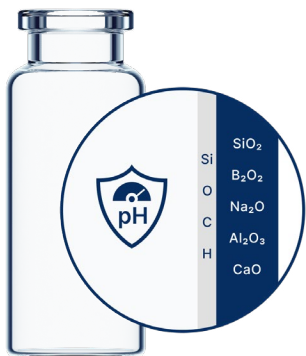




# EVERIC® care

## Pharmaceutical glass vial with hydrophobic barrier coating for high pH fillings



- Established primary packaging solutions reach their limit when protecting sensitive drugs from glass leachables in the high alkaline pH range.
- With EVERIC® care, SCHOTT Pharma offers a vial with an exceptional ion barrier coating that minimizes leachable levels to the highest extent possible, designed for use in a wide range of pH conditions, even highly alkaline solutions.
- Applied using patented and proven plasma impulse chemical vapor deposition (PICVD) coating technology (known from SCHOTT EVERIC® Iyo and SCHOTT EVERIC® plus coatings).
- Two additional release criteria have been specifically developed.



Si-O-C-H layer  
applied via PICVD



Contact angle for water  
> 90° (hydrophobic  
surface without silicone)



Long-term  
layer stability



Coating bonds covalently  
to the glass substrate



Suitable for  
depyrogenation



Dense coating  
(i.e. non-porous)



Surface shows excellent  
barrier properties in  
reducing ion leaching,  
also in high pH solutions



Stable after  
washing process



Compliant with all current  
standards, such as Ph. Eur, USP,  
JP and CP

### Secured drug stability

The excellent barrier reduces ion leaching, providing drug stability even for extreme conditions such as high pH

### Improved dosage accuracy

Improved residual emptying and reduced protein adsorption\*

### Reduced rejects

For lyophilized products, no fogging occurs and an elegant cake is achieved due to the hydrophobic surface

\* adsorption behavior needs to be tested case by case


**SCHOTT**  
**PHARMA**

Release tests


1. Fast performance test

14  
13  
12  
11  
10  
9  
8  
7  
6  
5  
4  
3  
2  
1

basic  
neutral  
acidic



t = 3 h  
121°C



t = 6 h  
121°C

1) Coating attack

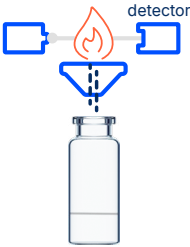
Autoclaving filled with 0.005 M KOH (pH 11.7 at start).

2) Coating attack and leaching


Autoclaving filled with 0.1 M HCl (pH 1 at start).

3) Determination of sodium via AAS

Certified release criterion for solution (Na) – limit value defined per format.




2. Drain-off test for hydrophobicity




t = 3 h  
121°C


Autoclaving filled with H<sub>2</sub>O.



Half-filled with white milky test fluid and stoppered. Shaken overhead three times.



In specification



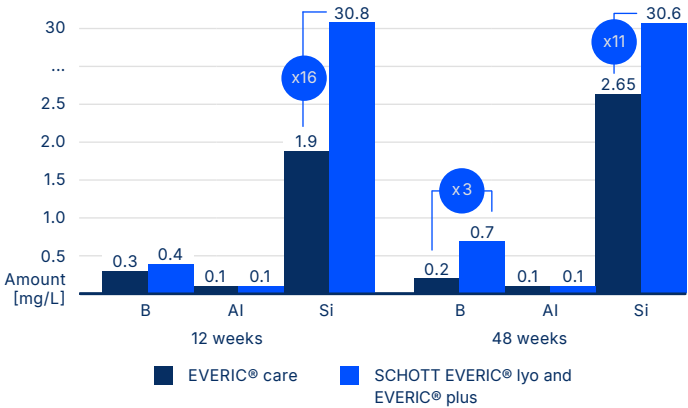
Not in specification

Verifications: Superior leachables results for dissolved glass elements in 10R vial with nominal filling volume\*

SCHOTT EVERIC® Iyo and EVERIC® plus vials served as benchmark. These vials have an SiO<sub>2</sub> inner coating acting as an ion barrier against glass leachables.

Shown here are glass elements in sodium bicarbonate (pH 8.5) after 12 and 48 weeks at 40 °C.

As shown in the figure, for high pH, the barrier properties of EVERIC® care are superior.



\* Multiple tests have been performed with different buffer solutions. Please contact SCHOTT Pharma for further information

| General ordering information  |  |     |     |     |
|-------------------------------|--|-----|-----|-----|
| Quality level                 | TopLine + additional release tests   |     |     |     |
| Packaging                     | ▪ Tray, optionally with divider<br>▪ Pre-washed & pre-sterilized: adaptiQ®*      |     |     |     |
| Palletizing                   | Standard Euro pallet (1200 x 800 mm)<br>contains 15–27 layers of nine trays each |     |     |     |
| Formats                       | 2R   | 6R  | 10R | 20R |
| Pieces per tray (non sterile) | 344  | 186 | 154 | 95  |

Many configurations are available in small quantities as “Fast Track Articles”.  
Visit our online shop or speak to your sales representative for more information.