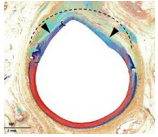


INTRODUCING HYDRALESE™

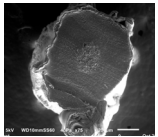
A Breakthrough in Safe and Effective Drug Delivery

Secant Group's controlled active release platform Hydralese™ consists of implantable biocompatible and shelf-stable polymers that provide sustained drug delivery lasting 3-18 months via surface erosion. As a highly tunable, elastomeric, and retrievable soft polymer technology, Hydralese enhances patient comfort and compliance by reducing side effects commonly associated with current drug delivery systems.



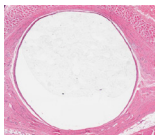
Regenerative

Boost your implant with (PGSU) (poly(glycerol sebacate) urethane), a biomaterial with pro-healing, anti-microbial, and anti-inflammatory properties.



Surface-eroding

Provide more targeted drug delivery with long-lasting, zero-order release kinetics that outperform bulk-degrading and non-degradable polymers.



Biocompatible

Avoid toxicity, irritation, inflammation, fibrous encapsulation, or acidic pH common in other drug delivery systems.



Flexible

Increase patient comfort with a soft polymer implant that exhibits unchanged bend radius across a variety of drug types and drug loadings.

Hydralese Advanced Technology Outperforms Other Polymers

	PGSU	EVA	TPU	PDMS	PLGA	PCL
Therapeutic duration >6months	✓	✓	✓	✓		
High drug load >50% w/w	✓					
Zero-order release kinetics	✓					
Retrievable initially if adverse reaction	✓	✓	✓	✓		
No need for implant retrieval after therapy	✓				✓	✓
Degradable after payload released	✓					
Reduced burst effect once implanted	✓					
Reduced tail effect once sub-therapeutic	✓					
Minimal pH change during degradation	✓	✓	✓	✓		✓
Minimal fibrous encapsulation	✓	✓	✓			✓
All tissues return to normal upon degradation	✓	✓	✓			
Polymer stable under sterilization	✓	✓	✓	✓		
Room temp/humidity shelf storage	✓	✓	✓	✓		
Flexible even at high loading	✓		✓	✓		
Discrete	✓		✓	✓		

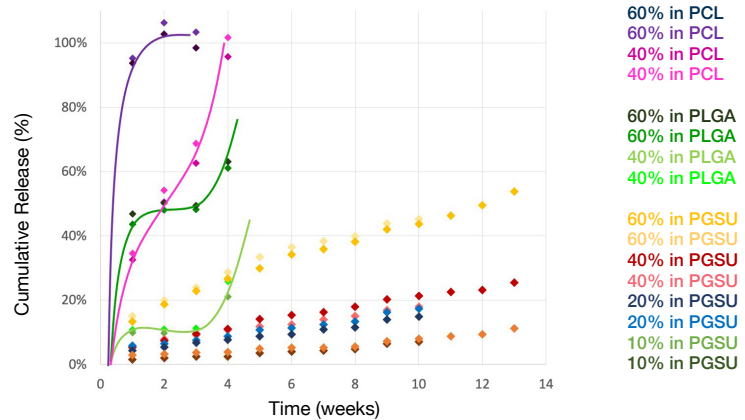
Hydralese Enables Targeted Drug Delivery and Enhances Patient Comfort and Compliance

Hydralese can handle high drug loadings (up to 80% w/w) of hydrophilic and hydrophobic active pharmaceutical ingredients (API) while maintaining a predictable, linear release. Compared to bulk-degrading polymers, the surface erosion mechanism of Hydralese (PGSU) demonstrates no burst release, diffusion, or swelling, and remains solid and retrievable until fully resorbed by the body.

Hydrophilic and Hydrophobic API Release

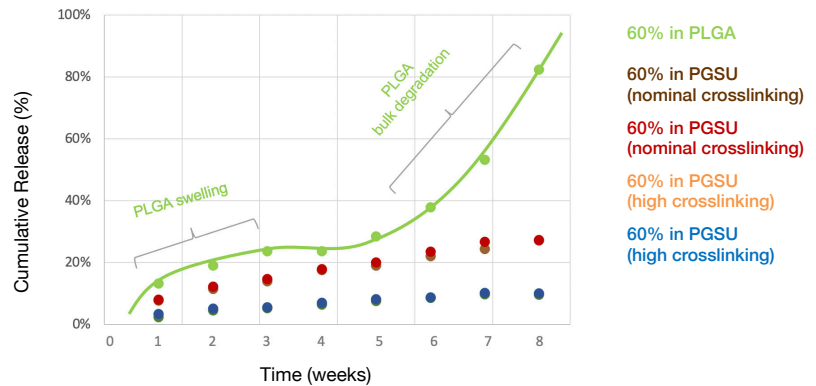
Hydrophilic Release

- Outperforms PLGA and PCL
- No burst release at start of therapy
- Surface erosion protects interior API
- Resorbable means fewer clinic visits



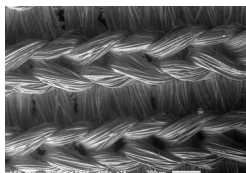
Hydrophobic Release

- Outperforms PLGA
- Linear release more predictable
- Multi-month duration product
- No lag to reach therapeutic release

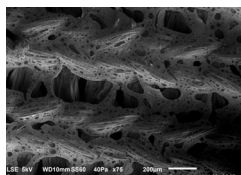


A Better Drug Delivery by Surface Erosion

PLGA COATING ON KNIT BULK DEGRADATION



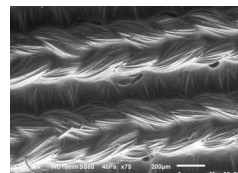
Day 35



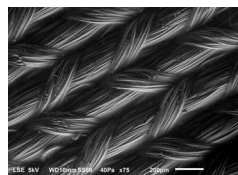
Day 49

- Burst release/lag release
- Diffusion
- Swelling
- Erratic degradation
- Heterogeneous topography
- Softening
- Not retrievable

PGSU COATING ON KNIT SURFACE EROSION



Day 35



Day 49

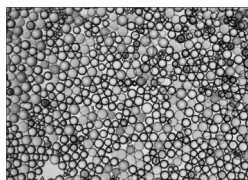
- No burst release/lag release
- No diffusion
- No swelling
- Predictable degradation
- Smooth topography
- Remains solid
- Retrievable

Customizable Implantable Forms

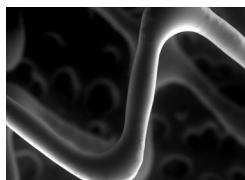
Our formulation experts will collaborate with you to create the right Hydralse form for your project:



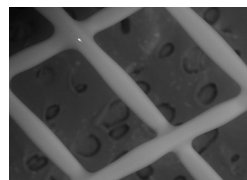
Implants



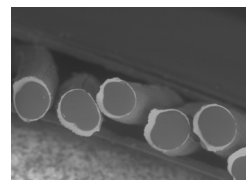
Microspheres



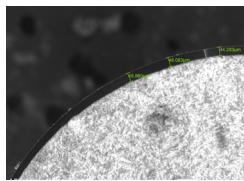
Metal Stent Coatings



Metal Braid Coatings



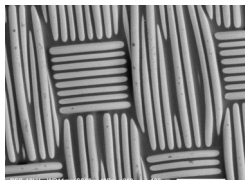
Fibers



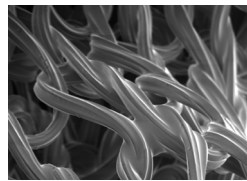
Core-sheath Impants



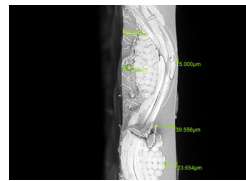
Gastric Retention



Woven Coatings



Knit Coatings



Thin Films

Serving Human and Animal Health

- Cardiovascular diseases
- Contraception
- Diabetes
- Gastroenterology
- HIV treatment and prevention
- Immunosuppression
- Infection
- Inflammation
- Neurodegenerative disorders
- Oncology
- Ophthalmology
- Pain management

Learn how Hydralse can improve patient compliance and global health:

Download Posters

Zero-order Release at High Loadings Using Hydralse™

Carissa Smoot, BS; Dennis Shull, BS; Stephanie Reed, PhD; Secant Group, 2020 AAPS PharmSci 360

Ultra-long-acting Oral Drug Delivery Using a Single-component Hydralse (PGSU) Gastroretentive Device

Carissa Smoot, BS; Stephanie Reed, PhD; Secant Group, 2020 AAPS PharmSci 360

Long-acting Implantables Using Surface-eroding Elastomers Sustain Zero-order, Multi-month Release

Stephanie Reed, PhD; Carissa Smoot, BS; Dennis Shull, BS; Secant Group, 2020 LAII Conference

Read Articles

Next-generation Long-acting Implantables Using Surface-eroding Elastomers

Drug Development and Delivery (November/December 2020)
By Stephanie Reed, PhD; Dennis Shull, BS; Secant Group

Biodegradable Urethane's Potential for Drug-delivery Implants

MD+DI (August 2020)
Interview with Stephanie Reed, PhD, Secant Group

LET'S TALK.

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secant.marketing@secant.com



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