



Healthcare
Solutions

Dow Corning Healthcare Product Selection Guide

Advancing healthcare through
material innovations



You can count on Dow Corning for:

- **Trustworthy Practices:** We adhere to current good manufacturing practices and specifications – Pharmacopoeia compliant, Drug Master Files, Technical Files, and ISO 9001:2000 standards.
- **Reliable Source of Supply:** Dow Corning's integrated supply chain and comprehensive documentation ensure traceability of our materials.
- **Consistent Quality:** Our silicone healthcare materials are manufactured in a dedicated, U.S. FDA-registered (CFN 1816403) and inspected facility. Our healthcare materials are manufactured to meet critical cGMP principles.
- **Registration Support:** Dow Corning manufactures and tests materials to comply with regulatory requirements in different countries. To help expedite and simplify your regulatory approval process, Dow Corning also offers Drug Master Files, Technical Files, and U.S. FDA Material Application Files for some materials.
- **Supportive Services:** Dow Corning is available to help you make informed choices for a current product or custom-formulated material. We offer a world-

wide network of Technical Information Centers, a Product Stewardship organization, a team of Product Safety and Regulatory Compliance (PS&RC) specialists, and more.



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Healthcare Solutions from Dow Corning

Dow Corning has a reputation for providing one of the most expansive lines of silicon-based materials in the healthcare industry – materials that have demonstrated their safety and benefits in a wide range of healthcare applications.

- Topical Excipients for Drug Delivery
- Silicone Adhesives
- Elastomers (Rubbers)
- Device Adhesives and Encapsulants
- Tubing and Molded Assemblies
- Fluids, Emulsions, and Dispersions
- Antifoams and Antifoam Emulsions

Solutions That Go Beyond

Building on our strength in silicon-based technology and our more than 40 years of experience in healthcare, Dow Corning is going beyond our traditional chemistry set to bring you exactly the materials, delivery systems, and solutions you need to develop breakthrough healthcare products and improve existing ones.

Whether for drug delivery, pharmaceutical processing, medical device fabrication, or wound care, you can depend on Dow Corning for enabling solutions that combine the best quality, reliability, and innovation materials science has to offer.

Learn how Dow Corning can help you go beyond the limits of current technology to develop healthcare products with unique benefits and market-leading capabilities. Contact us for technical support, or visit www.dowcorning.com/healthcare.



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Topical Excipients (Silky Touch)

The Silky Touch products are silicon-based excipients that can improve the bioavailability of the active drug, the aesthetics and the processability of topical pharmaceutical formulations (creams, emulsions, gels, ointments, lotions, sprays and stick formulations).

To assure consistent quality in pharmaceutical formulations, *Dow Corning*[®] brand topical excipient products are packaged and tested at the Healthcare Industries Materials Site utilizing principles of GMP guidelines for Active Pharmaceutical Ingredients (APIs).

Regulatory Status

Ph. Eur. (EP) Monograph - Dimeticone/Silicone Oil (CEP Available)

NF Monograph

Toxicological Summary

Technical File¹

FDA Drug Master File

Biocompatibility Tests

Skin Sensitization

Mutagenicity/Genotoxicity

Description

Typical Applications

High-purity, volatile silicone fluid (hexamethyldisiloxane and octamethyltrisiloxane)
Clear liquid

- Carrier for sprays
- Spreading agent

Volatile silicone, decamethylcyclopentasiloxane (NF Cyclomethicone)
Clear liquid

- Volatile excipient
- Solvent

High-purity, non-volatile silicone fluid (NF Dimethicone, EP Dimeticone, EP silicone oil)
Colorless, odorless liquid

- Lubricant
- Emollient
- Skin protectant

A short, hydroxy-terminated Dimethicone fluid
Colorless, odorless liquid

- Excipient for hydrophilic actives
- Lubricant

A unique blend of silicone gum (6%) in Dimethicone
Colorless, odorless liquid

- Lubricant
- Emollient

Blend of silicone gum (1%) in hexamethylsiloxane
Clear liquid

- Substantive carrier for sprays
- Spreading agent

A dispersion of unique silicone elastomer in volatile silicone
Translucent gel

- Unique, silky aesthetics (smooth, dry feel)
- Rheology modifier
- Thickener for silicone-containing formulations

Semi-occlusive, low-melting-point (53°C) silicone wax
Soft, white to light-straw, semi-crystalline wax

- Semi-occlusive formulation
- Lubricant
- Detackifier
- Emollient
- Water-repellent

An occlusive, alkylmethyl silicone wax
White to off-white flake; melting point 75°C

- Replacement for petrolatum
- Detackifier
- Thickener
- Emollient
- Moisturizer

Alkylmethyl silicone polyglycol
Transparent
Clear to light-straw liquid

- Emulsifier for water-in-oil and water-in-silicone emulsions (up to 80% water content)
- Room temperature emulsification

Volatiles

Dow Corning[®] Q7-9180 Silicone Fluid

0.65 cSt

1.0 cSt

Dow Corning[®] ST-Cyclomethicone 5 – NF

Fluids²

Dow Corning[®] Q7-9120 Silicone Fluid
20, 100, 350, 1000, and 12,500 cSt

Dow Corning[®] ST-Dimethiconol 40

Blends

Dow Corning[®] Dimethiconol Blend 20

Dow Corning[®] Silmogen Carrier

Dow Corning[®] ST-Elastomer 10

Waxes

Dow Corning[®] Silky Wax 10

Dow Corning[®] ST-Wax 30

Emulsifier

Dow Corning[®] Emulsifier 10

¹ Dow Corning can provide Technical Files (or Certificates of Suitability) as needed to meet requirements.

² Not intended for human injection.



Typical Properties†

Nonvolatile Content		%
Relative Density		
Dynamic Viscosity		%
mPa-s		
0.59-0.71	0.760	<0.1
0.9-1.1	0.816	
4.0	0.95	<0.1
	0.951-0.973	98.0-99.99
41	0.98	
400-550	0.952	94
1.5-4.0	0.78	1
	0.960	85
7000 (at 60°C)		
60 (at 80°C)	0.80	
1100-3500	0.905	

† Specifications Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.

How to read the selector guide charts

The charts on pages 4 through 19 of this brochure contain two or three of the following sections:

Regulatory Status: This section includes select governmental regulations and organizational standards to which the various materials comply as indicated by the presence of the • symbol. The compliance may have been achieved through testing or by other regulation-specified provision.

Biocompatibility Tests: This section includes select biological qualification biotests. The presence of the • indicates the material (or equivalent) was tested and passed the respective test. The absence of the • symbol for a particular material indicates that such qualification testing is not applicable to, or provided for, that material.

Typical Properties: This section provides typical data for select properties of the listed materials. Additional typical property data may be available in the Product Data Sheets. These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.

Silicone Adhesives

To assure consistent quality for pharmaceutical drug delivery and wound applications, pressure sensitive adhesive and soft skin adhesive products are manufactured, packaged, and tested at the Healthcare Industries Materials Site utilizing principles of GMP guidelines for Active Pharmaceutical Ingredients (APIs).

Regulatory Status

FDA Material Application File
 Technical¹ and FDA Drug Master File

Biocompatibility Tests

Cytotoxicity
 Mutagenicity/Genotoxicity
 Skin Irritation
 Skin Sensitization
 Pyrogenicity (USP)
 Systemic Toxicity

Medical Device Pressure Sensitive Adhesives

Description Typical Applications

Solvent-based non-sensitizing, non-irritating, pressure-sensitive adhesive formulations

- Adhesion of dressings, prosthetics, and other devices to the body

Dow Corning[®] MD7-4502 Silicone Adhesive

Dow Corning[®] MD7-4602 Silicone Adhesive

Transdermal and Topical Drug Delivery Pressure Sensitive Adhesives²

Amine-compatible adhesive in solvent; custom formulation upon solvent selection

- Skin adhesion of transdermal drug delivery systems; specifically designed for compatibility with aminofunctional drugs

Dow Corning[®] BIO-PSA 7-430X Silicone Adhesive

Dow Corning[®] BIO-PSA 7-420X Silicone Adhesive

Dow Corning[®] BIO-PSA 7-410X Silicone Adhesive

Custom adhesive formulations in solvent

- Skin adhesion of transdermal drug delivery systems to the body

Dow Corning[®] BIO-PSA 7-460X Silicone Adhesive

Dow Corning[®] BIO-PSA 7-450X Silicone Adhesive

Dow Corning[®] BIO-PSA 7-440X Silicone Adhesive

Solventless adhesive formulation with adjustable tack (customizable)

- Skin adhesion of transdermal drug delivery systems to the body

Dow Corning[®] BIO-PSA Hot Melt Adhesive

Regulatory Status

FDA Material Application File
 FDA Drug Master File

Biocompatibility Tests³

Cytotoxicity
 Skin Irritation
 Skin Sensitization

Soft Skin Adhesives

Description Typical Applications

Two-part, platinum-catalyzed adhesive, unfilled silicone elastomer

- Clear and soft skin adhesive for wound dressing and pharmaceutical topical or transdermal applications

Dow Corning[®] 7-9800 A & B

Dow Corning[®] 7-9700 A & B

¹ Dow Corning can provide Technical Files as needed to meet requirements.

² X = 1 for heptane, X = 2 for ethyl acetate.

³ Tested according to ISO 10993-1 standard for skin contact duration ≤30 days.

Typical Properties†

Solids Content						
Peel Adhesion						
Tack						
Solvent						
Solution Viscosity at 25°C						
Rheology – Eta* at 0.01 rad/s at 30°C						
		mPa·s			g/cm	%
	5×10^7	2500	Ethyl Acetate	Medium	700	65
	5×10^6	2600	Ethyl Acetate	High	500	60
	5×10^6	500 ⁴ , 1200 ⁵	Heptane or Ethyl Acetate	High	700	60
	1×10^8	450 ⁴ , 800 ⁵		Medium	900	60
	1×10^9	150 ⁴ , 350 ⁵		Low		60
	5×10^6	1000 ⁴ , 2600 ⁵	Heptane or Ethyl Acetate	High	500	60
	5×10^7	700 ⁴ , 1500 ⁵		Medium	700	60
	5×10^8	450 ⁴ , 650 ⁵		Low		60
	5×10^5	25,000 ⁶	None	Very High	300	100

As Supplied†	Pot Life ⁷ at Room Temperature		After Curing for 60 min at 140°C†	
	Viscosity at 25°C	min	Appearance	Penetration (62.5 g probe weight)
	mPa·s	min		mm/10
	400	140	Clear	95
	400	140	Clear	95

† Specifications Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.

⁴ 60% PSA solids in heptane.

⁵ 60% PSA solids in ethyl acetate.

⁶ Melt viscosity at 185°C.

⁷ Time from initial mixing to double viscosity.

Elastomers (Rubbers)

To assure consistent quality for medical device and pharmaceutical applications, elastomers from Dow Corning are manufactured, packaged, and tested at the Healthcare Industries Materials Site utilizing principles of GMP guidelines for both Active Pharmaceutical Ingredients (APIs) and Medical Devices.

Regulatory Status

Ph. Eur. (EP) Monograph 3.1.9. Silicone Elastomer for Closures and Tubing	Volatile Matter
	Substances Soluble in Hexane

Technical File

FDA Regulation 21 CFR 177.2600 (Food Grade)

Biocompatibility Tests

Cytotoxicity

Mutagenicity/Genotoxicity

Hemolysis

Skin Sensitization

Pyrogenicity (USP)

90-day Implant (exceeds USP Class VI)

30-day Implant (exceeds USP Class VI)

USP Class V and VI

BioMedical Grade High Consistency Rubber

Description

Typical Applications

One-part, enhanced tear-resistant silicone elastomers; peroxide initiator selected by customer and added at point of use

- Fabrication of medical/surgical/diagnostic devices and components
- Fabrication of extruded parts

<i>Silastic</i> ® Q7-4535	•	•	•	•	•	•	•	•	•	•	•	•
<i>Silastic</i> ® Q7-4550	•	•	•	•	•	•	•	•	•	•	•	•
<i>Silastic</i> ® Q7-4565	•	•	•	•	•	•	•	•	•	•	•	•

Two-part (1:1 by weight), platinum-catalyzed, enhanced tear-resistant silicone elastomers

- Balloons, molded and extruded parts
- Fabrication of medical/surgical/diagnostic devices and components
- Fabrication of extruded parts

<i>Silastic</i> ® Q7-4720	•	•	•	•	•	•	•	•	•	•	•	•
<i>Silastic</i> ® Q7-4735	•	•	•	•	•	•	•	•	•	•	•	•
<i>Silastic</i> ® Q7-4750	•	•	•	•	•	•	•	•	•	•	•	•
<i>Silastic</i> ® Q7-4765	•	•	•	•	•	•	•	•	•	•	•	•
<i>Silastic</i> ® Q7-4780	•	•	•	•	•	•	•	•	•	•	•	•

Class VI Elastomers

One-part, enhanced tear-resistant silicone elastomers; peroxide initiator selected by customer and added at point of use

- Fabrication of medical/surgical/diagnostic devices and components
- Fabrication of extruded parts
- Implantation applications ≤29 days

<i>Dow Corning</i> ® C6-235	•	•	•	•	•	•	•	•	•	•	•	•
<i>Dow Corning</i> ® C6-250	•	•	•	•	•	•	•	•	•	•	•	•
<i>Dow Corning</i> ® C6-265	•	•	•	•	•	•	•	•	•	•	•	•

Two-part (1:1 by weight), platinum-catalyzed silicone elastomers

- Fabrication of medical/surgical/diagnostic devices and components
- Fabrication of extruded parts
- Implantation applications ≤29 days

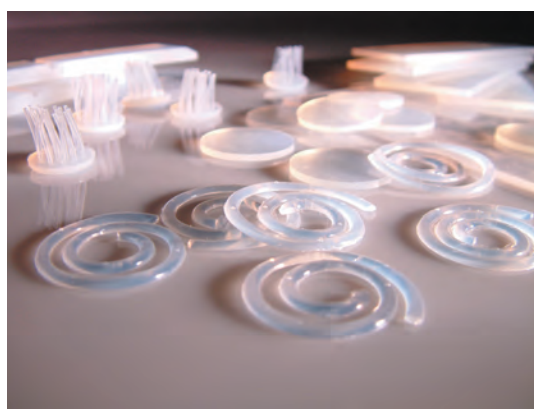
<i>Dow Corning</i> ® C6-135	•	•	•	•	•	•	•	•	•	•	•	•
<i>Dow Corning</i> ® C6-150	•	•	•	•	•	•	•	•	•	•	•	•
<i>Dow Corning</i> ® C6-165	•	•	•	•	•	•	•	•	•	•	•	•
<i>Dow Corning</i> ® C6-180	•	•	•	•	•	•	•	•	•	•	•	•

Class VI Enhanced Elastomers

<i>Dow Corning</i> ® C6-350 LH Elastomer	•	•	•	•	•	•	•	•	•	•	•	•
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Typical Properties†

Relative Density					
Tear Strength, Die B					
Elongation					
Tensile Strength, Die C					
Durometer Hardness, Shore A	MPa (psi)	%	kN/m (ppi)		
36	8.2 (1180)	830	25.1 (140)	1.12	
48	9.4 (1360)	680	31.5 (180)	1.16	
67	7.9 (1150)	620	38.6 (220)	1.20	
23	9.0 (1300)	1310	32.0 (180)	1.11	
36	9.3 (1350)	1180	36.2 (210)	1.12	
50	10.0 (1450)	930	45.4 (260)	1.16	
65	8.0 (1160)	900	45.1 (260)	1.20	
77	7.8 (1130)	660	41.7 (240)	1.20	
37	7.6 (1100)	810	21.0 (120)	1.12	
49	8.3 (1200)	530	27.0 (150)	1.16	
66	8.6 (1200)	560	35.0 (200)	1.20	
36	8.3 (1200)	1120	35.2 (200)	1.12	
50	10.6 (1540)	980	42.7 (240)	1.16	
61	8.1 (1170)	940	42.2 (240)	1.21	
77	7.2 (1050)	610	39.1 (220)	1.21	
49	8.5 (1240)	730	37.8 (220)	1.15	



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† Specifications Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.

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Elastomers (Rubbers)

Continued from previous page.

To assure consistent quality for medical device and pharmaceutical applications, elastomers from Dow Corning are manufactured, packaged, and tested at the Healthcare Industries Materials Site utilizing principles of GMP guidelines for both Active Pharmaceutical Ingredients (APIs) and Medical Devices.

Regulatory Status

Ph. Eur. (EP) Monograph 3.1.9. Silicone Elastomer for Closures and Tubing
 Volatile Matter
 Substances Soluble in Hexane

Technical File

FDA Regulation 21 CFR 177.2600 (Food Grade)

Biocompatibility Tests

Cytotoxicity

Mutagenicity/Genotoxicity

Hemolysis

Skin Sensitization

Pyrogenicity (USP)

90-day Implant (exceeds USP Class VI)

30-day Implant (exceeds USP Class VI)

USP Class V and VI

Description	Typical Applications	BioMedical Grade Liquid Silicone Rubber	Class VI Liquid Silicone Rubber	S-Series Liquid Silicone Rubber
Two-part (1:1 by weight), platinum-catalyzed liquid silicone rubbers	<ul style="list-style-type: none"> Injection molding of precision and intricate parts of medical devices (O-rings, stoppers, and closures) Mesh coating 	<i>Silastic</i> [®] 7-6830 BioMedical Grade LSR		
		<i>Silastic</i> [®] Q7-4840 BioMedical Grade LSR		
		<i>Silastic</i> [®] 7-6840 BioMedical Grade LSR		
		<i>Silastic</i> [®] Q7-4850 BioMedical Grade LSR		
		<i>Silastic</i> [®] 7-4860 BioMedical Grade LSR		
		<i>Silastic</i> [®] 7-6860 BioMedical Grade LSR		
		<i>Silastic</i> [®] 7-4870 BioMedical Grade LSR		
Two-part (1:1 by weight), platinum-catalyzed liquid silicone rubbers	<ul style="list-style-type: none"> Injection molding of precision and intricate parts of medical devices (O-rings, stoppers, and closures) Fabric coating Implantation applications ≤29 days 	<i>Dow Corning</i> [®] C6-530 LSR		
		<i>Dow Corning</i> [®] C6-540 LSR		
		<i>Dow Corning</i> [®] C6-550 LSR		
		<i>Dow Corning</i> [®] C6-560 LSR		
		<i>Dow Corning</i> [®] C6-570 LSR		
Two-part (1:1 by weight), platinum-catalyzed liquid silicone rubbers	<ul style="list-style-type: none"> Injection molding of precision and intricate parts of medical devices (O-rings, stoppers, and closures) Fabric coating Implantation applications ≤29 days Designed for fully automatic molding systems/applications 	<i>Dow Corning</i> [®] S40 LSR		
		<i>Dow Corning</i> [®] S50 LSR		
		<i>Dow Corning</i> [®] S70 LSR		

Typical Properties†

Tear Strength, Die B					
Tensile Strength, Die C					
Durometer Hardness, Shore A	MPa (psi)	%	kN/m (ppi)		
30	8.8 (1280)	790	25.2 (140)	1.13	
44	9.4 (1370)	540	36.9 (210)	1.12	
42	9.9 (1430)	700	36.5 (210)	1.13	
53	10.2 (1470)	630	45.0 (260)	1.15	
58	8.8 (1280)	540	50.9 (290)	1.10	
57	10.0 (1450)	580	47.6 (270)	1.15	
66	9.5 (1380)	420	47.0 (270)	1.15	
30	8.2 (1190)	830	27.5 (160)	1.13	
40	8.9 (1290)	740	41.9 (240)	1.13	
52	10.5 (1520)	660	44.7 (255)	1.14	
58	8.8 (1280)	540	50.9 (290)	1.10	
65	9.1 (1320)	440	53.9 (310)	1.15	
40	8.6 (1250)	684	31.2 (178)	1.14	
48	8.8 (1275)	610	42.5 (242)	1.13	
66	9.3 (1360)	451	42.3 (241)	1.14	

† Specifications Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.



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Device Adhesives and Encapsulants

To assure consistent quality for medical device and pharmaceutical applications, elastomers from Dow Corning are manufactured, packaged, and tested at the Healthcare Industries Materials Site utilizing principles of GMP guidelines for both Active Pharmaceutical Ingredients (APIs) and Medical Devices.

Regulatory Status

Ph. Eur. (EP) Monograph 3.1.9. Silicone Elastomer for Closures and Tubing
 Volatile Matter
 Substances Soluble in Hexane
 FDA Regulation 21 CFR 177.2600 (Food Grade)

Biocompatibility Tests

Cytotoxicity
 Mutagenicity/Genotoxicity
 Hemolysis
 Skin Sensitization
 Pyrogenicity (USP)
 90-day Implant (exceeds USP Class VI)
 30-day Implant (exceeds USP Class VI)
 USP Class V and VI

BioMedical Grade Low Consistency Rubber

Description	Typical Applications
Two-part (10:1 by weight), platinum-catalyzed, low-temperature-curing and pourable silicone elastomer	<ul style="list-style-type: none"> Medical device encapsulating and moldmaking Drug matrix for pharmaceutical applications

Silastic[®] MDX4-4210 Medical Grade Elastomer

RTV Adhesive

One-part, low-slump, translucent silicone material; solventless; cures at room temperature between 50-60% relative humidity	<ul style="list-style-type: none"> Assembling and sealing medical device components Encapsulating and insulating electrical components for medical devices
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Silastic[®] Medical Adhesive Silicone, Type A

Regulatory Status

FDA Drug Master File

Description	Typical Applications
Two-part (1:1 by weight), platinum-catalyzed, unfilled silicone elastomer	<ul style="list-style-type: none"> Filling material for external form prostheses and pressure cushions

Soft Filling Elastomer

Dow Corning[®] 7-9600 A & B
Dow Corning[®] 7-FC9600 A & B

Typical Properties†

Relative Density				
Tear Strength, Die B				
Elongation				
Tensile Strength, Die C				
Durometer Hardness, Shore A	MPa (psi)	%	kN/m (ppi)	
30	5.0 (730)	470		1.11
35	3.3 (480)	450		1.06

As Supplied†	Cure Rate, Viscosity at Room Temperature		After Curing for 60 min at 140°C†	Penetration (62.5 g probe weight)	
	Viscosity at 25°C	After 120 min		Appearance	mm/10
	mPa·s	mPa·s			
	470	≤4000 ¹		Clear	260
	480	>6500		Clear to Straw	260

† Specifications Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.



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Tubing

To assure consistent quality for medical device and pharmaceutical applications, *Dow Corning*[®] and *Silastic*[®] brand tubing products are manufactured, packaged, and tested utilizing principles of GMP guidelines for both Active Pharmaceutical Ingredients (APIs) and Medical Devices.

Regulatory Status (tubing)

Selected 3-A Sanitary Standards
USP (661) Physiochemical Tests - Plastics
USP (381) Elastomeric Closures for Injection
Ph. Eur. (EP) Monograph 3.1.9. Silicone Elastomer for Closures and Tubing
FDA Regulation 21 CFR 177.2600 (Food Grade)
Biocompatibility Tests (base elastomer)
Cytotoxicity
Mutagenicity/Genotoxicity
Hemolysis
Skin Sensitization
Pyrogenicity (USP)
90-day Implant (exceeds USP Class VI)
USP Class V and VI

Biopharmaceutical and Pharmaceutical Tubing

Description	Typical Applications																					
Silicone tubing produced from platinum-catalyzed silicone elastomer for transfer applications in pharmaceutical and biotechnological manufacturing	<ul style="list-style-type: none"> Ultra-pure fluid transfer Filling machines Steam or gas transfer Cleanroom Veterinary 	<i>Dow Corning</i> [®] Pharma-50 Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
		<i>Dow Corning</i> [®] Pharma-65 Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		<i>Dow Corning</i> [®] Pharma-80 Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		<i>Silastic</i> [®] Laboratory Tubing, 7-5224 (cat. # 508)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<i>Silastic</i> [®] Laboratory Tubing, 7-5225 (cat. # 515)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	<ul style="list-style-type: none"> Extended peristaltic pump delivery High/low pressure applications Kink-resistant 	<i>Dow Corning</i> [®] Pharma Advanced Pump Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<i>Dow Corning</i> [®] Pharma-65 Reinforced Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	

Molded Tubing Assemblies

Custom-molded assemblies for critical fluid transfer applications	<ul style="list-style-type: none"> Biopharmaceutical and pharmaceutical fluid transfer 	<i>Dow Corning</i> [®] Pharma Fabricated Tubing Assembly (HCR-based)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		<i>Dow Corning</i> [®] Pharma Fabricated Tubing Assembly (LSR-based)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Medical Grade Tubing

Silicone tubing produced from platinum-catalyzed silicone elastomer for critical medical device applications	<ul style="list-style-type: none"> Infusion therapy <ul style="list-style-type: none"> Drug delivery Nutritional therapy – feeding tubes Medical catheters <ul style="list-style-type: none"> Urology catheters Respiratory catheters Shunts Cardiac pacing leads 	<i>Silastic</i> [®] Rx-50 Medical Grade Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
		<i>Silastic</i> [®] Rx-65 Medical Grade Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		<i>Silastic</i> [®] Rx-80 Medical Grade Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		<i>Silastic</i> [®] Rx 50R Medical Grade Tubing Radiopaque Special	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		<i>Silastic</i> [®] Rx 65R Medical Grade Tubing Radiopaque Special	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
		<i>Silastic</i> [®] Rx 80R Medical Grade Tubing Radiopaque Special	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	<ul style="list-style-type: none"> Cardio-pulmonary bypass Drug delivery 	<i>Silastic</i> [®] Rx Pump Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	<ul style="list-style-type: none"> High/low pressure applications Kink-resistant 	<i>Silastic</i> [®] Rx-50 Reinforced Medical Grade Tubing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	

¹ Based on elastomer.

Typical Properties†

Burst Pressure (for 0.375 in. ID x 0.625 in. OD)

Barium Sulfate Content

Tensile Strength at Break

Modulus at 200% Elongation

Elongation

%

MPa (psi)

MPa (psi)

w/w%

Bar (psi)

	795	2.1 (310)	8.7 (1265)		4.1 (59)
	775	2.8 (415)	6.8 (990)		
	570	3.9 (570)	7.0 (1025)		13.2 (192)
	616		8.1 (1177)		
	507		7.6 (1109)		
	590	3.0 (435)	8.9 (1290)		
	890 ¹	2.82 (409) ¹	7.94 (1151) ¹		41.2 (597)
	815	2.1 (302)	9.6 (1388)		
	613	2.7 (391)	9.0 (1301)		
	831	4.0 (581)	7.1 (1030)		
	805	2.2 (312)	9.6 (1395)	13	
	600	2.6 (375)	9.1 (1320)	13	
	825	2.6 (380)	7.3 (1060)	13	
	815	2.1 (302)	9.6 (1388)		
	930 ¹		10.0 (1450) ¹		

† Specifications Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.

Fluids, Emulsions, and Dispersions

To assure consistent quality for pharmaceutical formulations and applications, *Dow Corning*[®] brand fluid and emulsion products are manufactured, packaged, and tested at the Healthcare Industries Materials Site utilizing principles of GMP guidelines for Active Pharmaceutical Ingredients (APIs).

Regulatory Status

VOC Exempted in USA by the EPA	
Ph. Eur. (EP) Monograph (CEP Available)	Silicone Oil Used as Lubricant ¹ Dimeticone ¹
NF Monograph Requirements for Dimethicone	
Technical File ¹	
FDA Drug Master File	
FDA Regulation 21 CFR 347.10 ²	

Volatile Fluids³

<i>Dow Corning</i> [®] Q7-9180 Silicone Fluid ⁴									
0.65 cSt									
1 cSt									

Fluids³

<i>Dow Corning</i> [®] 360 Medical Fluid									
20 cSt									
100 cSt									
350 cSt									
1,000 cSt									
12,500 cSt									

<i>Dow Corning</i> [®] Q7-9120 Silicone Fluid ⁴									
20 cSt									
100 cSt									
350 cSt									
1,000 cSt									
12,500 cSt									

Emulsion

<i>Dow Corning</i> [®] 365, 35% Dimethicone NF Emulsion									

Dispersion

<i>Dow Corning</i> [®] MDX4-4159, 50% Medical Grade Dispersion									

Description	Typical Applications
Ozone-safe, high-purity volatile methylsiloxane fluids	<ul style="list-style-type: none"> Medical device cleaning solvent Equipment cleaning solvent Swelling of silicone tubing Diluent for <i>Dow Corning</i>[®] 360 Medical Fluid Pharmaceutical solvent
Clear, colorless polydimethylsiloxane liquid	<ul style="list-style-type: none"> Siliconization lubricant Hydrophobic lubricant for glass, metal, plastics, and rubber Demolding agent
Clear, colorless polydimethylsiloxane liquid	<ul style="list-style-type: none"> Excipient in topical formulations Protective coating on skin Emollient Demolding agent Lubricant for process aid
White, liquid emulsion containing 35% National Formulary Dimethicone	<ul style="list-style-type: none"> Water-dilutable siliconization lubricant for surface treatment or release
Colorless to slightly hazy liquid aminofunctional silicone dispersion with 50% active silicone ingredients; cures at room temperature between 55-60% relative humidity	<ul style="list-style-type: none"> Lubricant for cutting edges and needles Lubricant for biomedical devices Surface treatment

¹ Dow Corning can provide Technical Files (or Certificates of Suitability/CEP) as needed to meet requirements.

² "Skin Protectant Drug Products for Over-the-Counter Human Use" (21 CFR Part 347).

³ Not intended for human injection.

⁴ Not qualified for coating of parenteral components.

Typical Properties†

	mm ² ·s ⁻¹		%		°C
pH					
Flash Point, closed cup					
Color, APHA					
Volatile Content					
Specific Gravity at 25°C					
Viscosity at 25°C					
	0.65	0.76			-3
	1	0.82			34
	20	0.951	2.0	<15	>100
	100	0.967	0.07	<15	>100
	350	0.971	0.05	<15	>100
	1,000	0.972	0.01	<15	>100
	12,500	–	0.17	<15	>100
	20	0.951	2.0	<15	>100
	100	0.967	0.07	<15	>100
	350	0.971	0.05	<15	>100
	1,000	0.973	0.01	<15	>100
	12,500	–	0.17	<15	>100
		0.99	60.0		5.0
	130	0.861	50		13.3

† Specifications Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.

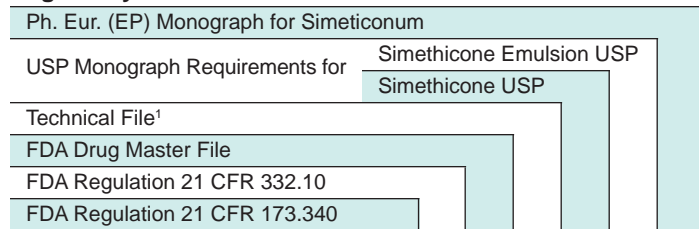


AV10093

Antifoams and Antifoam Emulsions

To assure consistent quality for use as pharmaceutical ingredients, *Dow Corning*[®] brand antifoam products are manufactured, packaged, and tested at the Healthcare Industries Materials Site utilizing principles of GMP guidelines for Active Pharmaceutical Ingredients (APIs).

Regulatory Status



Description	Typical Applications	Antifoams						
Mixture of a low-volatile polydimethylsiloxane fluid and silicon dioxide	<ul style="list-style-type: none"> Foam control in medical and pharmaceutical applications OTC antifatulents 	<i>Dow Corning</i> [®] Q7-2243 LVA, Simethicone USP	•	•	•	•	•	•
Mixture of polydimethylsiloxane (PDMS) fluid and silicon dioxide		<i>Dow Corning</i> [®] Antifoam M Compound ²	•	•	•	•		•
Water-dilutable, nonionic emulsion containing 30% low-volatile Simethicone USP by weight	<ul style="list-style-type: none"> Foam control in medical and pharmaceutical applications OTC antifatulents Biofermentation 	<i>Dow Corning</i> [®] Q7-2587, 30% Simethicone Emulsion USP	•	•	•	•	•	
Water-dilutable nonionic emulsion containing 30% Simethicone USP by weight		<i>Dow Corning</i> [®] 7-9245, 30% Simethicone Emulsion USP ³	•	•	•			•
Water-dilutable emulsion containing 30% Simethicone USP by weight and methylcellulose		<i>Dow Corning</i> [®] Medical Antifoam C Emulsion	•	•	•	•		•

¹ Dow Corning can provide Technical Files as needed to meet requirements. In Europe, Dow Corning holds an open Drug Master File for Q7-2243, Q7-2587 and Antifoam M and a Technical File for Medical Antifoam C Emulsion.

² Dow Corning holds a Certificate of Suitability to Simeticone Monograph of the European Pharmacopoeia (Reference number R0-CEP 2004-299-Rev 00 for Simeticone) for this product.

³ This product is available only in the USA.

Typical Properties†

	pH	Silicon Dioxide Content	Nonvolatile Content	Volatility	Heavy Metal Content	Defoaming Performance	PDMS Content
	%	seconds	ppm	w/w %	w/w %	%	
	90.5-99	<15 20 ppm	<5	<1.0		4-7	
	90.5-99	<15 20 ppm	<5	<1.0		4-7	
	30.4	<15 50 ppm	<5		41.7	1.2-2.1	2.6
	29.6	<15 50 ppm	<5		>36	1.2-2.1	2.6
	29.4	<15 50 ppm	<5		30	1.2-2.1	2.5

† Specifications Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office prior to writing specifications on these products.

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+1 989 496 6000

Europe

+49 0611 237 778

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+86 21 3774 7110

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