

MICROBIOLOGICAL CRMs & PT FOR HEMP & CANNABIS

The cannabis industry depends upon accurate microbiological analysis to guarantee the safety and shelf-life claims made by cannabis product manufacturers. Spex + NSI offer the most comprehensive product selection for cannabis microbiologists. Whether you use culture or molecular test methods, Spex-NSI is the only source for biologically inoculated cannabis matrices. Plant material, edible, and oil matrix selections are available for our QC and proficiency testing products.



Hemp Plant Matrix

Qualitative CRMs in Hemp are prepared with hydroponically grown hemp and packed in 1 g x 10 vials. These CRMs are intended for qualitative applications, analyst DOCs and daily QC with molecular and cultural test methods.

Qualitative Microbiological CRMs in Hemp

CRM Description	Package Size	Part #
<i>Aspergillus flavus</i> CRM	10 vials x 1 g pack	FM-602
<i>Aspergillus fumigatus</i> CRM	10 vials x 1 g pack	FM-604
<i>Aspergillus niger</i> CRM	10 vials x 1 g pack	FM-601
<i>Aspergillus terreus</i> CRM	10 vials x 1 g pack	FM-603
<i>Listeria monocytogenes</i> CRM	10 vials x 1 g pack	FM-627
<i>Pseudomonas aeruginosa</i> CRM	10 vials x 1 g pack	FM-629
<i>Salmonella species</i> CRM	10 vials x 1 g pack	FM-732
<i>Staphylococcus aureus</i> CRM	10 vials x 1 g pack	FM-628

Qualitative QC Samples are a five sample set where 2 of the 5 samples are positive for the target microorganisms. Can be used for molecular or cultural testing techniques.

Qualitative Microbiological QCs in Hemp

QC Description	Package Size	Part #
<i>Aspergillus species</i> QC	5 samples + 1 DI vial	CMQC-031
<i>Escherichia coli</i> O157:H7 QC	5 samples + 1 DI vial	CMQC-035
<i>Escherichia coli</i> QC	5 samples + 1 DI vial	CMQC-034
<i>Listeria monocytogenes</i> QC	5 samples + 1 DI vial	CMQC-064
<i>Pseudomonas aeruginosa</i> QC	5 samples + 1 DI vial	CMQC-070
<i>Salmonella species</i> QC	5 samples + 1 DI vial	CMQC-025
Shiga toxin-producing <i>Escherichia coli</i> (STEC) QC	5 samples + 1 DI vial	CMQC-028*
<i>Staphylococcus aureus</i> QC	5 samples + 1 DI vial	CMQC-067

Quantitative CRMs packs contain 10 x 1 g vials of hydroponically grown hemp and single-use lyophilized samples that are ready for hydration with sterile water or Butterfield's Buffer. CRMs are designed to be diluted and used with culture methods. These materials are best used for control charts, analyst DOCs and method validations.

Quantitative Microbiological CRMs & QC in Hemp

CRM Description	Package Size	Part #
Aerobic Plate Count (APC) CRM	10 vials x 1 g pack	FM-726

**ECCN restrictions apply to international sales of these items.*

<i>Aspergillus species</i> (Molds) CRM	10 vials x 1 g pack	FM-729
Coliform/ <i>Escherichia coli</i> CRM	10 vials x 1 g pack	FM-727
<i>Enterobacteriaceae</i> CRM	10 vials x 1 g pack	FM-730
Yeast CRM	10 vials x 1 g pack	FM-728

Quantitative QC samples are designed for quantitative determination of microorganisms in the range of >500 CFU/gram. Samples are inoculated with the target microorganisms and can be used with culture techniques.

Quantitative Microbiological QCs in Hemp

QC Description	Package Size	Part #
Aerobic Plate Count (APC) QC	2 Samples + 2 DI	CMQC-036
Shiga toxin-producing <i>Escherichia coli</i> (STEC) QC	2 Samples + 2 DI	CMQC-039*
Total Coliform & <i>E. coli</i> QC	2 Samples + 2 DI	CMQC-037
Total Yeast & Mold QC	2 Samples + 2 DI	CMQC-040

Qualitative PTs are a five sample set where 2 of the 5 samples are positive for the target microorganisms. Acceptable evaluation requires at least 4 of 5 recorded correctly with no false negatives. Can be used for molecular or cultural testing techniques.

Qualitative Microbiological Scheduled PT

Description	Package Size	Part #
<i>Aspergillus species</i>	5 samples + 1 DI vial	CMPT-031
<i>Escherichia coli</i>	5 samples + 1 DI vial	CMPT-034
<i>Escherichia coli</i> O157:H7	5 samples + 1 DI vial	CMPT-035
<i>Listeria monocytogenes</i>	5 samples + 1 DI vial	CMPT-064
<i>Pseudomonas aeruginosa</i>	5 samples + 1 DI vial	CMPT-070
<i>Salmonella species</i>	5 samples + 1 DI vial	CMPT-025
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	5 samples + 1 DI vial	CMPT-028*
<i>Staphylococcus aureus</i>	5 samples + 1 DI vial	CMPT-067

Qualitative Microbiological PT Express in Hemp

Description	Package Size	Part #
<i>Aspergillus species</i>	5 samples + 1 DI vial	CMPT-031B
<i>Escherichia coli</i>	5 samples + 1 DI vial	CMPT-034B
<i>Escherichia coli</i> O157:H7	5 samples + 1 DI vial	CMPT-035B
<i>Listeria monocytogenes</i>	5 samples + 1 DI vial	CMPT-064B
<i>Pseudomonas aeruginosa</i>	5 samples + 1 DI vial	CMPT-070B

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<i>Salmonella</i> species	5 samples + 1 DI vial	CMPT-025B
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	5 samples + 1 DI vial	CMPT-028B*
<i>Staphylococcus aureus</i>	5 samples + 1 DI vial	CMPT-067B

Quantitative PT samples are designed for quantitative determination of microorganisms in the range of >500 CFU/gram. Samples are inoculated with the target microorganisms and can be used with culture techniques.

Quantitative Microbiological Scheduled PT in Hemp

Description	Package Size	Part #
Aerobic Plate Count (APC) & Total Viable Count (TVC)	2 Samples + 2 DI	CMPT-036
<i>BTGN / EB</i>	2 Samples + 2 DI	CMPT-039
Coliform/ <i>E. coli</i>	2 Samples + 2 DI	CMPT-037
qPCR Yeast & Mold	2 Samples + 2 DI	CMPT-085
Yeast or Mold	2 Samples + 2 DI	CMPT-040

Quantitative Microbiological PT Express in Hemp

Description	Package Size	Part #
Aerobic Plate Count (APC) & Total Viable Count (TVC)	2 Samples + 2 DI	CMPT-036B
<i>BTGN / EB</i>	2 Samples + 2 DI	CMPT-039B
Coliform/ <i>E. coli</i>	2 Samples + 2 DI	CMPT-037B
qPCR Yeast & Mold	2 Samples + 2 DI	CMPT-085B
Yeast or Mold	2 Samples + 2 DI	CMPT-040B

Edible Matrix

Qualitative Edible CRMs are created using organic brownie packed in 1 g x 10 vials intended as a qualitative CRM inoculated with approximately log 5 of microorganisms per vial. These materials can be used for analyst DOCs, daily QC and method validation in molecular and culture techniques.

Qualitative Microbiological CRMs in Edible Matrix

CRM Description	Package Size	Part #
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<i>Aspergillus flavus</i> CRM	10 vials x 1 g pack	FM-608
<i>Aspergillus fumigatus</i> CRM	10 vials x 1 g pack	FM-610
<i>Aspergillus niger</i> CRM	10 vials x 1 g pack	FM-607
<i>Aspergillus terreus</i> CRM	10 vials x 1 g pack	FM-609
<i>Listeria monocytogenes</i> CRM	10 vials x 1 g pack	FM-630
<i>Pseudomonas aeruginosa</i> CRM	10 vials x 1 g pack	FM-635
<i>Salmonella species</i> CRM	10 vials x 1 g pack	FM-605
<i>Staphylococcus aureus</i> CRM	10 vials x 1 g pack	FM-631

Qualitative QC Samples are a five sample set where 2 of the 5 samples are positive for the target microorganisms. Can be used for molecular or culture techniques.

Qualitative Microbiological QCs in Edible Matrix

Description	Package Size	Part #
<i>Aspergillus species</i> QC	5 samples + 1 DI vial	CMQC-032
<i>Listeria monocytogenes</i> QC	5 samples + 1 DI vial	CMQC-065
<i>Pseudomonas aeruginosa</i> QC	5 samples + 1 DI vial	CMQC-071
<i>Salmonella species</i> QC	5 samples + 1 DI vial	CMQC-026
Shiga toxin-producing <i>Escherichia coli</i> (STEC) QC	5 samples + 1 DI vial	CMQC-029*
<i>Staphylococcus aureus</i> QC	5 samples + 1 DI vial	CMQC-068

Quantitative QC samples are designed for quantitative determination of microorganisms in the range of >500 CFU/gram. Samples are inoculated with the target microorganisms and can be used with culture techniques.

Quantitative Microbiological QC in Edible Matrix

Description	Package Size	Part #
Aerobic Plate Count (APC)	2 Samples + 2 DI	CMQC-057
Bile-tolerant Gram Negative (BTGN) <i>Enterobacteriaceae</i>	2 Samples + 2 DI	CMQC-058
Coliform/ <i>Escherichia coli</i>	2 Samples + 2 DI	CMQC-038
Yeast/Mold	2 Samples + 2 DI	CMQC-059

Qualitative PTs are a five sample set where 2 of the 5 samples are positive for the target microorganisms. Acceptable evaluation requires at least 4 of 5 recorded correctly with no false negatives. Can be used for molecular or culture techniques.

Qualitative Microbiological Scheduled PT in Edible Matrix

Description	Package Size	Part #
<i>Aspergillus</i> Molds	5 samples + 1 DI vial	CMPT-032

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<i>Listeria monocytogenes</i>	5 samples + 1 DI vial	CMPT-065
<i>Pseudomonas aeruginosa</i>	5 samples + 1 DI vial	CMPT-071
Salmonella species	5 samples + 1 DI vial	CMPT-026
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	5 samples + 1 DI vial	CMPT-029*
<i>Staphylococcus aureus</i>	5 samples + 1 DI vial	CMPT-068

Qualitative Microbiological PT Express in Edible Matrix

Description	Package Size	Part #
<i>Aspergillus</i> species	5 samples + 1 DI vial	CMPT-032B
<i>Listeria monocytogenes</i>	5 samples + 1 DI vial	CMPT-065B
<i>Pseudomonas aeruginosa</i>	5 samples + 1 DI vial	CMPT-071B
<i>Salmonella</i> species	5 samples + 1 DI vial	CMPT-026B
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	5 samples + 1 DI vial	CMPT-029B*
<i>Staphylococcus aureus</i>	5 samples + 1 DI vial	CMPT-068B

Quantitative PT samples are designed for quantitative determination of microorganisms in the range of >500 CFU/gram. Samples are inoculated with the target microorganisms and can be used with culture techniques.

Quantitative Microbiological Scheduled PT in Edible Matrix

Description	Package Size	Part #
Aerobic Plate Count (APC)	2 Samples + 2 DI	CMPT-057
Bile-tolerant Gram Negative (BTGN) <i>Enterobacteriaceae</i>	2 Samples + 2 DI	CMPT-058
Coliform/ <i>Escherichia coli</i>	2 Samples + 2 DI	CMPT-038
Yeast or Mold	2 Samples + 2 DI	CMPT-059

Quantitative Microbiological PT Express in Edible Matrix

Description	Package Size	Part #
Aerobic Plate Count (APC)	2 Samples + 2 DI	CMPT-057B
Bile-tolerant Gram Negative (BTGN) <i>Enterobacteriaceae</i>	2 Samples + 2 DI	CMPT-058B
Coliform/ <i>Escherichia coli</i>	2 Samples + 2 DI	CMPT-038B
Yeast or Mold	2 Samples + 2 DI	CMPT-059B

Hemp Oil Matrix

Qualitative Microbiological CRMs are used as a positive control and are supplied in a two-part set: 5 x 1 g blank hemp oil and a cryovial (600 µL) of viable culture. To prepare sample, spike a vial of hemp oil with 100 µL of the supplied culture and process under your normal molecular or cultural test methods.

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Qualitative Microbiological CRMs in Hemp Oil Matrix

CRM Component	Package Size	Part #
<i>Aspergillus flavus</i> CRM	5 x 1 g Hemp Oil + 600 uL culture	FM-614
<i>Aspergillus fumigatus</i> CRM	5 x 1 g Hemp Oil + 600 uL culture	FM-616
<i>Aspergillus niger</i> CRM	5 x 1 g Hemp Oil + 600 uL culture	FM-613
<i>Aspergillus terreus</i> CRM	5 x 1 g Hemp Oil + 600 uL culture	FM-615
<i>Listeria monocytogenes</i> CRM	5 x 1 g Hemp Oil + 600 uL culture	FM-634
<i>Pseudomonas aeruginosa</i> CRM	5 x 1 g Hemp Oil + 600 uL culture	FM-633
<i>Salmonella</i> species CRM	5 x 1 g Hemp Oil + 600 uL culture	FM-611
<i>Staphylococcus aureus</i> CRM	5 x 1 g Hemp Oil + 600 uL culture	FM-632

Qualitative QC Samples are a five sample set where 2 of the 5 samples are positive for the target microorganisms. Can be used for molecular or cultural test methods.

Quantitative Microbiological QC in Hemp Oil Matrix

QC Component	Package Size	Part #
<i>Aspergillus</i> species QC	5 Samples	CMQC-033
<i>Listeria monocytogenes</i> QC	5 Samples	CMQC-066
<i>Pseudomonas aeruginosa</i> QC	5 Samples	CMQC-072
<i>Salmonella</i> species QC	5 Samples	CMQC-027
Shiga toxin-producing <i>Escherichia coli</i> (STEC) QC	5 Samples	CMQC-030*
<i>Staphylococcus aureus</i> QC	5 Samples	CMQC-069

Qualitative PTs are a five sample set where 2 of the 5 samples are positive for the target microorganisms. Acceptable evaluation requires at least 4 of 5 recorded correctly with no false negatives. Can be used for molecular or cultural test methods.

Qualitative Microbiological Scheduled PT in Hemp Oil Matrix

Component	Package Size	Part #
<i>Aspergillus</i> Mold	5 samples + 1 DI vial	CMPT-033
<i>Listeria monocytogenes</i>	5 samples + 1 DI vial	CMPT-066

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<i>Pseudomonas aeruginosa</i>	5 samples + 1 DI vial	CMPT-072
<i>Salmonella</i>	5 samples + 1 DI vial	CMPT-027
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	5 samples + 1 DI vial	CMPT-030*
<i>Staphylococcus aureus</i>	5 samples + 1 DI vial	CMPT-069

Qualitative Microbiological PT Express in Hemp Oil Matrix

Component	Package Size	Part #
<i>Aspergillus</i> species	5 samples + 1 DI vial	CMPT-033B
<i>Listeria monocytogenes</i>	5 samples + 1 DI vial	CMPT-066B
<i>Pseudomonas aeruginosa</i>	5 samples + 1 DI vial	CMPT-072B
<i>Salmonella</i> species	5 samples + 1 DI vial	CMPT-027B
Shiga toxin-producing <i>Escherichia coli</i> (STEC)	5 samples + 1 DI vial	CMPT-030B*
<i>Staphylococcus aureus</i>	5 samples + 1 DI vial	CMPT-069B

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Custom Standards

With Spex CertiPrep's Custom Certified Reference Materials (CRMs) program, you can select custom standards in connection with all product lines—from single-element and multi-element aqueous blends to organometallic oil standards. Our technical specialists are available to discuss your applications or instrumentation, combination of elements, concentrations, and your preferred matrices. Our team can then develop the most compatible, stable mixture using our comprehensive supply of starting materials and certified solutions based on the standards provided.

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Fax: +1.732.603.9647

Place an Order: usmet-orderprocessing@antylia.com

Certificates (C.O.A) & SDS: usmet-quality@antylia.com

Quotes & Technical Questions: certiprep.quotes@antylia.com

