

SYRINGE USE, CARE AND MAINTENANCE INSTRUCTIONS

5 μ L to 500 μ L syringes

Congratulations on your new SGE Analytical Science Syringe. This syringe may look different to previous syringes. In addition to some visual changes, several enhancements have been engineered into the design and manufacture of this syringe. Thorough testing has proven that this syringe will provide an enhanced user experience over previous designs.

Key benefits of SGE Analytical Science syringes are:

- **Longer Life.**
- **Superior Performance and Robustness.**
- **Reduced Carryover.**

This syringe is a precision instrument, in order to maintain optimum performance and long life, a few simple care issues should be considered.

Syringe Specifications:

- Temperature: Fixed Needle or Luer: 5-70 °C.
Removable Needle or Luer: 5-120 °C.
- Accuracy and Reproducibility: ± 1 % of displaced volume.

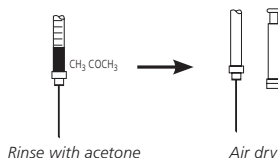
Syringe Use:

- Always inspect the syringe before use. Check the barrel for cracks and the needle tip for burrs.
- To make an injection, over fill the syringe then press the plunger until the correct volume is reached. Draw the plunger back slightly then wipe the needle tip with a lint free tissue. Make injection or dispense.
- To ensure accuracy, the smallest injected volume from any syringe should be no less than 10 % of its total capacity.
- To remove bubbles turn the syringe upright, tap the side of the barrel to dislodge the bubbles and then expel them from the syringe.
- To eliminate carryover between samples, flush the syringe with solvent 5-20 times, remembering to discard the first 2-3 washes.

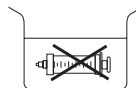
Syringe Cleaning:

- Syringe cleaning agents will usually depend on the contaminating material. Methanol, methylene chloride, acetonitrile and acetone are commonly used solvents for cleaning.

- After the syringe has been cleaned, rinse the syringe with acetone, remove plunger and air dry.



- Do not immerse the entire syringe in solvent as this may damage the adhesive used to bond parts of the syringe.



- Clean externally by wiping with a tissue.
- Sterilization Modes:
 - Autoclave: Remove plunger from the barrel prior to autoclaving. Set autoclave to a maximum temperature of 100 °C for removable needle syringes and 70 °C for fixed needle and luer tip syringes. Allow syringes to come to room temperature before inserting the plunger back into the barrel.
 - Gas: Use ethylene oxide

Plunger Care:

PTFE Tipped Plungers

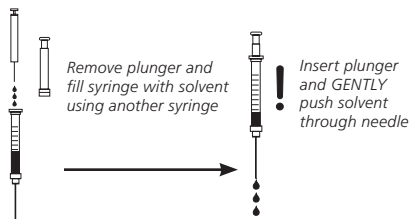
- Avoid cycling the plunger when the syringe is dry.
- Replacement PTFE tipped plungers are available.

Metal Plungers

- Avoid unnecessary movement of the plunger when the syringe is dry.
- Never force the plunger.
- Do not pump the plunger when the needle is blocked as the high pressure generated could crack the barrel.
- Wipe plunger clean with a lint free tissue before replacement. Be careful not to bend the plunger.
- Replacement metal plungers for standard syringes are not available. Metal plungers are individually fitted to the barrels to achieve a seal. This means the plungers are not interchangeable.

Needle Care:

- Check the needle for burrs prior to use. Use a fine emery board or carborundum to remove burrs.
- To unblock needles, remove the plunger and fill the syringe with solvent using another syringe. Re-insert the plunger and gently push solvent through needle. Never force the plunger. Too much pressure may crack the syringe barrel.



- The following SGE syringe needle cleaning products are available:
 - Needle Cleaning Kit (Part No. 031782): The kit contains a range of stylet wires for needle cleaning, tweezers and a surfactant material for barrel cleaning.

- Heated Syringe Cleaner (Part No. 031780, 031781): A heated syringe cleaner will remove organic residues from needles especially for trace analysis and high boiling compounds.
- To replace needles unscrew front cover nut and spring, remove needle. Carefully insert replacement needle into the front of the syringe, slide spring and cover nut over the needle and screw nut onto the front screw of the syringe barrel.

Syringe Storage:

- To protect against breakage store the syringe in its original packaging or on a syringe rack.
- Always thoroughly clean the syringe before storage.

Note:

- *DO NOT return any syringe to SGE unless requested to do so by an authorized SGE representative.*
- *DO NOT return any syringe that has been used with radioactive, infectious or hazardous materials.*
- *Any syringe being returned must be clearly marked with a Return Authorization Number, which is available from your SGE representative.*

WARRANTY

All SGE syringes are warranted to meet the stated quality and performance specifications and to be free of defects in material or workmanship. The warranty implies free replacement of a defective syringe only upon proper written proof of the defect and if requested by SGE, the return of the defective product in its original packaging. It does not apply to mishandling of product by the customer, either in storage or use.

Syringe Conformance Certificate

This syringe has been manufactured using measuring equipment traceable to International Standards. SGE Analytical Science ensures that the displacement volume is within the conformance specifications. For applications requiring individual syringe calibration, SGE Analytical Science offers a factory calibration service. Contact your nearest SGE Analytical Science office or dealer for details.

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