CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Prep Standard - Chemical Standard Summary

Order ID : O1232

Test : Gasoline Range Organics

Prepbatch ID :

Sequence ID/Qc Batch ID: FB012023,

Standard ID :
PP21302,PP21303,PP21304,PP21485,PP21486,PP21487,PP21488,PP21489,PP21490,PP21504,PP21505,PP21506,

Chemical ID :
P9822,P9823,V11250,V13214,W2606,

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
231	10 PPM GRO STD 1ST SOURCE	PP21302	12/19/2022	06/19/2023	Yogesh Patel	None	None	Ankita Jodhani 12/20/2022

FROM 0.11100ml of P9822 + 9.89000ml of V13214 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
233	10 PPM GRO STD 2nd SOURCE	PP21303	12/19/2022	06/19/2023	Yogesh Patel	None	None	Ankita Jodhani 12/20/2022

FROM 0.11100ml of P9823 + 9.89000ml of V13214 = Final Quantity: 10.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3619	25 PPM AAA-TFT Surg	PP21304	12/19/2022	06/12/2023	Yogesh Patel	None	None	Ankita Jodhani 12/20/2022

FROM 0.10000ml of V11250 + 9.90000ml of V13214 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
238	5 PPB ICC GRO STD	PP21485	01/17/2023	02/17/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.00100ml of PP21304 + 0.00250ml of PP21302 = Final Quantity: 5.004 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
237	10 PPB ICC GRO STD	PP21486	01/17/2023	06/12/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.00200ml of PP21304 + 0.00500ml of PP21302 = Final Quantity: 5.007 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
239	20 PPB ICC GRO STD	PP21487	01/17/2023	06/12/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.00400ml of PP21304 + 0.01000ml of PP21302 = Final Quantity: 5.014 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
235	50 PPB ICC GRO STD	PP21488	01/17/2023	06/12/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.01000ml of PP21304 + 0.02500ml of PP21302 = Final Quantity: 5.035 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
234	100 PPB ICC GRO STD	PP21489	01/17/2023	06/12/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.02000ml of PP21304 + 0.05000ml of PP21302 = Final Quantity: 5.070 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
240	20 PPB ICV GRO STD	PP21490	01/17/2023	06/12/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.00400ml of PP21304 + 0.01000ml of PP21303 = Final Quantity: 5.014 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
241	20 PPB CCC GRO STD	PP21504	01/20/2023	06/12/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.00400ml of PP21304 + 0.01000ml of PP21302 = Final Quantity: 5.014 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
241	20 PPB CCC GRO STD	PP21505	01/20/2023	06/12/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.00400ml of PP21304 + 0.01000ml of PP21302 = Final Quantity: 5.014 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
241	20 PPB CCC GRO STD	PP21506	01/20/2023	06/12/2023	Yogesh Patel	None	None	

FROM 5.00000ml of W2606 + 0.00400ml of PP21304 + 0.01000ml of PP21302 = Final Quantity: 5.014 ml

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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)	A0155991	01/07/2023	07/07/2022 / yogesh	09/11/2020 / DHAVAL	P9822

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30065 / GRO Mix (EPA)	A0155991	01/07/2023	07/07/2022 / yogesh	09/11/2020 / DHAVAL	P9823

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30068 / VOA Mix, a, a, a-triflurotoluene 2500uq/ml, P&T methanol, 1ml	A0158026	06/19/2023	03/08/2022 / Ankita	09/11/2020 / DHAVAL	V11250

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)	22C2362001	06/12/2023	12/12/2022 / SAM	09/13/2022 / SAM	V13214

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

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

avantor™ | J.T.Baker®

Material No.: 9077-02
Batch No.: 22C2362001
Manufactured Date: 2022-02-15
Expiration Date: 2025-02-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	< 0.1 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.3
Titrable 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

James T Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

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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
DD
P9817 To P9826 (10)

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

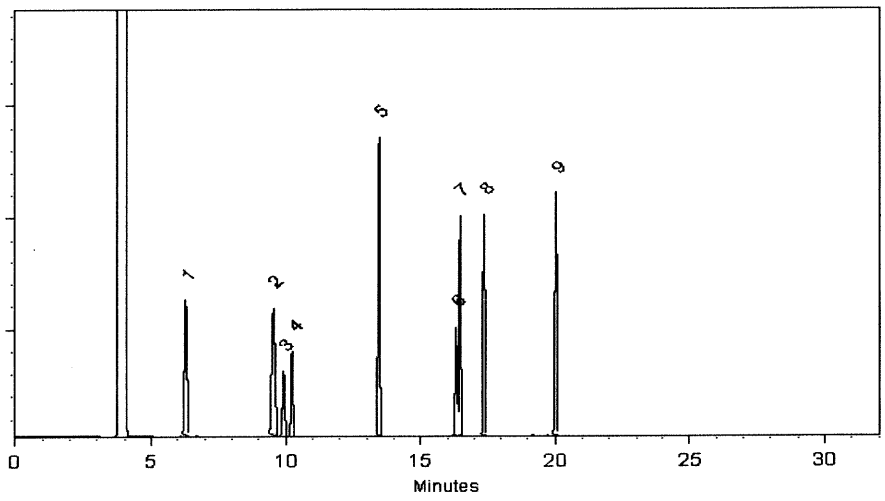
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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

Fang-Yun Lo - QC Analyst

Date Passed: 23-Dec-2019

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

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1st source
DD
P9817 To P9826 (10)

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 **Purity** 98%	(Lot MKCB1674V)	1,505.3 µg/mL	+/- 8.9409 µg/mL +/- 84.4194 µg/mL +/- 86.3938 µg/mL		Gravimetric Unstressed Stressed
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4	Benzene **CAS #** 71-43-2 **Purity** 99%	(Lot SHBK5679)	501.0 µg/mL	+/- 2.9758 µg/mL +/- 28.0972 µg/mL +/- 28.7543 µg/mL		Gravimetric Unstressed Stressed
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7	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBJ8743)	1,004.0 µg/mL	+/- 5.9635 µg/mL +/- 56.3065 µg/mL +/- 57.6234 µg/mL		Gravimetric Unstressed 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)

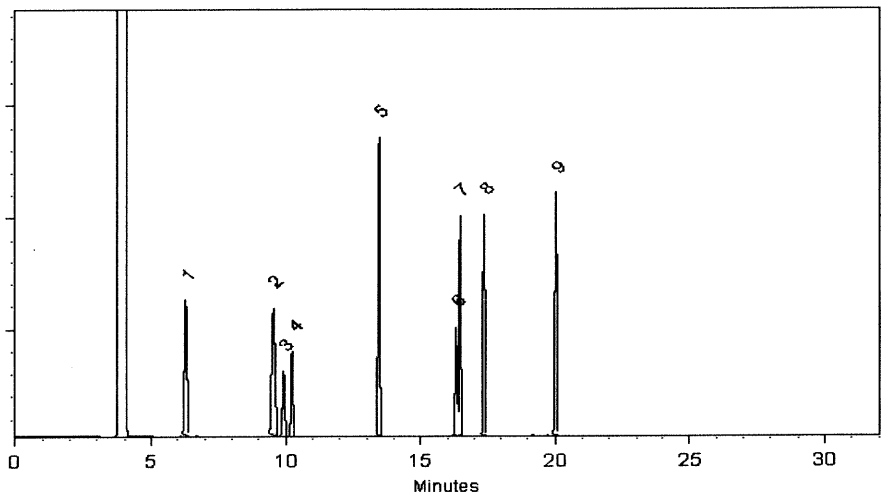
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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



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Miranda Kline

Miranda Kline - Operations Technician I

Date Mixed: 19-Dec-2019 **Balance:** 1127510105

Fang-Yun Lo - QC Analyst

Date Passed: 23-Dec-2019

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

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DD
V11250
TO
V11254
(5)

Catalog No. : 30068 **Lot No.:** A0158026

Description : a,a,a-Trifluorotoluene Standard

a,a,a-Trifluorotoluene 2500µg/mL, P & T Methanol, 1mL/ampul

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

Expiration Date : May 31, 2028 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	a,a,a-Trifluorotoluene	2,514.0 µg/mL	+/- 14.9324	µg/mL	Gravimetric
	CAS # 98-08-8 (Lot SHBJ9102)		+/- 140.9906	µg/mL	Unstressed
	Purity 99%		+/- 144.2881	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)

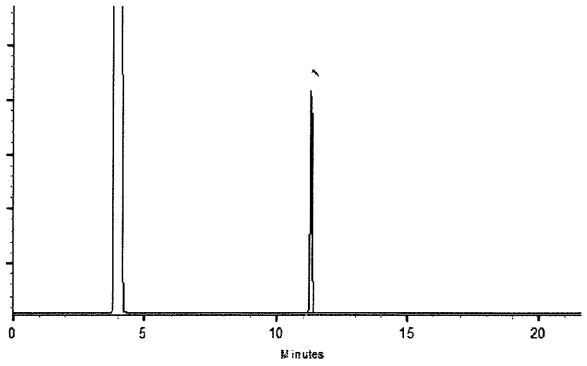
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

Dustin J Lidgett

Dustin Lidgett - Mix Technician

Date Mixed: 20-Feb-2020 **Balance:** B251644995

Feng-Yun Lo - QC Analyst

Date Passed: 24-Feb-2020

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