

INNOVATIVE BIOPHARM

SOLUTIONS BY
MOMENTIVE



MOMENTIVE[®]
SOLUTIONS FOR A SUSTAINABLE WORLD™

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At Momentive we pride ourselves on creating solutions for a sustainable world

With more than 80+ years of experience in research, development, and production of silicone materials, Momentive has a historical legacy of commercial first-ever silicone processes and products. Our vast product portfolio is comprised of many advanced silicone solutions, allowing us to serve several industries.



Finely tuned formulations are nowhere more important than in healthcare & medical device applications. Momentive silicone elastomers can meet healthcare's rigorous challenges, and help medical manufacturers produce strong yet comfortable orthopedic devices, optically transparent yet flexible medical tubing, and sterilization-tolerant yet durable dental and surgical devices. From ease of processability in manufacturing to enhanced comfort when in contact with the human body.

Momentive silicones can meet the exacting demands of the healthcare & medical device industry. Our decades of biomedical collaboration have led to a range of products that have made new equipment possible and helped standard equipment to work better. Our breadth of experience ensures that we'll have the industry knowledge and expertise to help our customers meet their needs.



HEALTHCARE TRENDS

DEMOGRAPHIC CHANGES

- Aging population
- Higher incidence of chronic illnesses
- Long term care
- The number of people living, with increasing diseases like diabetes

MARKET ACCESS

- Cost pressure on mature economies
- Improving healthcare access in developing countries
- Improved infrastructure

INNOVATION

Medical advances

- Minimally invasive
- Integration between pharmaceuticals, device, and delivery systems

Digitalization

- Data analysis, real time monitoring, wearables

REGULATORY & SAFETY

Increasing regulatory requirements

Risk mitigation

- Proliferation of disposable devices to minimize risk of infections



Innovative Biopharm Solutions by Momentive

High-performance silicones is our passion. As a global leader, Momentive is providing solutions to the Biopharm industry.

Here we offer a comprehensive portfolio of silicone candidates for pharmaceutical applications that are ISO 10993 and USP Class VI compliant, without the addition of plasticizers or other organic additives.

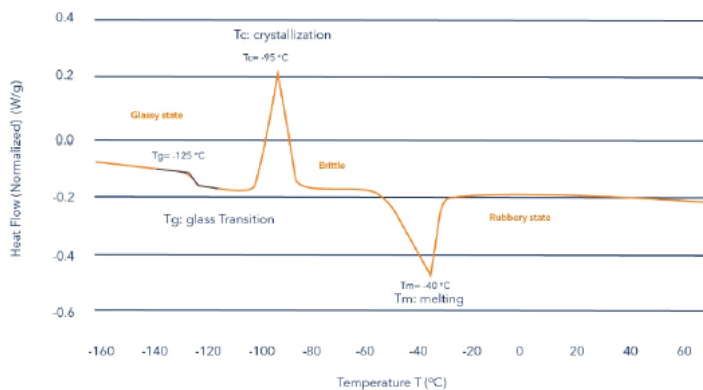
01 Tufel™ 150 LT: Low Temperature Silicone

Two component, high resilience, biocompatible, grades for extrusion.

Tufel 150 LT is a biocompatible 50 shore A, addition cure silicone elastomer offering low extractables & leachables with good physical property performance at temperatures as low as -114°C .



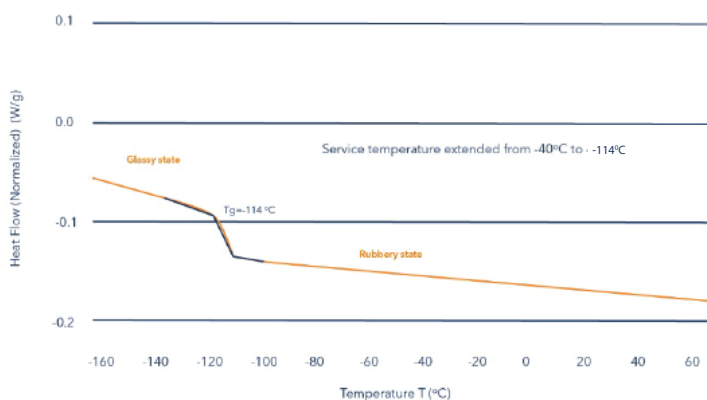
02 Standard Silicone DSC*



Test results. Actual results may vary.

General purpose silicone does not disrupt the eventual crystallization of the polymer and becomes brittle at -40°C, and no longer has the properties of an elastomer (rubber-like).

03 Tufel™ 150 LT Silicone DSC*



Test results. Actual results may vary.

Tufel 150 LT disrupts crystallization and maintains elastomeric (rubber-like) properties until -114°C, offering a wider service temperature range.

*DSC: Differential scanning calorimetry



Key Features and Benefits

- Biocompatible
- Low extractables & leachables
- Maintains physical properties at low temperatures
- Peroxide-free cure system

Potential Applications

- Fluid and drug delivery tubing
- Hose/tubing used in pharmaceutical production
- Gaskets, seals, valves



Typical Silicone Elastomer Biopharma Applications

PHARMA TUBING

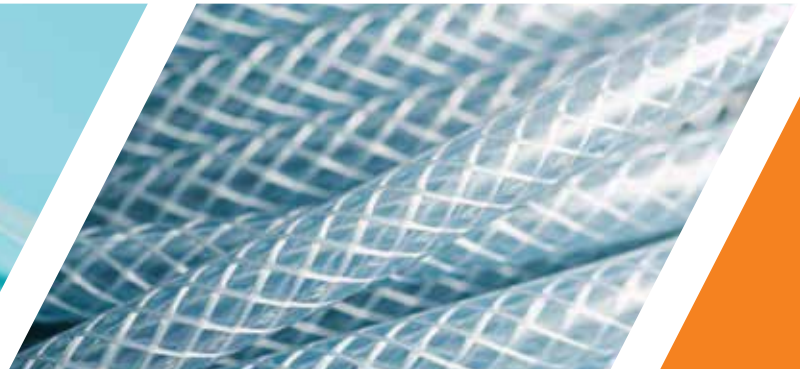
- Cell Culture Media Preparation
- Cell Harvest
- Vaccines
- Reagent/Buffer Solutions
- Single Use Bag Ports

CRITICAL PUMPS

- Peristaltic Pumps
- Pinch Valves
- Vaccines
- Pumping of Reagent/ Buffer Solutions
- Sterile Filling Systems
- Medical Device
- Diagnostic Equipment

REINFORCED TUBING

- Hot WFI
- Positive Displacement Pumps
- Tank Transfer
- Divert Panels
- Load Cells Isolation
- Bulk Media Transfer
- Sterile Drugs



Other Momentive Brands Used in Healthcare Applications

01 TUFEL

The Tufel product family is a two-component addition cure silicone elastomer offering low compression set and good hysteresis properties with low extractables and leachables, which may be desirable for biopharma tube and precise peristaltic pump dosing applications.

02 Addisil™

The Addisil product family is available as one or two component addition cure silicone elastomer, which may be desirable in applications where regulatory compliance, transparency, and good mechanical properties are important. For example medical tubing, gaskets and valves used in the food and beverage industries.

03 Silopren™ Liquid Silicone Rubber (LSR)

The Silopren LSR product family is a versatile class of liquid silicone rubbers. Silopren LSR is two-component addition cure and pumpable silicone elastomer that can be molded and cured with fast cycle times.

Certifications

BIOCOMPATIBILITY

- USP Class VI
- ISO 10993-Parts 5, 6, 10 and 11

Silicone Elastomers for Closures and Tubing Part 3.1.9*

- Quality Control/testing on a regular basis
- Extractables, weight loss and residual substances (e.g. Pt or peroxides)



*Not applicable for all the grades. Kindly get in touch with Momentive expert for further information.

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