

Prep Standard - Chemical Standard Summary

Order ID : P4368

Test : VOCGC Group 1

Prepbatch ID : PB164115,

Sequence ID/Qc Batch ID: PR101424,

Standard ID :

PP23549,PP23550,PP23552,PP23553,PP23859,PP23860,PP23861,PP23862,PP23863,PP23864,PP23866,PP23869,
PP23870,

Chemical ID :

E3816,M5884,P10224,P12214,P13233,V14143,W3112,



<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>
2263	EDB-BCP 2 PPM Stock Solution	PP23549	07/30/2024	01/22/2025	Ankita Jodhani	None	None	Sohil Jodhani 07/30/2024

FROM	
	0.01000ml of P10224 + 0.01000ml of P13233 + 9.98000ml of V14143 = 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>
2264	EDB-DBCP 2 PPM Stock Solution 2nd Source	PP23550	07/30/2024	01/22/2025	Ankita Jodhani	None	None	Sohil Jodhani 07/30/2024

FROM	
0.10000ml of P12214 + 9.90000ml of V14143	= 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>
2517	EDB-DBCP 100 PPB Working Solution	PP23552	07/30/2024	01/22/2025	Ankita Jodhani	None	None	Sohil Jodhani
								07/30/2024

FROM 9.50000ml of V14143 + 0.50000ml of PP23549 = 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>
2518	EDB-DBCP 100 PPB Working Sol. 2nd Source	PP23553	07/30/2024	01/22/2025	Ankita Jodhani	None	None	Sohil Jodhani
								07/30/2024

FROM 9.50000ml of V14143 + 0.50000ml of PP23550 = 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>
2269	M8011-504.1 0.5 PPB STD	PP23859	10/14/2024	11/14/2024	Ankita Jodhani	None	None	Yogesh Patel
								10/14/2024

FROM 35.00000ml of W3112 + 0.17500ml of PP23552 = Final Quantity: 35.000 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>
2270	M8011-504.1 0.25 PPB STD	PP23860	10/14/2024	11/14/2024	Ankita Jodhani	None	None	Yogesh Patel
								10/14/2024

FROM 35.00000ml of W3112 + 0.08750ml of PP23552 = Final Quantity: 35.000 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>
2271	M8011-504.1 0.1 PPB STD	PP23861	10/14/2024	11/14/2024	Ankita Jodhani	None	None	Yogesh Patel
								10/14/2024

FROM 35.00000ml of W3112 + 0.03500ml of PP23552 = Final Quantity: 35.000 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>
2272	M8011-504.1 0.05 PPB STD	PP23862	10/14/2024	11/14/2024	Ankita Jodhani	None	None	Yogesh Patel
								10/14/2024

FROM 35.00000ml of W3112 + 0.17500ml of PP23552 = Final Quantity: 35.000 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>
2273	M8011-504.1 0.025 PPB STD	PP23863	10/14/2024	11/14/2024	Ankita Jodhani	None	None	Yogesh Patel
								10/14/2024

FROM 35.00000ml of W3112 + 0.00880ml of PP23552 = Final Quantity: 35.000 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>
2274	M8011-504.1 0.1 PPB ICV STD	PP23864	10/14/2024	11/14/2024	Ankita Jodhani	None	None	Yogesh Patel
								10/14/2024

FROM 35.00000ml of W3112 + 0.03500ml of PP23553 = Final Quantity: 35.000 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>
2519	M8011-504.1 0.1 PPB CCC	PP23866	10/14/2024	10/15/2024	Ankita Jodhani	None	None	Yogesh Patel
								10/14/2024

FROM 35.00000ml of W3112 + 0.03500ml of PP23552 = Final Quantity: 35.000 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>
3653	M8011-504.1 LOD 0.025 PPB	PP23869	10/14/2024	11/14/2024	Ankita Jodhani	None	None	Yogesh Patel
								10/14/2024

FROM 35.00000ml of W3112 + 0.08800ml of PP23552 = Final Quantity: 35.000 ml

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	24G1962003	04/10/2025	10/10/2024 / Rajesh	10/04/2024 / Rajesh	E3816

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3624-05 / Sodium Chloride, Crystal (cs/4x2.5kg)	0000281938	07/06/2026	04/30/2024 / mohan	04/25/2024 / mohan	M5884

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30270 / 1,2-Dibromo-3-Chloropropene Standard, 2,000 ug/ml	A0164665	01/30/2025	07/30/2024 / Ankita	01/19/2021 / Abdul	P10224

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30239 / 504.1 Calibration Mix (3 components)	A0170154	01/30/2025	07/30/2024 / Ankita	11/28/2022 / Ankita	P12214

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30272 / 1,2-Dibromoethane Standard, 2000 ug/ml	A0183330	01/30/2025	07/30/2024 / Ankita	02/02/2024 / Ankita	P13233

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	01/22/2025	07/22/2024 / SAM	02/06/2024 / SAM	V14143

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / lwona	07/03/2024 / lwona	W3112

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis



Material No.: 9262-03
Batch No.: 24G1962003
Manufactured Date: 2024-05-23
Expiration Date: 2025-08-22
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	3
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
ECD-Sensitive Impurities (as Ethylene Dibromide) - Single Impurity Peak (ng/mL)	≤ 5	1
Assay (Total Saturated C ₆ Isomers) (by GC, corrected for water)	$\geq 99.5 \%$	99.7 %
Assay (as n-Hexane) (by GC, corrected for water)	$\geq 95 \%$	98 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.1 ppm
Substances Darkened by H ₂ SO ₄	Passes Test	Passes Test
Water (by KF, coulometric)	$\leq 0.05 \%$	< 0.01 %

For Laboratory, Research, or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

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

E3816

Rec'd by RP on 10/4/24

Jamie Croak
Director Quality Operations, Bioscience Production

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

Page 1 of 1

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent



MS824
MB

Material No.: 3624-01

Batch No.: 0000281938

Manufactured Date: 2021-06-07

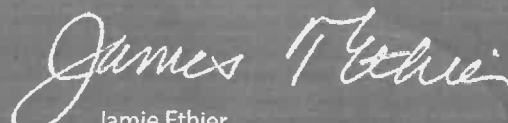
Retest Date: 2026-06-07

Revision No.: 1

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	$\geq 99.0 \%$	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	$\leq 0.005 \%$	0.003 %
Iodide (I)	$\leq 0.002 \%$	< 0.002 %
Bromide (Br)	$\leq 0.01 \%$	< 0.01 %
Chlorate and Nitrate (as NO ₃)	$\leq 0.003 \%$	< 0.001 %
ACS - Phosphate (PO ₄)	≤ 5 ppm	< 5 ppm
Sulfate (SO ₄)	$\leq 0.004 \%$	< 0.004 %
Barium (Ba)	Passes Test	Passes Test
ACS - Heavy Metals (as Pb)	≤ 5 ppm	< 5 ppm
Iron (Fe)	≤ 2 ppm	< 1 ppm
Calcium (Ca)	$\leq 0.002 \%$	< 0.001 %
Magnesium (Mg)	$\leq 0.001 \%$	< 0.001 %
Potassium (K)	$\leq 0.005 \%$	0.001 %

For Laboratory, Research, or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris Mfg Ctr & DC


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 Mansford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

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



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

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.: 30270 Lot No.: A0164665
Description: 1,2-Dibromo-3-chloropropane Standard
1,2-Dibromo-3-Chloropropane 2000µg/mL, P&T Methanol, 1mL/ampul
Container Size: 2 mL Pkg Amt: > 1 mL
Expiration Date: September 30, 2025 Storage: 0°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	1,2-Dibromo-3-chloropropane CAS # 96-12-8 (Lot FBL01) Purity 97%	2,009.8 µg/mL	+/- 18.6904 µg/mL Gravimetric +/- 113.6299 µg/mL Unstressed +/- 116.2454 µg/mL Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

P10222
↓
P10225
AR
01/19/2020

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:

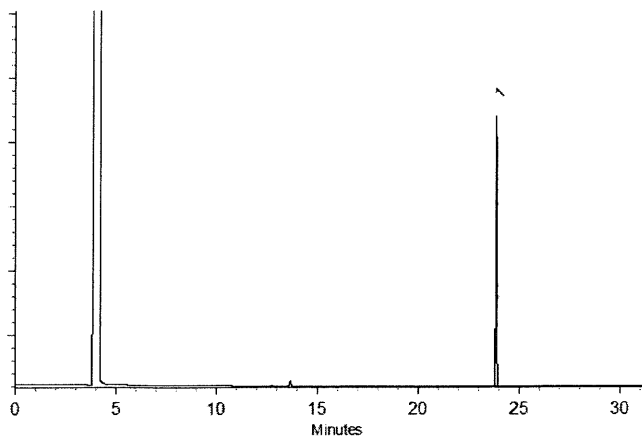
200°C

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.

Jeremy Johnson - Mfg. Supervisor

Date Mixed: 22-Sep-2020

Balance: B251644995

Justine Albertson - Operations Tech-ARM QC

Date Passed: 24-Sep-2020

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



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

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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. : 30239 **Lot No.:** A0170154

Description : 504.1 Calibration Mix

504.1 Calibration Std 200µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : March 31, 2026 **Storage:** 0°C or colder

Ship: Ambient

P12211
↓
P12215
AJ
11/28/22

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	1,2-Dibromoethane (EDB) CAS # 106-93-4 (Lot BCBP2268V) Purity 99%	200.5 µg/mL	+/- 1.4217 µg/mL Gravimetric +/- 11.2713 µg/mL Unstressed +/- 11.5336 µg/mL Stressed
2	1,2,3-Trichloropropane CAS # 96-18-4 (Lot BCBH8722V) Purity 99%	200.0 µg/mL	+/- 1.4182 µg/mL Gravimetric +/- 11.2431 µg/mL Unstressed +/- 11.5049 µg/mL Stressed
3	1,2-Dibromo-3-chloropropane CAS # 96-12-8 (Lot FBL01) Purity 97%	199.8 µg/mL	+/- 1.4169 µg/mL Gravimetric +/- 11.2330 µg/mL Unstressed +/- 11.4945 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:

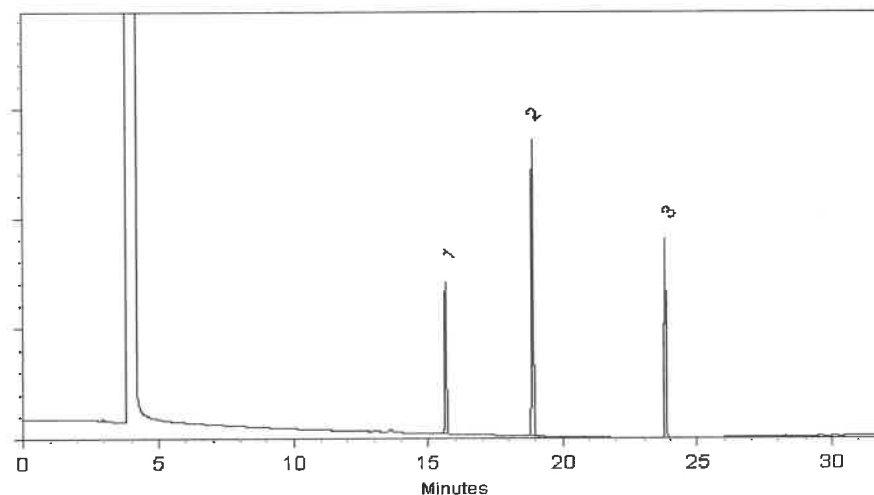
200°C

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.


Erik Strommer - Operations Tech I

Date Mixed: 15-Mar-2021

Balance: B251644995


Alexis Shelow - Operations Tech I

Date Passed: 16-Mar-2021

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



CERTIFIED REFERENCE MATERIAL

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Bellefonte, PA 16823-8812
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Fax: (814)353-1309

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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. : 30272 Lot No.: A0183330

Description : 1,2-Dibromoethane Standard
1,2-Dibromoethane 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL Pkg Amt: > 1 mL

Expiration Date : March 31, 2027 Storage: 0°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,2-Dibromoethane (EDB) CAS # 106-93-4 Purity 99%	2,016.0 µg/mL (Lot BCBZ7221)	+/- 18.7477 +/- 113.9782 +/- 116.6017	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

p13233
↓
p13237

AJ
02/02/24

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

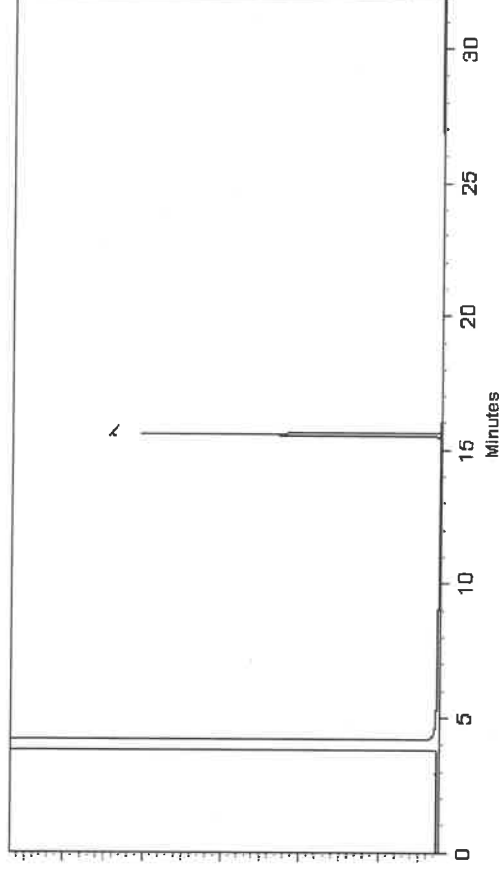
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

Jess Hoy - Operations Tech I

Date Mixed: 25-Mar-2022 **Balance:** 1127510105

Amanda Miller - Operations Tech-ARM QC

Date Passed: 30-Mar-2022

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