

INSTRUCTIONS FOR USE (IFU)

CATHETER LOCK FLUSH & LOCK SOLUTIONS IN PREFILLED SYRINGES

HEPARIN IN DEXTROSE, USP
HEPARIN IN SALINE (0.9% NaCl), USP
SALINE (0.9% NaCl), USP

PRODUCT PART NUMBERS AND SPECIFICATIONS



Click or Scan

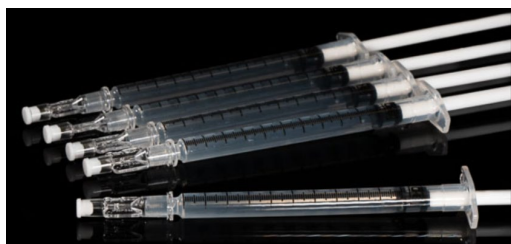
**For lab animal research use only.
Not intended for human use.**

Description and Intended Use

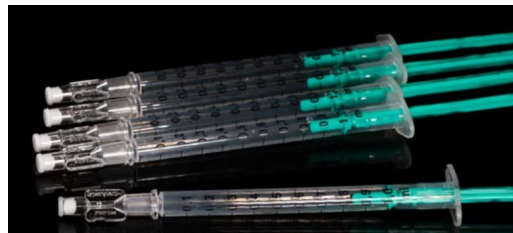
These pharmaceutical-grade preservative-free sterile grade solutions that are prefilled into syringes are used to maintain patency of catheters and vascular access devices used in pre-clinical research. Solutions containing no heparin or low heparin concentrations [≤ 20 USP (United States Pharmacopoeia) units/mL] may be used as a lock flush to clear the catheter. When used with VABs™ these solutions may also be used as a catheter lock to occupy the dead space within the catheter inhibiting intraluminal blood clot formation.

How Supplied

Supplied clear and colorless. Each mL contains 0.9 mg NaCl and if indicated, heparin sodium USP (derived from porcine intestinal mucosa) unit/mL. Lastly, WFI (water for injection) USP, sterile grade, is added to achieve stated concentration.



Saline is supplied in 1 mL BD syringes with PinPort™ injectors: pH 4.5 - 7.0.



Heparin in Saline is supplied in HSW Norm-Ject 1 mL syringes with PinPort™ injectors: pH of 5.0 - 7.5.

All materials are USP grade with lot traceability and solution filtered for sterility with care in the United States at Instech's ISO certified Class 100 environment. The active pharmaceutical ingredient Heparin Sodium USP (CAS number 9041-08-1) in Instech Prefilled Syringes is sourced from USA/Canada porcine and manufactured in the United States.

Pre-installed sterile PinPort™ injectors on pre-filled syringes are ready-to-use with PinPorts™ and VABs™ adding convenience and can improve quality by reducing contamination risk associated with handling. Five syringes are packaged per labeled pouch, 50 syringes per order quantity of one.

Precautions

- Prior to infusing compounds or withdrawing blood, the lock solution must be withdrawn from the catheter.
- Know and understand the dead volume of the catheter and access device you intend to flush and lock. Catheter lock solutions may contain high concentrations, i.e., 100, 250, or 500 units/mL of the anticoagulant heparin sodium. If administering a volume that is significantly greater than the dead volume of the catheter, injuries i.e., hemorrhaging, may occur to the animal.
- When working with viscous lock solution, i.e., dextrose or glycerol, due to laminar flow it generally requires 1.7x the dead volume to fully fill the catheter and replace the prior volume.¹ Therefore, some portion of the solutions will be infused into your animals; check with your veterinary staff for what is safe for your animals and will not compromise your research.
- Discard if the solution is not clear or suspected to be contaminated.

Usage

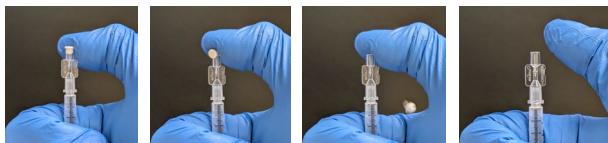
To prevent contamination, aseptic technique in a clean environment is recommended when handling the implanted central venous catheter device (accessed via

PinPort™ or VAB™), sterile syringes, and flush & lock solutions. Follow vascular device instructions. Instech product manuals available at <https://www.instechlabs.com/resources/manuals>.

1. **Disinfect:** Prior to accessing PinPort™ or VAB™, disinfect port with sterile 70% isopropyl alcohol or sterile 70% denatured ethanol (EtOH). Allow to dry.
2. **Remove Cap:** The USP Class VI medical grade silicone cap is designed to be removed using only one hand. After removing the white silicone cap, discard cap.



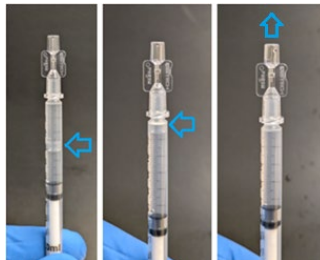
Option 1: Drag the white cap across clean surface.



Option 2: Drag thumb across the cap.

3. **Expel Air Bubbles:** Inspect syringes for air bubbles prior to injecting solution into the catheter device. If air bubbles are observed, remove air by tapping the syringe barrel then press the plunger handle until air is expelled.
4. **Aspirate Lock Solution:** Lock solution should be withdrawn from the catheter prior to blood sampling or infusion.
5. **Flush:** The vascular device should be completely flushed clear of blood (in the case of sampling) or the infused compound with a physiological solution, e.g. 0.9% Sodium Chloride (Normal Saline), USP Sterile Grade prior to instilling catheter lock solution.
6. **Lock:** Using the appropriate connection for accessing the vascular access device, inject lock solution to the specific dead volume of the device catheter, vascular access port and other extension tubing. Use positive pressure technique when disconnecting syringe from vascular device.²

Note: When working with viscous lock solutions, i.e., dextrose or glycerol, due to laminar flow, it generally requires 1.7x the dead volume to fully fill the catheter



and replace the prior volume.¹ Therefore, some portion of the solutions will be infused into your animals; check with your veterinary staff for what is safe for your animals and will not compromise your research. The injected lock solution is intended to remain within the vascular device until the subsequent catheter access event.

Storage

- Store at controlled ambient temperature of 15-25°C (59-77°F) with relative humidity of 60% or lower.
- Avoid exposure to excessive heat: >40°C (104°F).
- Do not freeze.
- Avoid exposure to UV light.
- The syringes are intended for single use.
- **Expiration date is one (1) year** from date of manufacture. The expiration date is listed on the product label.
- Syringes that have had caps removed should be used immediately or discarded at the end of the clinic day.
- Improper storage and handling of solutions may decrease efficacy.
- Unused syringes should not be used after the expiration date.

Disposal

Instech Catheter Flush and Lock Solution Prefilled Syringes should always be disposed of properly following local waste management policies.

References


¹Instech testing summarized in Sept 2022 blog post <https://www.instechlabs.com/blog/what-does-laminar-flow-have-to-do-with-rodent-catheters>

²VAB™ and Positive Pressure Technique Can Improve Patency of Rodent Catheters Instech Education <https://www.instechlabs.com/positive-pressure-technique>



For more information go to www.instechlabs.com/manuals or scan the code or call Instech Laboratories, Inc at 1-800-443-4227.

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