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SCHOTT
glass made of ideas

SCHOTT TopPac®

Polymer Prefillable Syringes
for Emergency Drugs



SCHOTT TopPac® – Safety by design for emergency drugs

Particularly in emergency situations, SCHOTT TopPac® syringes are a safe alternative to glass syringes by reducing the risk of syringe clogging, disconnection and breakage.

Case Study: Emergency drugs

In emergency situations every minute counts. Medication delivery is critical during the first hour of a traumatic injury. Any delay or unexpected event could compromise the patient safety. For higher efficacy, most emergency drugs like adenosine and amiodarone are administered through an IV route that relies on:

- Easy and fast connection between syringe and IV lines
- Easy administration (no clogging)
- A stable connection (no spontaneous disconnection)
- Break resistance
- Light weight of syringe
- Reduced tip breakage

Consequently pre-filled syringes (PFS) have to be compatible with the IV devices.



Dimensions 1 and 2 as shown are critical for IV connections.

Container requirements:

In November 2010, the FDA issued a letter to stakeholders alerting the healthcare community about the possible malfunctions of glass PFS in connection with IV devices (i.e. catheter, IV lines, needle less luer access device (NLADs)). The letter also served to prevent any compatibility issues, such as:

- Clogging
- Disconnection
- Breakage (i.e. tip, syringe, flange)

[...] To reduce the potential risks to patients, FDA recommends that healthcare professionals and risk managers stock crash carts, ambulances, and emergency rooms with adenosine and amiodarone supplied in [...] pre-filled plastic syringes, if possible.[...] The use of needleless pre-filled glass syringes in emergency situations should be avoided, if possible. [...] *

*Source: <http://www.fda.gov/Drugs/DrugSafety/ucm234097.htm>

Our solution: SCHOTT TopPac® polymer syringes

SCHOTT TopPac® syringes are designed to address safety concerns and are compliant with ISO 80369-7 and the ISO 594 series. Compatibility with these standards were tested by an external accredited lab. Results showed that all SCHOTT TopPac® syringes are fully compatible with the majority of IV connectors including Micro Clave®, Clave®, Invision Plus®, CLEARLINK, Bionector® and SmartSite® – compatibility features include:

- 1 Larger luer channel diameter**
 - Reduces the risk of clogging
 - Compatible with any IV devices
- 2 Integrated Luer Lock**
 - Eliminates rotation and LLA pop-off for a secure connection thus reducing the risk of leakage and spontaneous disconnection of IV devices
- 3 COC material properties**
 - Less breakage risk in emergency situations
 - Higher tip resistance
 - Light weight

Benefits of SCHOTT TopPac®:

Design flexibility

Broad range of sizes (1-50ml) with integrated Luer Lock and cut flange with ergonomic design.

Glass like transparency

The transparency of the COC raw material allows for easy visual inspection on the filling lines.

Low particles and contamination

Drug stability due to fully integrated clean room production which allows for a low particle level.

Consistent gliding force

Precise and smooth drug application through distinctive barrel wall thickness and crosslinked siliconization.

Ready for filling

Easily integrated into existing filling lines with minor modifications.