



284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

Prep Standard - Chemical Standard Summary

Order ID : P2403
Test : Gasoline Range Organics

Prepbatch ID :
Sequence ID/Qc Batch ID: FB050824,

Standard ID :
PP23139,PP23140,PP23142,PP23366,PP23367,PP23368,PP23369,PP23370,PP23371,PP23372,PP23373,PP23374,

Chemical ID :
P11120,P9825,V11253,V14137,W2606,

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
231	10 PPM GRO STD 1ST SOURCE	PP23139	03/11/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
03/18/2024								

FROM 0.11100ml of P11120 + 9.89000ml of V14137 = Final Quantity: 10.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
233	10 PPM GRO STD 2nd SOURCE	PP23140	03/11/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
03/18/2024								

FROM 0.11100ml of P9825 + 9.89000ml of V14137 = Final Quantity: 10.000 ml

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3619	25 PPM AAA-TFT Surg	PP23142	03/11/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
								03/18/2024

FROM 0.10000ml of V11253 + 9.90000ml of V14137 = Final Quantity: 10.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
238	5 PPB ICC GRO STD	PP23366	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
								05/09/2024

FROM 5.00000ml of W2606 + 0.00100ml of PP23142 + 0.00250ml of PP23139 = Final Quantity: 5.004 ml

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
237	10 PPB ICC GRO STD	PP23367	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
								05/09/2024

FROM 5.00000ml of W2606 + 0.00200ml of PP23142 + 0.00500ml of PP23139 = Final Quantity: 5.007 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
239	20 PPB ICC GRO STD	PP23368	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
								05/09/2024

FROM 5.00000ml of W2606 + 0.00400ml of PP23142 + 0.01000ml of PP23139 = Final Quantity: 5.014 ml

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
235	50 PPB ICC GRO STD	PP23369	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
								05/09/2024

FROM 5.00000ml of W2606 + 0.01000ml of PP23142 + 0.02500ml of PP23139 = Final Quantity: 5.035 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
234	100 PPB ICC GRO STD	PP23370	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
								05/09/2024

FROM 5.00000ml of W2606 + 0.02000ml of PP23142 + 0.05000ml of PP23139 = Final Quantity: 5.070 ml

Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
240	20 PPB ICV GRO STD	PP23371	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
								05/09/2024

FROM 5.00000ml of W2606 + 0.00400ml of PP23142 + 0.01000ml of PP23140 = Final Quantity: 5.014 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
241	20 PPB CCC GRO STD	PP23372	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani
								05/13/2024

FROM 5.00000ml of W2606 + 0.00400ml of PP23142 + 0.01000ml of PP23139 = Final Quantity: 5.014 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
241	20 PPB CCC GRO STD	PP23373	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani 05/13/2024
<u>FROM</u> 5.00000ml of W2606 + 0.00400ml of PP23142 + 0.01000ml of PP23139 = Final Quantity: 5.014 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
241	20 PPB CCC GRO STD	PP23374	05/08/2024	08/12/2024	Yogesh Patel	None	None	Ankita Jodhani 05/13/2024
<u>FROM</u> 5.00000ml of W2606 + 0.00400ml of PP23142 + 0.01000ml of PP23139 = Final Quantity: 5.014 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30065 / GRO Mix (EPA)	A0161776	09/11/2024	03/15/2024 / yogesh	02/10/2021 / Sohil	P11120

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30065 / GRO Mix (EPA)	A0155991	09/11/2024	03/15/2024 / yogesh	09/11/2020 / DHAVAL	P9825

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30068 / VOA Mix, a, a, a-trifluorotoluene 2500ug/ml, P&T methanol, 1ml	A0158026	09/15/2024	03/15/2024 / yogesh	09/11/2020 / DHAVAL	V11253

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	22L0562016	08/12/2024	02/12/2024 / SAM	02/06/2024 / SAM	V14137

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606



110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30065 **Lot No.:** A0161776

Description : Gasoline Range Organics Mix (EPA)

Gasoline Range Organics Mix (EPA) 500 - 1500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2027 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	2-Methylpentane CAS # 107-83-5 (Lot MKCB1674V) Purity 99%	1,507.0 µg/mL	+/- 8.9511 µg/mL Gravimetric +/- 84.5158 µg/mL Unstressed +/- 86.4925 µg/mL Stressed
2	2,2,4-Trimethylpentane (isooctane) CAS # 540-84-1 (Lot SHBF8066V) Purity 99%	1,511.0 µg/mL	+/- 8.9749 µg/mL Gravimetric +/- 84.7402 µg/mL Unstressed +/- 86.7221 µg/mL Stressed
3	n-Heptane (C7) CAS # 142-82-5 (Lot SHBK8626) Purity 98%	498.8 µg/mL	+/- 2.9628 µg/mL Gravimetric +/- 27.9749 µg/mL Unstressed +/- 28.6292 µg/mL Stressed
4	Benzene CAS # 71-43-2 (Lot SHBK5679) Purity 99%	500.0 µg/mL	+/- 2.9698 µg/mL Gravimetric +/- 28.0411 µg/mL Unstressed +/- 28.6969 µg/mL Stressed
5	Toluene CAS # 108-88-3 (Lot MKCH9232) Purity 99%	1,510.0 µg/mL	+/- 8.9689 µg/mL Gravimetric +/- 84.6841 µg/mL Unstressed +/- 86.6647 µg/mL Stressed
6	Ethylbenzene CAS # 100-41-4 (Lot SHBL0706) Purity 99%	504.0 µg/mL	+/- 2.9936 µg/mL Gravimetric +/- 28.2654 µg/mL Unstressed +/- 28.9265 µg/mL Stressed
7	m-Xylene CAS # 108-38-3 (Lot SHBL0265) Purity 99%	1,005.0 µg/mL	+/- 5.9694 µg/mL Gravimetric +/- 56.3626 µg/mL Unstressed +/- 57.6808 µg/mL Stressed

8	o-Xylene CAS # 95-47-6 Purity 99%	(Lot SHBK7739)	1,007.0 µg/mL	+/- 5.9813 +/- 56.4747 +/- 57.7956	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	1,2,4-Trimethylbenzene CAS # 95-63-6 Purity 99%	(Lot WXBC4246V)	1,008.0 µg/mL	+/- 5.9872 +/- 56.5308 +/- 57.8530	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
Solvent: P&T Methanol CAS # 67-56-1 Purity 99%						

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

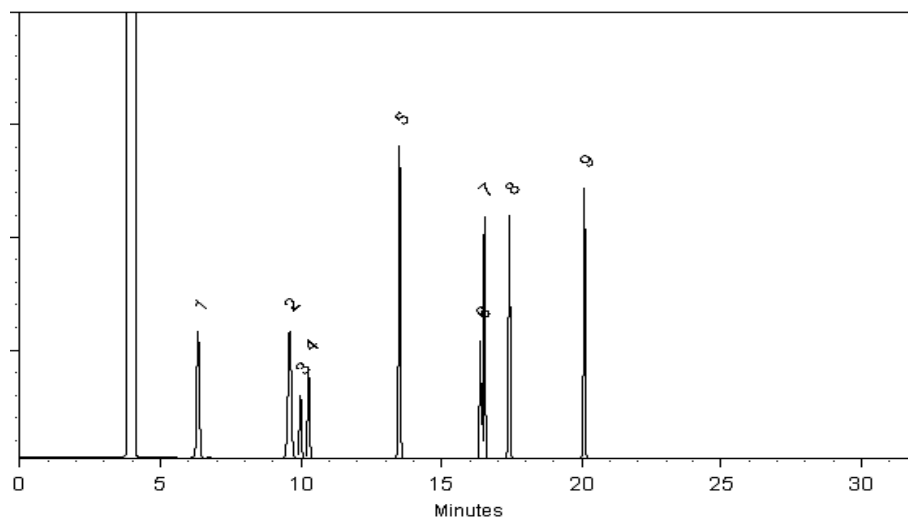
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust
Cydnei L. Crust - Mix Technician

Date Mixed: 15-Jun-2020

Balance: B251644995

Fang-Yun Lo
Fang-Yun Lo - QC Analyst

Date Passed: 17-Jun-2020

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis



Material No.: 9077-02
Batch No.: 22L0562016
Manufactured Date: 2022-10-26
Expiration Date: 2025-10-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH ₃ OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Titration Acid (μeq/g)	≤ 0.3	0.2
Titration Base (μeq/g)	≤ 0.10	0.03
Water (by KF, coulometric)	≤ 0.08 %	< 0.01 %
Volatile Organic Trace Analysis - Below EPA 8260B CRQL	Conforms	Conforms

For Laboratory, Research, or Manufacturing Use
Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: USA
Packaging Site: Phillipsburg Mfg Ctr & DC

Jamie Ethier
Vice President Global Quality



110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

1st source

DP

P9817

To

10

P9826

Catalog No. : 30065 **Lot No.:** A0155991

Description : Gasoline Range Organics Mix (EPA)
Gasoline Range Organics Mix (EPA) 500 - 1500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2027 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	2-Methylpentane CAS # 107-83-5 (Lot MKCB1674V) Purity 98%	1,505.3 µg/mL	+/- 8.9409 µg/mL Gravimetric +/- 84.4194 µg/mL Unstressed +/- 86.3938 µg/mL Stressed
2	2,2,4-Trimethylpentane (isooctane) CAS # 540-84-1 (Lot SHBD2922V) Purity 99%	1,504.0 µg/mL	+/- 8.9333 µg/mL Gravimetric +/- 84.3476 µg/mL Unstressed +/- 86.3203 µg/mL Stressed
3	n-Heptane (C7) CAS # 142-82-5 (Lot SHBK8626) Purity 98%	500.8 µg/mL	+/- 2.9745 µg/mL Gravimetric +/- 28.0848 µg/mL Unstressed +/- 28.7417 µg/mL Stressed
4	Benzene CAS # 71-43-2 (Lot SHBK5679) Purity 99%	501.0 µg/mL	+/- 2.9758 µg/mL Gravimetric +/- 28.0972 µg/mL Unstressed +/- 28.7543 µg/mL Stressed
5	Toluene CAS # 108-88-3 (Lot MKCH9232) Purity 99%	1,505.0 µg/mL	+/- 8.9392 µg/mL Gravimetric +/- 84.4037 µg/mL Unstressed +/- 86.3777 µg/mL Stressed
6	Ethylbenzene CAS # 100-41-4 (Lot SHBJ4278) Purity 99%	502.0 µg/mL	+/- 2.9817 µg/mL Gravimetric +/- 28.1533 µg/mL Unstressed +/- 28.8117 µg/mL Stressed
7	m-Xylene CAS # 108-38-3 (Lot SHBJ8743) Purity 99%	1,004.0 µg/mL	+/- 5.9635 µg/mL Gravimetric +/- 56.3065 µg/mL Unstressed +/- 57.6234 µg/mL Stressed

8	o-Xylene		1,008.0	µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 95-47-6	(Lot SHBK7739)			+/- 56.5308	µg/mL	Unstressed
	Purity 99%				+/- 57.8530	µg/mL	Stressed
9	1,2,4-Trimethylbenzene		1,004.5	µg/mL	+/- 5.9664	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot MKBJ6229V)			+/- 56.3345	µg/mL	Unstressed
	Purity 98%				+/- 57.6521	µg/mL	Stressed
Solvent: P&T Methanol							
	CAS # 67-56-1						
	Purity 99%						

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

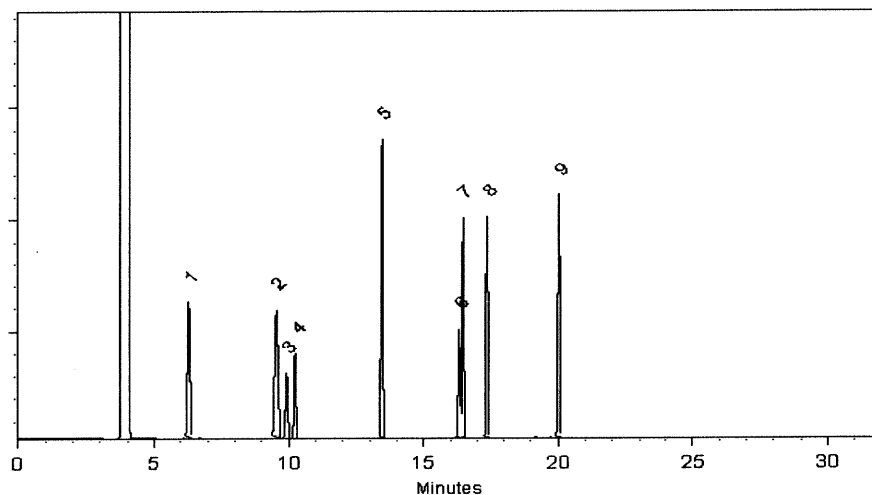
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Miranda Kline
Miranda Kline - Operations Technician I

Date Mixed: 19-Dec-2019

Balance: 1127510105

Feng-Yun Lo
Feng-Yun Lo - QC Analyst

Date Passed: 23-Dec-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397