APPROVAL PAGE

Prepared By:

Function	Name	Signature	Date
Protocol Author, The Microbiology Network	Scott Sutton		9/20/13

Approved By:

Function	Name	Signature	Date
Protocol Sponsor, Q.I. Medical	Hilary Hedman		
Lab Director, Moog Medical Devices Rush	Patrick Polito		

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Lab Director, Moog Medical Devices Rush	Patrick Polito	for Patrick Polito	9-20-13

Revision History

Should it be necessary to revise this record, the next revision number and the reason for the revision must be inserted in the Revision History. The person making the revision must sign the relevant column. The protocol must then be re-issued for review and approval signatures.

Rev. No.	Date Revised	Revision History	Revised By	Signature

Table of Contents

Protocol Overview

1 Objective

1.1 The objective of this protocol is to evaluate the Method Suitability of using the QTMicro apparatus for sterility testing by USP <71> against a variety of CSP (compounded sterile products). This study is designed to qualify the QTMicro for Sterility Testing of CSP at specified total volumes. It does not provide Method Suitability data for all possible compounding practices for formulations using a variety of materials to compound CSP (Compounded Sterile Products) of similar formulations.

2 Scope

2.1 Sterility testing is a compendial release requirement for compounding sterile products (CSP) that exceed the compendial "beyond use date" (BUD). The sterility test, as described in USP <71>, tests a specified volume of product as defined in Table 2 (Minimum volume per container) and Table 3 (Number of containers to be tested by batch size).

2.2 The scope of this test method suitability protocol is limited to a maximum volume of CSP using rinses with Diluting Fluid D (USP <71> Sterility Tests). The volume of the rinses and number of rinses will be determined during the course of this study for each CSP tested. In all cases, the complete composition of the CSP will be identified on the CSP Documentation Log Sheet (Appendix 5) at the time of test sample collection. The status of the testing will be tracked on the CSP Sample Log sheet (Appendix 9)

2.3 This protocol is designed to demonstrate that the CSP does not inherently (by composition) inhibit detection of low levels of viable bacteria (Method Suitability) after appropriate rinsing in the QTMicro.

2.4 The compounder will provide information as to the largest volume of the CSP filterable through the QTMicro. It is assumed that if a greater volume is required for an eventual Sterility Test then more than one QTMicro filtration unit may be used per medium.

2.5 While this protocol is modeled on GMP studies, it is not a GMP study. Members of QI Medical and Microbiology Network are not expected to have full training documentation or Quality Systems procedures or meet other documentation requirements of 21 CFR 211.

3 Method Suitability Approach

3.1 This protocol will validate the efficacy of the Membrane Filtration Sterility test against a maximum volume of CSP and a standard of three (3) 20 mL rinses of Diluting Fluid D.

3.2 The USP <71> assay parameters for method suitability require

3.2.1 Qualified media (aerobic and anaerobic)

3.2.2 6 challenge organisms, each of documented identity and not more than 5 passages removed from the national stock culture.

3.2.3 Membrane filters not more than 0.45 um nominal porosity using the QTMicro System

3.2.4 Growth of the challenge organisms within 3 days (bacteria) or 5 days (yeast and mold)

3.3 Given the assay requirements, a minimum of 35 mL of CSP (6 challenge organisms and 2 CSP Sterility Controls at 4 mL each) will be required to conduct this test. 350 mL will be requested from each participant to allow for issues arising during the execution of this protocol with a specific CSP.

3.4 A specific CSP will be qualified for this study initially by review of the CSP Submission Form (Appendix 6) to qualify its completeness in terms of

3.4.1 Complete formulation/composition

- Buffer/base composition
- Active and concentration of active
- Preservative system composition

3.4.2 Sufficient volume

4 Responsibilities

4.1 Author/Preparer

The Author/Preparer is responsible for:

4.1.1 Developing a protocol that meets QI Medical's requirements for method validation, including the technical appropriateness of the validation approach, clarity of the instructions and acceptance criteria, and usability of all data collection tools.

4.1.2 Reviewing the protocol draft for typographical, grammatical, and formatting errors including page numbering, headings, etc.

4.2 Lead Microbiologist, Moog Medical Devices Rush (MMDR)

The lead microbiologist at the contract laboratory is responsible for:

4.2.1 Reviewing this protocol to verify that it meets basic requirements for adequate instruction.

4.2.2 Providing feedback during protocol development to ensure that it is suitable for execution within the testing environment, and contains an adequate technical approach, specific to USP <71> sterility testing and the practice of microbiology.

4.2.3 Providing all necessary forms and sample receiving instructions so that samples are received and tested according to the protocol requirements.

4.2.4 Ensuring that the laboratory staff involved in protocol execution has access to protocol instructions, are trained in protocol execution requirements and instructions, and the relevant laboratory SOPs associated with the execution of this protocol.

4.2.5 Providing final data, results and reports in a timely fashion.

4.2.6 Communicating any unexpected results to the project manager in a timely fashion.

4.3 Project Manager/Consultant

The Project Manager is responsible for:

4.3.1 Serving as primary point of communication with MMDR.

4.3.2 Reviewing study data and protocol execution status for completeness and accuracy.

4.3.3 Reviewing any investigations or unexpected study results reported by the execution team.

4.3.4 Ensuring that the protocol addresses applicable regulations, microbiological practices and standards.

4.3.5 Ensuring that the Quality System practices and procedures for routine sterility testing reflect the results generated by execution of this protocol.

4.3.6 Ensuring that the affected site-level staff has been trained on the protocol and sample submission requirements.

4.3.7 Monitoring the protocol's execution and ensuring all work is performed and documented properly.

4.4 QI Medical

QI Medical is responsible for:

4.4.1 Reviewing and approving this protocol

4.4.2 Providing sterile QTMicro equipment as needed

4.4.3 Providing funding for this project

5 Test Method Overview

The detailed test execution procedure is provided in Appendix 8.

5.1 Media

5.1.1 FTM (Fluid Thioglycollate Media) – volume necessary to achieve product-to-recovery medium ratio defined by protocol or any protocol amendments.

5.1.2 TSB (Trypticase Soy Broth, a.k.a. Soybean Casein Digest Broth or SCD broth) – volume necessary to achieve product-to-recovery medium ratio defined by protocol or any protocol amendments.

5.1.3 TSA plates (Trypticase Soy Agar, a.k.a. Soybean Casein Digest Agar or SCD agar) – for count and purity confirmation of bacterial challenge microorganisms.

5.1.4 SDA plates (Saboraud Dextrose Agar, fungal selective medium) – for count and purity confirmation of *C. albicans* and *A. brasiliensis.*

5.1.5 Diluting Fluid D (a.k.a. Peptone-Tween) for diluting fluid.

5.2 ATCC Stock Microorganisms and Suitability Test Conditions

Name	**Gram/type**	**ATCC#**	**Media**	**Inc. Temp**	**Incubation Time, NMT***
Staphylococcus aureus	Gram Positive Coccus (round)	6538	FTM	30-35°C	3 days
Pseudomonas aeruginosa	Gram Negative Bacillus (rod)	9027	FTM	30-35°C	3 days
Bacillus subtilis	Gram Positive Bacillus, Sporeformer	6633	SCD	20-25°C	3 days
Clostridium sporogenes	Gram Positive Bacillus, Sporeformer, anaerobic	19404 or 11437	FTM	30-35°C	5 days
Candida albicans	Yeast	10231	SCD	20-25°C	5 days
Aspergillus brasiliensis	Mold	16404	SCD	20-25°C	5 days

5.3 CSP Microbial Purity Control

Turbid cultures from the CSP Microbial Purity Control samples will be streaked to isolate single colonies and determine colony morphology mix. If multiple colony morphologies are observed, these will be noted but will not invalidate the sample for the purposes of this study. The challenge tests will then also be streaked to confirm the presence of the challenge organism.

5.4 Positive Controls

These will consist of inoculated tubes of media (NMT 100 CFU/tube) to which no product has been added. These inoculated tubes will be incubated alongside the test samples, not more than 5 days, and used as a growth comparison when the test samples are examined.

5.5 Media Sterility Controls (may also be referred to as Media Negative Controls)

These will consist of QTMicro containers filled with FTM and SCD which are from the same lots of media used to perform the Suitability Test. These tubes are not inoculated or exposed to product, and will be incubated for a period of not more than 5 days (matching longest incubation period in test sample incubation).

5.6 Suitability Challenge Samples (also described as Validation Test Samples)

Six (6) QTMicro containers will be used to filter each CSP (refer to documentation for appropriate volume), then two (2) 20 mL aliquots of Diluting Fluid D. The third volume of Diluting Fluid D will contain <100 CFU of each of the microorganisms listed in Table 5.2 separately. (Note: If these volumes are not filterable the lab will modify, using identical conditions of DFD filtration for all samples tested.) The conditions of dilution (volume and number of dilutions) will be noted on the data sheet (see Appendix 9 page 2). The QTMicro will then be filled with the appropriate recovery medium and incubated at the indicated temperature and duration to determine if growth does or does not occur.

5.7 Growth Promotion/Media Sterility/Release

All media must have been released for use prior to initiation of the Suitability Test, via determination of successful growth promotion and media sterility test results.

Growth promotion of the suitability test media requires clearly visible growth of not more than 100 CFU of each of the challenge microorganisms listed in Table 5.2, which have been inoculated into individual portions of either FTM or SCD broth, and incubated for not more than a three day period, unless they are yeast or mold, in which case not more than a five day incubation period. The choice of FTM or SCD is made according to Table #1 (and Appendix 8) of this protocol, and the incubation temperature is set accordingly.

Successful media sterility testing requires incubation of a portion of the FTM and SCD containers for 14 days at 30-35°C and 20-25°C, respectively, without inoculation, and obtaining a result of no growth at the end of the incubation period.

Growth promotion and sterility testing of the agar plates used during testing are to be performed in accordance with the relevant MMDR SOP(s). These tests must be successfully completed for each lot of agar plates prior to use, and the relevant test SOP(s) must be listed in Appendix 2 of the executed protocol.

5.8 Microorganism Qualification

All lot(s) of microorganisms (see Table 5.2) to be used during protocol execution are to be qualified prior to use, in accordance with the general instructions provided in USP <1117> and/or described in the relevant Moog Medical Devices Rush SOP(s). The relevant test SOP(s) must be listed in Appendix 2 of the executed protocol.

6 Protocol Execution Instructions

Execution may not begin until the signatures of protocol reviewers and approvers have been affixed to the cover page of the final version of this document. Any person responsible for the execution, data collection, analysis, or review of this method validation is required to read, with understanding, the contents and requirements of this document. The data collection forms for the tests and supporting activities required to execute this protocol are provided as Appendices to the main body of this document. The use of these Appendices is described briefly in Section 6 and a full listing of all Appendices is found in Section 7.

NOTE: Information requested on the forms may be supplemented with alternate forms or data sheets from the testing laboratory, provided that they provide at least as much information as requested on the corresponding form in Section 7, and the substitution is approved by the Project Manager.

6.1 Materials, Instruments, and Test Equipment

All media and controlled consumable materials used for this study will be released for use according to the requirements described in MMDR written procedures.

Likewise, Moog Medical Devices Rush Standard Operating Procedures provide requirements for calibration and release of all test equipment and instruments used during testing. All equipment and instruments to be used in this study shall meet these requirements prior to use.

These procedures shall be documented on Appendix 2 of the protocol appendices and made available for review by Microbiology Network Inc. personnel upon request.

A list of the actual test instruments, equipment and consumable materials used in the execution of this protocol will be documented on Appendices 3 and 4 by Moog Medical Devices Rush personnel during the protocol execution activities, in accordance with instructions in Appendix 10 and following the provisions stipulated in the above ***NOTE***.

6.2 Overview of Appendices to be used to verify and collect execution data

6.2.1 Signature Log

All parties from the Moog Medical Devices Rush, Microbiology Network and QI Medical who participate in protocol execution activities are required to complete the form provided as Appendix 1, which includes indication of company affiliation.

6.2.2 Standard Operating Procedures

6.2.2.1 Moog Medical Devices Rush SOPs relevant to protocol execution are to be listed on Appendix 2.

6.2.2.2 Appendix 2 will also include a list of Moog Medical Devices Rush SOPs relevant to routine sterility testing. These SOPs must be added prior to approval of final report, in order to permit any necessary revisions identified in accordance with the outcomes of the validation. Multiple Appendix 2 worksheets can be generated as needed to accommodate the full list of relevant SOPs

6.2.3 Consumable Materials Log

The part numbers for the consumable materials to be used in this protocol will be listed on Appendix 3. Appendix 3 will be used to compile a list of the lot numbers and related information for these items and the timing of their use during the execution of this protocol. Information must be provided for all consumable sterile materials, and other items such test reagents, media, dilution buffer, and disposable laboratory items such as pipettes, including documentation of sterility. A separate set of Appendix 3 worksheets must be completed for each run date. The worksheet must also be updated during any given test run if any of the lots of a consumable material are exhausted and a new lot(s) is introduced into the test.

6.2.4 Equipment and Instrument List

Protocol execution requires the use of equipment and instrumentation such as laminar flow hoods, incubators, microscopes, etc. This equipment and instrumentation will be listed on Appendix 4. If an item is used multiple times, it need only be listed once. The information in Appendix 4 will be used to provide traceability to items used during the validation and to the data and records at Moog Medical Devices Rush that demonstrate that the relevant test equipment and instruments are in a calibrated and/or validated state throughout the period of their use for the exercises in this protocol, and that the data generated from their use is valid.

6.2.5 Examples of Volume Spreadsheets for CSP

The purpose of these spreadsheets is to provide guidance to the compounder on the volume of CSP required for the QT Method Suitability Study. There are three different spreadsheets provided in the single Excel workbook depending on the type of CSP submitted (according to USP <71> (2013). The specific spreadsheet used is to be printed out, signed and dated by the compounder, and submitted as part of the CSP sample documentation. The different spreadsheets include those for:

6.2.5.1 “Standard” CSP (Non-ophthalmic, Non-Antibiotic)

6.2.5.2 Ophthalmic CSP

6.2.5.3 Antibiotic CSP

These are examples only – minor modifications may be made in the spreadsheets without requiring deviation reports in this protocol.

6.2.6 Example of Compounder’s CSP Sample Submission Form

The purpose of this form is to collect and document relevant information about the CSP formulation submitted for this study.

This is an example only – minor modifications may be made to this document without requiring deviation reports in this protocol.

6.2.7 Example of Compounder's Introductory Letter

The purpose of this document is to provide a brief introduction to the purposes and expectations of this study.

This is an example only – minor modifications may be made to this document without requiring deviation reports in this protocol.

6.2.8 Compounders Instructions

6.2.8.1 Example of Instructions for Compounder's CSP Volume Spreadsheets
The purpose of this document is to provide guidance to the submitting compounder on filling out the spreadsheets provided to calculate the volume of CSP required for this Method Suitability Study (see appendices 5 for examples)

6.2.8.2 Example of Instructions for Compounder's CSP Sample Submission Form
The purpose of this document is to provide guidance to the submitting compounder filling out the Compounder's CSP Sample Submission Form.

These are examples only – minor modifications may be made to these documents without requiring deviation reports in this protocol.

6.2.9 CSP Sample Tracking Log

Microbiology Network, Inc. (MNI) will list each CSP ID # of product submitted to Moog Medical Devices Rush for use during protocol execution on the CSP Documentation Log Sheet. This appears in the protocol as Appendix 5. This data will provide traceability to the origin of the manufacturing site, documentation of the sample volume and information needed to track the samples from production through testing using the CSP Sample Log (Appendix 6).

6.2.9.1 MNI personnel will assign the CSP ID # to the sample and label the sample with this number (recorded on the CSP Documentation Log – Appendix 5). The sample will be shipped to the testing lab, with MNI personnel tracking the sample on the CSP Sample Log (Appendix 6).

6.2.10 Method Suitability Procedure

Appendix 10 provides the instructional procedures to be followed by the bench technician in the performance of the Method Suitability test.

Appendix 11 contains the data sheets to be used to document the data obtained for each test and control performed during Method Suitability execution, as well as the supporting tests, such as count confirmations. A separate set of data sheets is to be generated for each product run assayed.

6.2.11 General Data Sheet

Appendix 10 is to be used by Moog Medical Devices Rush or Microbiology Network when necessary to document any additional information or execution observations that pertain to this protocol. These observations or comments can pertain to any other appendix form, and therefore, a cross-reference to the affected appendix must

be included in the commentary. Once observations or additional information has been entered on a form, the "additional comments" section of the form may also be utilized, if needed, to clarify or supplement the initial information. Any unused "additional comments" section of an executed form is to be lined out and marked "N/A" by the reviewer at the conclusion of protocol execution.

6.2.12 Deviation Log

When a deviation occurs, Moog Medical Devices Rush or Microbiology Network (MNI), in accordance with the source of the deviation, is to enter the deviation topic and sequential number on the form provided as Appendix 13, so as to create a summary log of all deviations associated with this protocol.

6.2.13 Deviation Form

MMDR and MNI are to use the form provided as Appendix 14 to document any deviation and associated investigation associated with this protocol.

6.2.13 Method Suitability Study Report

Microbiology Network, Inc. will provide a report to the compounding pharmacist about the results of the Method Suitability Test conducted with the submitted CSP using a report form similar to that found in Appendix 15. Note that this method suitability study is restricted to the specific CSP tested and does not necessarily apply to CSP of similar formulation made by different processes using different raw materials.

7 Appendices

All documentation resulting from protocol execution will be attached as appendices to the protocol. Additional appendices may be developed during compilation of the Summary Report in order to facilitate the analysis of data and/or to describe the performance of the study. In this scenario, an updated table of appendices shall be included in the Summary Report.

The following appendices comprise the current list of data and information to be compiled during execution of the approved protocol;

APPENDIX 1. – Signature Log

APPENDIX 2 – Standard Operating Procedures

APPENDIX 3 – Consumable Materials Log

APPENDIX 4 – Equipment and Instrument List

APPENDIX 5a – Example of Compounder's CSP Volume Spreadsheet for CSP (Non-Ophthamic, Non-antibiotic)

APPENDIX 5b – Example of Compounder's CSP Volume Spreadsheet for Ophthalmic CSP

APPENDIX 5c – Example of Compounder's CSP Volume Spreadsheet for Antibiotic CSP

APPENDIX 6 – Example of Compounder's CSP Submission Form

APPENDIX 1. – Signature Log

PAGE ____ OF ____

My signature indicates that I have read, with understanding, the requirements of this protocol. I agree to follow the procedure and documentation requirements.

NAME-PRINTED	TITLE	SIGNATURE	INITIALS	DATE	EMPLOYER

Comments

_____

_____

_____

Reviewed By: _____ **Date:** _____

APPENDIX 2 – Standard Operating Procedures

Make as many copies of this form as necessary to accommodate all items to be listed. **PAGE ___ OF ___**

1. List all the SOPs relevant to the routine performance and/or support of protocol execution.
2. Indicate the status of each SOP by recording the effective date. Initial and date each entry below.

SOP Number	SOP Title	Effective Date	Initials/Date
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/
			/

Comments

_____

_____

_____

Reviewed By: _____ **Date:** _____

APPENDIX 3 – Consumable Materials Log

PAGE ____ OF ____

Follow the instructions in Section 6.2.3 of the protocol to complete this form. Make as many copies of this form as necessary to accommodate all items to be listed, and create separate form(s) for each Method Suitability test run.

Product Test Run Number:_____ **Run Date**_____

Item Name or Description	Mfr. Stock # or Item ID	Lot #	Is Item Required to be Sterile? Y/N	Entered By/Date

Comments

_____

_____

_____

Reviewed By: _____ **Date:** _____

APPENDIX 4 – Equipment and Instrument List

PAGE ____ OF ____

Follow the instructions given in Section 6.2.4 of the protocol to complete this form. Make as many copies as necessary to accommodate all items to be listed.

Item Name	ID#	Model #	Last Calibration Date	Entered By/Date

Reviewed By: _____ **Date:** _____

APPENDIX 5a – Example of Compounder's CSP Volume Spreadsheet for CSP (Non-ophthalmic, Non-antibiotic)

Compounder's CSP Volume Spreadsheet for QTMicro Method Suitability Study

Filterable CSP - Non-ophthalmic, Non-antibiotic

CSP Name: _____

Pharmacy Name: _____

Maximum unit fill volume (mL): 0 Cell 1

Maximum number of units filled: 0 Cell 2

Instructions:

- Fill in the desired fill volume for the QTMicro Method Suitability Study
- Fill in the maximum number of units to be filled at any one time
- The minimal volume of CSP required for the QTMicro Method Suitability Study will be shown.

Please send at least this volume to qualify your filling configuration (unit fill volume and number of units filled) for this CSP formulation

Required for Sterility Test	
Quantity (mL) per container (Table 2)	0 Cell 3
Minimum number of units per medium for Sterility Test (Table 3)	0 Cell 4
Volume to be filtered (mL) per QTMicro for Method Suitability Study for each test condition	0 Cell 5 ←
Volume needed for QTMicro Method Suitability Study (mL):	0 Cell 6 ←

My signature below confirms that the QTMicro has been shown to be capable of filtering this amount (in mL) of CSP for the QTMicro Method Suitability Study.

Send in this amount (in mL) of CSP for the QTMicro Method Suitability Study. It can be provided as a sterile bulk preparation.

Note: The only areas that can be changed on this spreadsheet are bordered in red (Cells #1 & #2)

_____
Name

_____
Signature

_____
Date

To be filled out at reception of CSP sample:
_____ Accepted by / Date

ver 1.0

APPENDIX 5b – Example of Compounder's CSP Volume Spreadsheet for Ophthalmic CSP

Compounder's CSP Volume Spreadsheet for QTMicro Method Suitability Study
Filterable Ophthalmic CSP

CSP Name: _____

Pharmacy Name: _____

Unit fill volume (mL): 0 Cell 1

Number of units filled: 0 Cell 2

Instructions:
- Fill in the desired fill volume for the QTMicro Method Suitability Study
- Fill in the maximum number of units to be filled at any one time
- The minimal volume of CSP required for the QTMicro Method Suitability Study will be shown.
  Please send at least this volume to qualify your filling configuration (unit fill volume and number of units filled) for this CSP formulation

Required for Sterility Test		
Quantity per container (Table 2)	0	Cell 3
Minimum number of units per medium for Sterility Test (Table 3)	0	Cell 4
Volume to be filtered (mL) per QTMicro for Method Suitability Study for each test condition	0	Cell 5 ← My signature below confirms that the QTMicro has been shown to be capable of filtering this amount (in mL) of CSP for the QTMicro Method Suitability Study.
Volume needed for QTMicro Method Suitability Study (mL):	0	Cell 6 ← Send in this amount (in mL) of CSP for the QTMicro Method Suitability Study. It can be provided as a sterile bulk preparation.

Note: The only areas that can be changed on this spreadsheet are bordered in red (Cells #1 & #2)

_____
Name

_____
Signature

_____
Date

To be filled out at reception of CSP sample:
_____ Accepted by / Date

ver. 1.0

APPENDIX 5c – Example of Compounder's CSP Volume Spreadsheet for Antibiotic CSP

Compounder's CSP Volume Spreadsheet for QTMicro Method Suitability Study
Filterable Antibiotic CSP

CSP Name: _____

Pharmacy Name: _____

Unit fill volume (mL):	0	Cell 1
Number of units filled:	0	Cell 2

Instructions:
- Fill in the desired fill volume for the QTMicro Method Suitability Study
- Fill in the maximum number of units to be filled at any one time
- The minimal volume of CSP required for the QTMicro Method Suitability Study will be shown.
  Please send at least this volume to qualify your filling configuration (unit fill volume and number of units filled) for this CSP formulation

Required for Sterility Test		
Quantity per container (Table 2)	0	Cell 3
Minimum number of units per medium for Sterility Test (Table 3)	0	Cell 4
Volume to be filtered (mL) per QTMicro for Method Suitability Study for each test condition	0	Cell 5 ←
Volume needed for QTMicro Method Suitability Study (mL):	0	Cell 6 ←

My signature below confirms that the QTMicro has been shown to be capable of filtering this amount (in mL) of CSP for the QTMicro Method Suitability Study.

Send in this amount (in mL) of CSP for the QTMicro Method Suitability Study. It can be provided as a sterile bulk preparation.

Note: The only areas that can be changed on this spreadsheet are bordered in red (Cells #1 & #2)

_____
Name

_____
Signature

_____
Date

To be filled out at reception of CSP sample:
_____ Accepted by / Date

version 1.0

APPENDIX 6 – Example of Compounder's CSP Sample Submission Form

The Microbiology NETWORK

150 Parkway | N. Chili, NY 14514 | 585.594-8273 | fax 585-594-3338

CSP SAMPLE SUBMISSION FORM

1. Send Final Report To:

Pharmacy _____
Attention _____
Address _____
City _____ State _____
Zip _____ Country _____
Phone _____ Fax _____
Email _____

2. Sample Documentation

☐ Complete formulation
☐ Compounder's CSP Volume Spreadsheet Printout
☐ CSP Samples Clearly Labeled
Maximum Filterable Volume of CSP (mL) _____
Volume of CSP Submitted (mL) _____
CSP Filtered During Preparation? Yes / No (circle)
If Yes - Nominal Porosity of Filter: _____

3. Appearance

☐ Clear
☐ Clear, Colored
☐ Cloudy
☐ other _____

4. Storage Conditions

☐ room temperature
☐ refrigerate (2-8°C)
☐ freeze (-10 to -25°C)
☐ other

5. CSP Name[1] _____

Is this a generic?
Yes / No (circle one)
If a generic, the chemical name is _____

6. CSP Formulation[2]

Actives _____
Buffer System _____
Excipients _____
Preservative System _____
Others _____

_____ _____
Submitter's Name Submitter's Signature / Date

My signature releases this CSP for use in this test method development study. I understand that this is not a Sterility Test, and that my compensation for provision of this CSP will be a report describing the success or failure of this method suitability study with the QTMicro and my CSP formulation.

To be filled out by receiver:

Sample ID # _____

Date Received	Appearance OK?[3]	Volume Received	Volume Sufficient?[1]	Submission Complete?
	Yes / No (circle)		Yes / No (circle)	Yes / No (circle)

_____ _____
Received By / Date Approved By / Date

[1] Consistent with information in Compounder's CSP Volume Spreadsheet printout
[2] Provide sufficient information to completely describe concentrations of all components of the formulation
[3] Compare to submitter's description above. If differences noted, describe on separate sheet.

APPENDIX 7 – Example of Compounder's Introductory Letter

The Microbiology NETWORK

Compounder
Compounder's Address

DATE

Dear Sir/Madam,

Thank you for your interest in the QTMicro Method Suitability Study. The objective of this study protocol is to determine if a Sterility Test based in USP <71> (2013) using the QTMicro apparatus can be qualified using a specific rinsing regimen of diluting fluid.

Sterility testing as required in USP <797> is described in USP <71>. This testing requires qualification – a "Method Suitability" evaluation – to demonstrate the ability of the recovery conditions to completely neutralize any residual antimicrobial activity from the CSP, allowing microorganisms to grow. As the purpose of this protocol is to evaluate the QTMicro filtration device with a range of different of CSP, the "Membrane Filtration" method will be the focus of this study and therefore only filterable CSP will be eligible for inclusion in this study.

The sterility test, as described in USP <71>, requires a specified volume of CSP to be tested as determined by Table 2 (Minimum volume per container) and Table 3 (Number of containers to be tested by batch size). Therefore, we will be interested in testing the maximum amount of CSP to allow the greatest flexibility to the compounder in terms of volume of CSP filled per unit and maximal number of units CSP filled at one time. We ask your help in determining the appropriate volume by completing the "Compounder's CSP Volume Spreadsheet". A signed printout of the completed spreadsheet for your CSP must accompany the samples.

You will be asked to determine the volume of your specific CSP that is filterable through the QTMicro device and to document this on the spreadsheet printout and on the "CSP Sample Submission Form".

Instructions for completion of the Excel spreadsheet entitled "Compounder's CSP Volume Spreadsheet" and the MS Word document "CSP Sample Submission Form" are included with this letter.

Please remember that this study is not a sterility test for your CSP sample. It is a control experiment to determine if a specific filtration and recovery system is suitable to perform sterility testing of your CSP using the QTMicro. It is important to note that this study may not be sufficient to support Sterility Testing of CSP if changes to formulation, compounding process or raw material suppliers are incorporated into the CSP. The compounding pharmacy is responsible for the quality of all Sterility Tests for released CSP.

You will receive a brief report describing the results of testing for all unique formulations submitted as CSP.

Thank you again for your interest and participation in this study.

Sincerely,

_____

Scott Sutton, Ph.D.
Owner, Microbiology Network, Inc.

The Microbiology Network
150 Parkway
N. Chili, NY 14514

APPENDIX 8a – Example of Instructions for Compounder's CSP Volume Spreadsheets

The Microbiology NETWORK

Instructions for Excel Spreadsheet "Compounders CSP Volume Spreadsheet"

The purpose of this spreadsheet is to allow the compounder to easily calculate the amount of CSP required for the QTMicro Method Suitability Study. The workbook contains three different worksheets for the relevant types of CSP eligible for this study:

1. "Standard" CSP – not ophthalmic, not antibiotic
2. Ophthalmic CSP
3. Antibiotic CSP

Please select the correct worksheet for the specific CSP.

The quantity of material tested must reflect the amount expected to be required for a USP <71> Sterility Test (2013). This amount is determined by calculation using rules provided in both Table 2 and Table 3 of USP <71>. These rules are different for the three different CSP categories, and so use of the correct workbook is critical.

The amount of CSP required for one replicate of a Method Suitability Test is roughly 10 times the amount needed for a Sterility Test. This is because that amount used in a Method Suitability Test is passed through the filtration apparatus, then rinsed, and then individually inoculated with each of six (6) different challenge organisms. Growth of all challenges must occur for a successful demonstration of the removal of residual antimicrobial activity from the apparatus. In addition to these six tests, there are two separate controls to be run, and two additional volumes required to allow for laboratory needs.

To Fill Out the Spreadsheet:

1. Please enter your standard "CSP Name" for this sample in the top line, and your pharmacy name on the second. It is important that two are identically listed on this sheet and the "CSP Sample Submission Form" as this is the information linking the two documents.
2. The two cells outlined in red (Cells #1 and #2) in each workbook are the major input required from the compounder. The information in these two cells is used to calculate the recommended volume of sample for the QTMicro Method Suitability Study. The amounts must, however, reflect the maximum conditions that you wish to qualify for the QTMicro as different conditions will result in different total volumes required. Generally, qualification of a greater amount of CSP in a filtration test will qualify lesser amounts used in that system.
3. Cells #3 and #4 are calculated from Tables 2 and 3 of the USP <71> Sterility Test. Cell #5 is the product of Cell #3 multiplied by Cell #4 in mL. No input is required in these cells.
4. Please print out the relevant workbook.
5. Check to ensure that you have tested the QTMicro and shown that it is capable of filtering the amount of CSP calculated for this study (Cell #5). If not, please note the maximum amount filterable on the sheet.
6. ***The total calculated amount of CSP for this study may be supplied as a bulk, sterile preparation.***
7. Review the information on the printout. If this is in agreement with the sample shipment, sign and date the printout. ***Include the signed printout in the sample shipment as supporting documentation.***

The remaining portion of the printed spreadsheet is for the use of Microbiology Network staff upon receipt of the sample. Please leave this area blank.

The Microbiology Network
150 Parkway
N. Chili, NY 14514

APPENDIX 8b – Example of Instructions for Compounder's CSP Sample Submission Form

The Microbiology NETWORK

Instructions for "Compounders CSP Sample Submission Form"

The purpose of this sample submission form is to document the CSP sample submitted for the QTMicro Method Suitability Study. The form is divided into seven different sections.

1. Send Final Report To
   This section is to provide contact information for the submitter. Please make sure that the "Pharmacy" name on this form and on the spreadsheet printout are the same.
2. Sample Documentation
   This section is a checklist for completion and inclusion of critical documents and information to be included with the sample submission. Please make sure that the "Maximum Filterable Volume of CSP (mL)" entry is the same as that on the spreadsheet printout.
3. Appearance
   Check all applicable boxes to describe the physical appearance of the CSP.
4. Storage Conditions
   Check appropriate condition
5. CSP Name
   The purpose of this section is to allow unambiguous identification of the active ingredient(s) of the formulation.
6. CSP Formulation
   This section must be filled out with the complete formulation for the CSP for the sample to be accepted. The formulation components must be described in detail with concentrations of all chemicals provided. The QTMicro Method Suitability Study protocol is specific to a formulation and each formulation tested will be provided a unique study identification number. Failure to provide complete information will result in delay of testing while this information is gathered or rejection of the CSP from this study.

Once these sections are filled out please print the form. The seventh section of the sample submission form is the space for the submitter's name as well as signature and date. Once completed, the form is ready for inclusion with the spreadsheet printout and the samples for submission to the Microbiology Network (address below). It is important to include a completed, signed printout of this document with each sample formulation for testing!

The remaining portion of the sample submission form is for the use of Microbiology Network staff upon receipt of the sample. Please leave this area blank.

The Microbiology Network
150 Parkway
N. Chili, NY 14514

APPENDIX 9 – CSP Sample Tracking Log

PAGE ____ OF ____

.

Sample ID #	Date Received	Date Submission Complete	Date Submitted to Lab	Date Report Received	Results (Pass/Fail)	Initials/Date

*

Comments

_____

_____

Reviewed By: _____ **Date:** _____

APPENDIX 10 – Method Suitability Procedure

A. TEST OBJECTIVE

The objective of this verification is to confirm the reliability of the sterility test method to recover low numbers of microorganisms despite the potential bacteriostatic and fungistatic properties of CSP using the QTMicro.

B. TEST PROCEDURE

SAMPLE RECEIPT AND TRACKING - MNI

1. The volume of CSP (compounded sterile product) to be used for this study will be described on the specific sample submission form. Rinses will initially be three (3) 20 mL volumes of Diluting Fluid D unless filtration becomes an issue – these volumes and umbers of rinses may be amended by the testing lab, but must be identical for all samples of a CSP. Note the dilutions on the data sheet. All filtration will be performed sing the QTMicro device.
2. Document all product lots tested CSP Sample Tracking Log – an example sheet is provided in Appendix 9.
3. Refer to Compounder's CSP Volume Spreadsheet (examples in Appendix 5a, 5b, and 5c) and Compounder's CSP Sample Submission Form (example in Appendix 6) to determine appropriate volumes – ensure that volume is correct and that the compounder has certified that the volume is filterable through the QTMicro.
4. If submission documentation is complete, go to step 5, if submission documentation is not complete or sample is damaged or unacceptable (*i*.e. non-filterable), contact compounder for resolution.
5. Submit sample with appropriate Moog Medical Devices Rush submission documentation for Method Suitability Testing.

SAMPLE TESTING - Moog Medical Devices Rush

6. Filtration
   a. Filter two (2) 20mL aliquots of sterile Diluting Fluid D (DFD) through each QTMicro Device.
   b. Inoculate a third 20mL aliquot of DFD with ≤ 100 CFU of each challenge microorganism (separately). These organisms will be qualified prior to use in accordance with USP <1117> recommendations and Moog Medical Devices Rush procedures. List these procedures in Appendix 2 and the culture lot information in Appendix 6.
      i. *Staphylococcus aureus* ATCC 6538
      ii. *Bacillus subtilis* ATCC 6633

iii. *Pseudomonas aeruginosa* ATCC 9027
iv. *Clostridium sporogenes* ATCC 19404 or 11437
v. *Candida albicans* ATCC 10231
vi. *Aspergillus brasiliensis* ATCC 16404

For each product lot tested, suitable aliquot of each inoculum is to be plated in duplicate to confirm counts and purity. These confirmation plates are to be prepared, incubated and counted using techniques described in accordance with Moog Medical Devices Rush SOP(s). List these procedures in Appendix 2. Record count and purity results on data sheets (examples in Appendix 11).

Note: If these filtration/dilution volumes are not filterable the lab will modify the volumes and/or numbers of dilutions. The identical conditions of Diluting Fluid D filtration will be used for all samples tested. The conditions of dilution (volume and number of dilutions) will be noted on the data sheet (see Appendix 11 page 2).

7. Filter these aliquots through separate QTMicro devices labeled with the CSP ID#, the phrase “Test Sample” and the challenge microorganism.
8. Add recovery medium to the QTMicro devices
   a. TSB into the samples for *Bacillus subtilis, Aspergillus brasiliensis* and *Candida albicans*
   b. FTM into the samples for *Clostridium sporogenes, Pseudomonas aeruginosa,* and *Staphylococcus aureus*

   This media will be from lots which have passed growth promotion and sterility tests in accordance with designated Moog Medical Devices Rush procedures and USP <71> instructions.

   Alternatively, liquid SCD (SCDB) and FTM media can be prepared in-house, using the formulations specified in USP <71>. Each lot of the media must meet growth promotion and sterility requirements in accordance with Moog Medical Devices Rush procedures and USP <71> instructions.
9. Method Suitability Controls
   a. Positive Controls
      i. Inoculate 3 of the remaining QTMicro devices, to which NO PRODUCT has been added with each of *C. sporogenes*, *P. aeruginosa*, and with *S aureus* (separately). These are the FTM positive controls.
      ii. Inoculate 3 of the remaining QTMicro devices, to which NO PRODUCT has been added with each of *A. brasiliensis*, *B. subtilis*, and *C. albicans*. These are the SCD positive controls.
   b. Negative Controls
      i. Label two QTMicro devices as “FTM negative controls” or similar. Fill with FTM but do not inoculate with any ATCC culture or add product.
      ii. Label two QTMicro devices as “SCD negative controls” or similar. Do not inoculate with any ATCC culture or add product.

iii. Note that these controls must be set up for each lot of media used in the performance of a Method Suitability test run for each lot of product. If multiple lots of media must be employed in a given test run, then each lot must be represented by a pair of negative controls.

c. CSP Microbial Purity Control

i. Using two QTMicro devices labeled "CSP Microbial Purity Control" pass the appropriate volume (see section B.3 above) of CSP through each. Follow with the appropriate filtration/dilution scheme (see section B.4 above) using sterile Diluting Fluid D through each device. DO NOT INOCULATE.

ii. Add SCD to one QTMicro device, incubate as described below

iii. Add FTM to one QTMicro device, incubate as described below

If a "CSP Microbial Purity Control" turns turbid:

- Note on data sheet (Appendix 11)
- Streak for colony morphology - note results in Appendix 11
- Streak positives from associated Method Suitability challenges for culture purity. Note results on Appendix 11 (page 3).

10. Note that non-sterile CSP does not invalidate the test if the challenge organisms recovered from the turbid Method Suitability challenge samples.

11. Incubate all samples in the test run set as below:

a. Incubate SCD media samples at 20-25^{o}C for a minimum of 3 days as described in Section 14 below.

b. Incubate FTM media samples at 30-35^{o}C for a minimum of 5 days as described in Section 14 below.

12. Support Tests and Data:

a. Refer to the instructions in Step 9c of this Appendix to ensure that the inoculum purity and count plates have been set up for each ATCC culture used in a given product test, and that relevant SOPs have been listed in Appendix 2.

b. Refer to the instructions in Step 8 of this Appendix to ensure that media sterility and growth promotion tests have been performed. Summarize results on Appendix 11.

c. Document all support test results in the appropriate sections of this protocol where indicated. Appendices 11 and 12 are to be used for this purpose.

d. Ensure that relevant information for all instruments and equipment has been documented on Appendix 4 and Appendix 11, where requested.

13. Record the Method Suitability results in Appendix 11 at the conclusion of the incubation period. Summarize the results as indicated in Appendix 11 at the conclusion of all Method Suitability test runs.

14. Expected Results by QTMicro Device

Media	Organism	Product	Result
Method Suitability Challenge Samples Fluid Thioglycollate Medium (FTM) – 3 QTMicro – 1 per organism)	*Clostridium sporogenes, Pseudomonas aeruginosa, Staphylococcus aureus*	Present	Growth expected in this **Test Sample** in not more than 3 days
CSP Microbial Purity Control Fluid Thioglycollate Medium (FTM) – 1 QTMicro	None	Present	Growth not expected in this **Microbial Purity Control** (product negative control) after a minimum of 5 days
Positive Control Fluid Thioglycollate Medium (FTM) – 3 QTMicro (1 per organism)	*Clostridium sporogenes, Pseudomonas aeruginosa, Staphylococcus aureus*	Absent	Growth expected in this **Positive Control** in not more than 3 days
Negative Control Fluid Thioglycollate Medium (FTM) – 2 QTMicros	None	Absent	Growth not expected in this **Negative Control** after a minimum of 5 days
Method Suitability Challenge Samples Soybean Casein Digest Medium (SCD) – 3 tubes (1 per organism)	*Bacillus subtilis, Aspergillus brasiliensis* and *Candida albicans*	Present	Growth expected in this **Test Sample** in not more than 3 days (bacteria) or 5 days (yeast and mold)
CSP Microbial Purity Control Soybean Casein Digest Medium (SCD) – 2 tubes	None	Present	Growth not expected in this **Microbial Purity Control** in 5 days
Positive Control Soybean Casein Digest Medium (SCD) – 6 tubes (2 per organism)	*Bacillus subtilis, Aspergillus brasiliensis* and *Candida albicans*	Absent	Growth expected in this **Positive Control** in 5 days

Media	Organism	Product	Result
Negative Control Soybean Casein Digest Medium (SCD) – 2 tubes	None	Absent	Growth not expected in this **Negative Control** after a minimum of 5 days

15. Record the Method Suitability results in Appendix 11 at the conclusion of the incubation period.
16. Send completed report to:

    Microbiology Network, Inc.
    Attn: Jessica Logan
    150 Parkway
    N. Chili, NY 14514

    Email: jessica.logan@microbiologynetwork.com

REVIEW AND SUMMARIZE - MNI

17. Record the results of the study in the "CSP Sample Tracking Log" (Appendix 9).
18. Prepare final report for compounders and send out (Appendix 17)

C. GENERAL ACCEPTANCE CRITERIA

1. Inoculum

   All inocula must be less than or equal to 100 CFU

2. Method Suitability Challenge Samples (aka Test Samples)

   All inoculated, product-exposed validation test samples must show growth.

3. Positive Controls

   All samples for each of three lots must show growth in not more than 5 days of incubation.

4. CSP Sterility Controls

   If the CSP Sterility Control turns turbid, it must be streaked out for purity. In addition, all Test Samples must be confirmed to contain the challenge organism.

5. Negative Controls (Media)

   All tubes for each lot of media used must be free of visible growth after a minimum of 5 days of incubation.

6. Failed Test

   This method suitability protocol fails if the conditions of 2, 3, 4 and 5 are not met.

7. Invalid Test

This method suitability protocol is invalid if one, all, or any combination of the following occurs:

a) the conditions of 1, or 5 above are not met,

b) if any challenge microorganism purity plates do not indicate uniform growth of a single colony type, characteristic of the relevant ATCC microorganism (note this requirement does not apply to criterion 4 above),

c) if microorganism ID results indicate a mismatch between the identity result and the microorganism lot used to inoculate the original sample tube from which the ID subculture was obtained.

An invalid test (or portion thereof) will be terminated as soon as it is recognized and started over to be performed to specifications under this protocol. If this occurs, a deviation report must be generated (see Appendices 13 and 14).

APPENDIX 11 – Method Suitability Data
(page 1 of 3)

CSP ID #: _____ **Operator(s):**_____ **Date Testing Initiated**:_____

Media Qualification:
TSB Lot _____ Release Ref: _____ Expiry Date: _____ FTM Lot _____ Release Ref: _____ Expiry Date: _____
TSA Lot _____ Release Ref: _____ Expiry Date: _____ SGA Lot _____ Release Ref: _____ Expiry Date: _____

Incubators
20-25°C ID#_____: SCD Test Samples & Controls Date/Time In: _____ SCD Test Samples Date/Time Out:_____
SCD Sterility Control and Media Negative Control Date/Time Out: _____

30-35°C ID#_____: FTM Test Samples & Controls Date/Time In: _____ FTM Test Samples Date/Time Out:_____
FTM Sterility Control and Media Negative Control Date/Time Out: _____

Challenge Organisms

Organism	Lot #	Inoculum Count & Purity Confirmation						
		Inoculum volume	Incubation start date/time	Incubation end date/time	Plate 1	Plate 2	Average CFU	Visual Purity (Yes/No)
Staphylococcus aureus ATCC 6538								
Pseudomonas aeruginosa ATCC 9027								
Clostridium sporogenes ATCC 19404 or 11437								
Bacillus subtilis ATCC 6633								
Candida albicans ATCC 10231								
Aspergillus brasiliensis ATCC 16404								

Reviewed By:_____ Date:_____

APPENDIX 11 – Method Suitability Data

(page 2 of 3)

CSP ID#:_____ **Volume CSP Filtered:** _____ **Volume Diluting Fluid Used** _____ **Number of Dilutions** _____

CSP Microbial Purity Control

SCD: Growth / No growth (circle one) FTM: Growth / No growth (circle one)

Note – *If growth is seen on CSP Microbial Purity Control please refer to Appendix 10 section 9.c. for further information. Data to be entered on page 3 of this appendix.*

Negative Control Results (No growth expected after minimum 5 days)

SCD: Growth / No growth (circle one) FTM: Growth / No growth (circle one)

Negative Controls Passed / Failed (circle one) for this run. _____ (Initial/Date)

Challenge Microorganisms and Positive Controls Results

For use with Fluid Thioglycollate Media incubated at 32.5± 2.5°C (30-35°C) for not more than five (5) days:

Organism	Test Sample Bacterial Growth		Positive Control Growth		Comparable		
Staphylococcus aureus ATCC 6538	**Y**	**N**	**Y**	**N**	**Y**	**N**	_____ (Initial/Date)
Pseudomonas aeruginosa ATCC 9027	**Y**	**N**	**Y**	**N**	**Y**	**N**	_____ (Initial/Date)
Clostridium sporogenes ATCC (_____)	**Y**	**N**	**Y**	**N**	**Y**	**N**	_____ (Initial/Date)

For use with Trypticase Soy Broth (Soybean Casein Digest Medium) incubated at 22.5± 2.5°C (20-25°C) for not more than five (5) days:

Bacillus subtilis ATCC 6633	**Y**	**N**	**Y**	**N**	**Y**	**N**	_____ (Initial/Date)
Candida albicans ATCC 10231	**Y**	**N**	**Y**	**N**	**Y**	**N**	_____ (Initial/Date)
Aspergillus brasiliensis ATCC 16404	**Y**	**N**	**Y**	**N**	**Y**	**N**	_____ (Initial/Date)

Reviewed By:_____ Date:_____

APPENDIX 11 – Method Suitability Data

(page 3 of 3)

CSP ID#:_____ **Date Initiated**_____

Section below to be filled out only if CSP Sterility Control shows growth:

Agar used for purity checks of CSP Sterility Control and (if needed) Test Samples

TSA Lot _____ Release Ref: _____ Expiry Date: _____ SGA Lot _____ Release Ref: _____ Expiry Date: _____

Number of different colony morphologies seen on CSP Sterility Control: TSA: _____ FTM: _____ Initials / Date _____

Challenge organism confirmation:

Organism	Visual Purity (Yes/No)	Challenge Organism Species Confirmed (Yes/No)	Data Reference	Initials / Date
Staphylococcus aureus ATCC 6538				
Pseudomonas aeruginosa ATCC 9027				
Clostridium sporogenes ATCC 19404 or 11437				
Bacillus subtilis ATCC 6633				
Candida albicans ATCC 10231				
Aspergillus brasiliensis ATCC 16404				

Comments:

_____

_____

_____

Interpretation of Results (Circle Applicable Conclusion)

This Method Suitability Test Run Passed / Failed (circle one) acceptance criteria for this run

Interpreted By: _____ Date:_____

Reviewed By:_____ Date:_____

APPENDIX 12 – General Data Sheet

Attachment/Section Reference:	**Page ___ of ___**
Comments/Observations:	

Additional Comments/Information:

Reviewed By:_____ Date:_____

APPENDIX 13 – Deviation Tracking Log

DEVIATION IDENTIFICATION NUMBER	INITIATED BY / DATE	DESCRIPTION

Comments:
_____
_____
_____

Reviewed By:_____ Date:_____

APPENDIX 14 – Deviation Report

DEVIATION REPORT			Deviation Number	.
DEVIATION				
Originator			Date	
Asset Number	Location	Protocol Section	Protocol Test Description	
Description of Deviation				
REFERENCES (DRAWINGS, PROCEDURES, MANUALS, ETC.)				
NUMBER	DESCRIPTION		REVISION	
CORRECTIVE ACTION				
CORRECTIVE ACTION/RESOLUTION				
RESOLUTION VERIFICATION				
Scheduled Completion Date	Retest Description	Acceptance Criteria	Results	
Resolved/Retested By			Date	
Reviewed By:			Date	

APPENDIX 15 – Method Suitability Study Report

The Microbiology NETWORK

Compounder
Compounder's Address

DATE OF REPORT

Dear Sir/Madam,

This report summarizes the results of a Method Suitability study performed on the CSP submitted DATE labeled CSP NAME[1]. This Method Suitability study is designed to qualify the QTMicro in performing a sterility test of the CSP formulation evaluated (*NOTE*: This study was not a test for sterility of the submitted material). This formulation was given the identification number CSP ID# for this study.

The Method Suitability study has been completed for CSP #XXXX, and the testing laboratory was (was not) successful in determining conditions for microbial recovery after neutralization of this CSP formulation using the QTMicro. The conditions of this qualified test are as follows:

Maximum volume[2] of CSP per QTMicro Unit: XXXXXXXXXXXXXX mL

Volume of Diluting Fluid D[3] per rinse: XXXXXXXXXXXXXX mL

Number of rinses of Diluting Fluid D: XXXXXX

Thank you for your participation in this study. Please let us know if you have any questions about these results.

Sincerely,

_____

Scott Sutton, Ph.D.
Owner, Microbiology Network, Inc.

[1] This study is valid only for the CSP formulation submitted. Changes in formulation components or conscentrations, raw material sources or compounding process may render the study invalid. The compounding pharmacy is responsible for the quality and compliance of all CSP release tests.
[2] The volume of material used in a USP <71> Sterility Test (2013) is determined by a combination of the unit fill volume and the number of units made during a single run (a "batch") as described in Tables 2 and 3 of this chapter. A specific situation may require a larger volume of CSP for a sterility test than was qualified in this study. In this case, it may be necessary to use more than one QTMicro per recovery medium, or to use a different sterility test method consistent with USP <71> (2013).
[3] The recipe for Diluting Fluid D is provided in USP <71> (2013).

The Microbiology Network
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