

Cannabinoid Sample Preparation

Increased Accuracy and Time
Savings for HPLC Analysis

Author:

Adam L. Moore, PhD.,
Hamilton Company



Application

DEMAND FOR ACCURATE MEASUREMENTS

In today's growing Cannabis industry, customers and state regulations demand accurate measurements of active compounds in cannabis products.

The Microlab[®] 600 Diluter/Dispenser makes measurements more reliable, allows the method to use less consumables, and cuts down on preparation time.

FASTER SAMPLE PREP AND LESS USER VARIATION WITH THE MICROLAB 600 DILUTER/DISPENSER

Pipettes can be problematic in any laboratory setting. Common problems include: significant variation between users, inconsistencies with different solution types, and performance variation at different elevations. These problems are eliminated with the Microlab 600. The Microlab 600 positive displacement system allows for extremely accurate dilution/dispense volumes on demand. The Microlab 600 can reduce %RSD by more than 50% compared to hand pipetting methods. See Figure 1.

REDUCED USER-TO-USER VARIATION

The Microlab 600 Diluter/Dispenser automates method steps prone to user variation.

In addition, methods can be saved as favorites for quick and easy access. The instrument performs all the precision work using high resolution syringe pumps, so it is not necessary to use a special technique. Once programmed, the instrument can be handed off to a new user with minimal training and the same results will be obtained

when compared to a more experienced user. The instrument utilizes an encoder that ensures the positioning of the syringe drive mechanism, reducing variations between users, equal or greater than 99% accuracy.

ELIMINATE EXPENSIVE CONSUMABLES

The Microlab 600 Diluter/Dispenser requires less solution to attain the correct dilution concentration for a sample, which means spending less on solvents and reagents. The instrument remains accurate down to the microliter volume range so the user can get the exact concentration needed at the exact volume desired. Reduce consumables consumption by 50% or more when using the Microlab 600.

INCREASE THROUGHPUT

Because the Microlab 600 Diluter/Dispenser does not require additional glassware to prepare a sample or standard solutions, the time it takes to prepare solutions and clean up afterwards is reduced considerably. Making different dilution concentrations on the fly is as easy as inputting a different solvent volume in the Quickstart or the Dilution Wizard. These improvements to workflow create significant time savings, freeing up your schedule for more important tasks.

Want more information about this and other applications?
Contact Hamilton today!



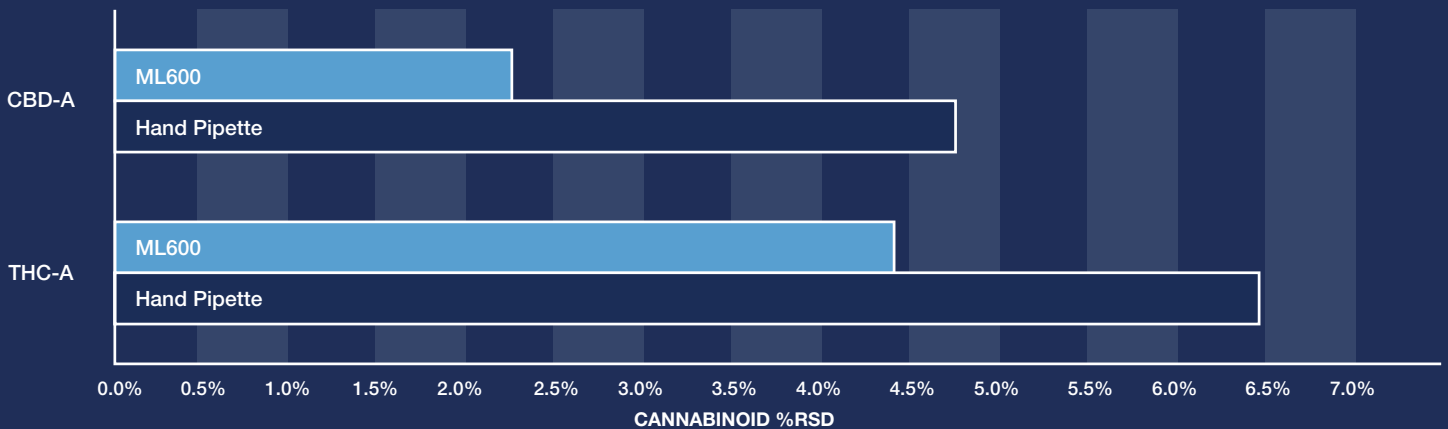
Methods and Results

CANNABINOID METHOD SUMMARY



FIGURE 1:

%RSD testing comparison between the ML600 and traditional hand pipetting methods for CBD-A and THC-A.



ORDERING INFORMATION

Description	Part Number
Microlab 615 Basic Dual Syringe Diluter	ML615-DIL
Microlab 625 Advanced Dual Syringe Diluter	ML625-DIL
Microlab 610 Basic Single Syringe Dispenser	ML610-DIS
Microlab 620 Advanced Single Syringe Dispenser	ML620-DIS
Microlab 615 Basic Dual Syringe Dispenser	ML615-DIS
Microlab 625 Advanced Dual Syringe Dispenser	ML625-DIS

[EXPLORE HAMILTON HPLC APPLICATION INDEX](#)





About Hamilton

Hamilton Company is a global manufacturer and supplier of world-class analytical components, medical instrumentation, temperature control systems, laboratory robotics and automated liquid handling equipment. For more than 35 years, Hamilton Company has developed and manufactured pressure-stable, polymeric polystyrene-divinylbenzene (PS-DVB) HPLC columns that are used in most of the world's top chromatography labs. With a wide range of particle sizes, pore sizes, pH stability from 1 to 14, temperature resistance over 100°C, and chemistries to match most analyte types, Hamilton polymeric columns are the chromatographer's choice for challenging separations.

Hamilton's Here to Support You



PRODUCT SUPPORT

We are available to assist your lab with method development, optimization, troubleshooting, and product recommendations.

[CONTACT SUPPORT](#)



CUSTOMER SERVICE AND ORDER SUPPORT

Get assistance with order status, lead times, and shipping information.

[CUSTOMER SERVICE](#)

HAMILTON[®]

Web: www.hamiltoncompany.com

USA: 800-648-5950

Europe: +40-356-635-055

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

Hamilton Europe, Asia & Africa

Hamilton Central Europe S.R.L.
str. Hamilton no. 2-4
307210 Giarmata, Romania
Tel: +40-356-635-055
contact.lab.ro@hamilton-ce.com

To find a representative in your area,
please visit hamiltoncompany.com/contacts.