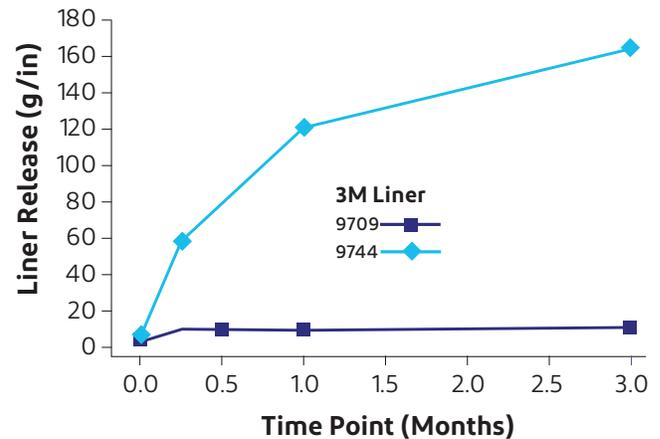
Adhesive = Liveo™ BIO-PSA 7-4301 Silicone Adhesive (similar results for Liveo™ BIO-PSA 7-4201 Silicone Adhesive)



The Liveo™ BIO-PSA 7-43XX Silicone Adhesives and Liveo™ BIO-PSA 7-42XX Silicone Adhesives series give similar release regardless of the liner.

Liner release (g/in) vs time point (months)

Adhesive = Liveo™ BIO-PSA 7-4302 Silicone Adhesive with clonidine



The 9709 liner provides stable release force over a 3 month period. Appropriate selection of release liner is critical when preparing formulations using Liveo™ BIO-PSA 7-43XX (as well as other amine-compatible adhesives) and amine containing drugs (e.g. clonidine).



About 3M Medical Materials and Technologies

3M Medical Materials and Technologies is your trusted partner. We have over 55 years in the medical adhesive business and no one knows skin better than us. We understand the way it breathes, stretches, sweats and ages. We'll help you find the right materials for your product and get your design to market, no matter what development stage you're in.

Several components comprise a transdermal patch: backings, liners, membranes and tapes. 3M delivers the customer and technical support you need to solve for challenging formulations, enhance cosmetic appearance and design for long-term success.

We believe the work you do makes a difference in people's lives and we're here to make it easier for you.

For more information, please visit www.3M.com/ScienceofTransdermal or call 1-800-584-2787

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Form Number: 001-20388-CDP0820