

# Hamilton® SaltLine Syringes

Congratulations! You have purchased the finest quality precision syringe available today. We combine top quality materials with skilled workmanship, ensuring the highest possible performance level of every precision fluid device we manufacture. With proper care and handling the SaltLine syringes will provide unsurpassed performance in precision liquid handling year after year.

**Syringes and needles manufactured by Hamilton Company are intended for scientific research and laboratory use only and are not intended for human *in vivo* use.**

Nominal Volume (mL)	1.0, 2.5, 5.0 and 10
Accuracy	± 1% of the nominal volume
Precision	Better than 1.0% of the nominal volume
Plunger Operating Force	1001, 1002 < 30 N 1005 < 35 N 1010 < 50 N
Test Pressure	0.6 MPa
Operating Temp. Range	10-50°C
Lifetime	Over 100,000 cycles

Syringes were tested with a salt solution (30g/L) in a Hamilton diluter.

Hamilton SaltLine syringes are precision measuring instruments. For prolonged syringe life and to obtain the maximum benefits of use, a few helpful tips should be observed:

## Assured Accuracy and Precision

- When initially inserting a new plunger into a SaltLine syringe barrel, wet the polyethylene tip with deionized water or another solvent compatible with the sample.
- When using a SaltLine syringe grasp only the syringe barrel and plunger button. By doing so, variations in fluid measurement due to body heat are avoided.
- If the plunger is accidentally withdrawn completely from the syringe barrel, wipe it carefully with a lint-free tissue and re-wet it before reinserting into the barrel.
- Be careful of the plunger tip since any physical abrasions, scrapes or oil from fingers may cause the plunger to leak once re-assembled.

## Sample Carryover

- Eliminate sample carryover by flushing the syringe 5 to 10 times with solvent. Discard the first 2 to 3 solvent washes to avoid sample contamination.

## Cleaning and Care

The life of your Hamilton syringe is directly related to its cleanliness and proper care.

- To clean the syringe, it is best to use solvents known to be effective in solvating the sample and preferably that are non-alkaline and non-phosphate.
- In general solvents suitable for routine cleaning include methanol, acetonitrile and acetone in high purity grade. Halogenated hydrocarbons (dichloromethane) should not be used because they may damage some glue joints.

## Sterilizing

The SaltLine syringes may be sterilized with appropriate gas sterilizing agents such as ethylene oxide.

## Autoclaving

Autoclaving for the SaltLine Syringes is not recommended.

## Disinfecting

If your application requires that your syringe be disinfected, then Microcide SQ (P/N 3995-01) is recommended. This disinfectant is rated to eliminate the majority of commonly encountered bacteria, viruses, fungus and mildew. Use of other common chemicals like 10% bleach, acetone or ethanol are acceptable but are not rated to be as effective as Microcide SQ.

## Storage

Flush the syringe with a solvent in which your sample is highly soluble. As needed, flush the syringe with other miscible solvents. Following the use of any cleaning agent, rinse the syringe with deionized water and finally acetone. Clean the exterior of the syringe as needed, air dry and store the syringe in its shipping box for protection.

**Note: All solvents used for flushing should be of high-grade purity. Poorer grade solvents often contain impurities that remain in the syringe barrel and can cause leaking.**

## Temperature Range

For best results SaltLine syringes are intended for use in an operating temperature of 10 to 50°C

## Warranty Statement

Hamilton Company unconditionally guarantees its products to be free of defects in materials and workmanship. Any product that fails due to such a defect will be repaired or replaced at our discretion without cost, provided the device is returned on a Return Materials Authorization (RMA). It is the responsibility of the purchaser to determine the suitability of application and material compatibility of the products based on the published specifications of the products.

## Return of Goods

Hamilton Company's return and repair policy is written to protect its employees from potentially hazardous materials (e.g., serum, radioactive materials, carcinogenic chemicals, etc.) or any substance that may cause them partial or permanent disability during the inspection or repair process. In returning a product, the customer acknowledges that the product is free from any hazardous materials. Furthermore, the customer assumes responsibility should the returned product be determined to be hazardous.

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# HAMILTON®

Web: [www.hamiltoncompany.com](http://www.hamiltoncompany.com)

USA: 800-648-5950

Europe: +41-58-610-10-10

### Hamilton Americas & Pacific Rim

Hamilton Company Inc.  
4970 Energy Way  
Reno, Nevada 89502 USA  
Tel: +1-775-858-3000  
Fax: +1-775-856-7259  
[sales@hamiltoncompany.com](mailto:sales@hamiltoncompany.com)

### Hamilton Europe, Asia, & Africa

Hamilton Bonaduz A.G.  
Via Crusch 8  
CH-7402 Bonaduz, Switzerland  
Tel: +41-58-610-10-10  
Fax: +41-58-610-00-10  
[contact@hamilton.ch](mailto:contact@hamilton.ch)

To find a representative in your area, please visit [hamiltoncompany.com/contacts](http://hamiltoncompany.com/contacts).