



CASE STUDY

The modular packaging and application system BarrelDose Spray from MIXPAC™ results in easier dispensing and longer shelf-life.

Beutlich® Pharmaceuticals LLC is a company which has been involved in the fields of relieving pain management and preventive care since 1954. To this day, the company offers the first worldwide and only orally administered anesthetic spray HurriCaine ONE. The MIXPAC™ BarrelDose Spray packaging and application system, which is part of the award-winning modular Barrel System, was developed by the Swiss company Sulzer Mixpac along with the U.S. company Beutlich Pharmaceuticals.



Beutlich's product for oral anesthetics

“

The longer shelf-life, infectious control, safe and easy handling has benefitted all of our customers.

”

Erlene Thomas, CEO Beutlich Pharmaceuticals

The Sulzer Difference

- The MIXPAC™ Barrel System combines best of two worlds
 - Optimized shelf-life with a standardized container
 - Safety and ease of use with a customized application specific applicator
- Multiple routes of administration are possible

The challenge

Until now, the shelf-life of the ingredients depended on the shelf-life of the applicator. The reason being the direct connection of both components with each other. This necessitated filling of the ingredient and assembly of the applicator at the same location.

Both factors had a major effect on the production and storage process.

Next to the mentioned requirements, it was imperative to retain the existing product features: easy and intuitive handling, controlled and precise dosing of the active substance, protection against uncontrolled loss of liquid as well as avoiding cross-contamination. Also a controlled droplet size was mandatory to guarantee application safety.

The solution

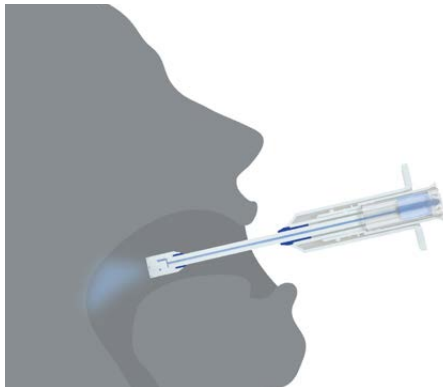
The applicator and container are separate in the MIXPAC™ BarrelDose Spray. As the pre-filled container is made of a different optimized material (COC) than the applicator, this results in a longer shelf-life. The sensitive liquid ingredients are protected and logistics are simplified. In addition, application safety is increased and perfect, uniform dispensing of the ingredient is assured. The spray head was designed specifically to the required drop size to avoid respiration of the ingredient.



Spraying



Healthcare



Mixpac™ BarrelDose Spray application

General Features of the Mixpac™ Barrel System

Modular system - can be used with different applicators, spray, scraper, brush or drops

- Pre-filled COC container: unbreakable, glass-equivalent, sterilizable, multi-layer sealing foil (ALU/COC)
- Best barrier properties in terms of water vapor and oxygen
- Single and multi-dose applications possible
- Applicable for pharma, medical and pet/vet applications

Customer benefit

Shelf-life

Up to 200 % longer shelf-life compared to previous solution

Safety in application

Pre-filled accurate dose, controlled droplet size during spraying, no dripping before and after application

Handling

Easy, intuitive handling allows healthcare professionals to focus fully on patient

Easy billing

Billable for insurance purposes as the single use device can be attributed to individual patients

Hygiene

Traceable single use device enhances infection control

Manufacturing

Filling and sealing of the barrel regardless of time and place of device assembly – simplifies logistics and supply chain

Product life-cycle

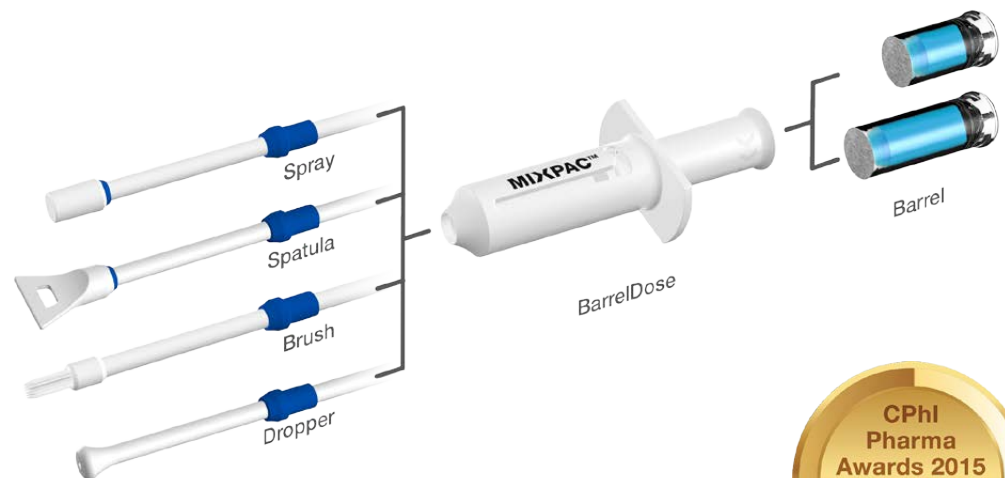
Modular system facilitates life-cycle adjustments on applicator and new product launches

Eco-friendly

recyclable device material

Product data

BarrelDose Spray	Benzocaine (customer API)	Water	Water/ Ethanol
Average Droplet size (µm)	60.3	39.4	41.6
% of droplets < 10µm (respirable size)	1.4	2.0	2.1
Spray angle (°)	45	70	72
Dispensing force at 20mm/s (N)	-	< 20.5	-
Filling size (ml)	0.5		



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Applicable markets:

Human Health: Pharma, Medical
 Animal Health: Pet, Vet, Equine
 Beauty: Cosmetics

Product:

Mixpac™ BarrelDose Spray

The Mixpac™ BarrelDose System contains various spray heads

