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

Prep Standard - Chemical Standard Summary

Order ID : P1187

Test : VOCGC Group 1

Prepbatch ID : PB158605,PB158623,

Sequence ID/Qc Batch ID: PR012424,

Standard ID :
PP23022,PP23023,PP23024,PP23025,PP23036,PP23037,PP23038,PP23039,PP23040,PP23041,PP23043,PP23049,P
P23050,PP23051,PP23052,PP23053,PP23057,PP23058,

Chemical ID :
E3677,M5501,P10223,P10335,P12213,V14025,W2606,

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2263	EDB-DBCP 2 PPM Stock Solution	PP23022	01/19/2024	07/12/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/19/2024

FROM 0.01000ml of P10223 + 0.01000ml of P10335 + 9.98000ml of V14025 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2264	EDB-DBCP 2 PPM Stock Solution 2nd Source	PP23023	01/19/2024	07/12/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/19/2024

FROM 0.10000ml of P12213 + 9.90000ml of V14025 = 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
2517	EDB-DBCP 100 PPB Working Solution	PP23024	01/19/2024	07/12/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/19/2024

FROM 9.50000ml of V14025 + 0.50000ml of PP23022 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2518	EDB-DBCP 100 PPB Working Sol. 2nd Source	PP23025	01/19/2024	07/12/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/19/2024

FROM 9.50000ml of V14025 + 0.50000ml of PP23023 = 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
2269	M8011-504.1 0.5 PPB STD	PP23036	01/24/2024	02/24/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.17500ml of PP23024 = Final Quantity: 35.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2270	M8011-504.1 0.25 PPB STD	PP23037	01/24/2024	02/24/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.08750ml of PP23024 = Final Quantity: 35.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2271	M8011-504.1 0.1 PPB STD	PP23038	01/24/2024	02/24/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.03500ml of PP23024 = Final Quantity: 35.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2272	M8011-504.1 0.05 PPB STD	PP23039	01/24/2024	02/24/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.01750ml of PP23024 = Final Quantity: 35.000 ml

CHEMTECH

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2273	M8011-504.1 0.025 PPB STD	PP23040	01/24/2024	02/24/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.00880ml of PP23024 = Final Quantity: 35.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2274	M8011-504.1 0.1 PPB ICV STD	PP23041	01/24/2024	02/24/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.03500ml of PP23025 = Final Quantity: 35.000 ml

CHEMTECH

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2519	M8011-504.1 0.1 PPB CCC	PP23043	01/24/2024	01/25/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.03500ml of PP23024 = Final Quantity: 35.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2275	M8011-504.1 0.25 PPB LCS STD	PP23049	01/24/2024	01/25/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.08750ml of PP23025 = Final Quantity: 35.000 ml

CHEMTECH

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2275	M8011-504.1 0.25 PPB LCS STD	PP23050	01/24/2024	01/25/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.08750ml of PP23025 = Final Quantity: 35.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3653	M8011-504.1 LOD 0.025 PPB	PP23051	01/24/2024	01/25/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.08800ml of PP23024 = Final Quantity: 35.000 ml

CHEMTECH

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3759	M8011-504.1 LOQ 0.025 PPB	PP23052	01/24/2024	01/25/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.00880ml of PP23024 = Final Quantity: 35.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2519	M8011-504.1 0.1 PPB CCC	PP23053	01/24/2024	01/25/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.03500ml of PP23024 = Final Quantity: 35.000 ml

CHEMTECH

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2275	M8011-504.1 0.25 PPB LCS STD	PP23057	01/25/2024	01/26/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.08750ml of PP23025 = Final Quantity: 35.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2275	M8011-504.1 0.25 PPB LCS STD	PP23058	01/25/2024	01/26/2024	Ankita Jodhani	None	None	Sohil Jodhani 01/25/2024

FROM 35.00000ml of W2606 + 0.08750ml of PP23025 = Final Quantity: 35.000 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 #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	23G1262009	07/22/2024	01/22/2024 / Rajesh	01/16/2024 / Rajesh	E3677

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	07/24/2023 / mohan	04/14/2023 / mohan	M5501

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30270 / 1,2-Dibromo-3-Chloropropane Standard, 2,000 ug/ml	A0164665	07/19/2024	01/19/2024 / Ankita	01/19/2021 / Abdul	P10223

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	A0154067	07/19/2024	01/19/2024 / Ankita	03/04/2021 / Abdul	P10335

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	07/19/2024	01/19/2024 / Ankita	11/28/2022 / Ankita	P12213

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)	22C2862010	07/12/2024	01/12/2024 / pedro	11/29/2023 / SAM	V14025

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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	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

Hexanes (95% n-hexane)
BAKER RESI-ANALYZED® Reagent

avantor™ | J.T.Baker®

Material No.: 9262-03
Batch No.: 23G1262009
Manufactured Date: 2023-06-01
Expiration Date: 2024-08-30
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
ECD-Sensitive Impurities (as Ethylene Dibromide) - Single Impurity Peak (ng/mL)	≤ 5	3
Assay (Total Saturated C_6 Isomers) (by GC, corrected for water)	≥ 99.5 %	99.6 %
Assay (as n-Hexane) (by GC, corrected for water)	≥ 95 %	98 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Darkened by H_2SO_4	Passes Test	Passes Test
Water (by KF, coulometric)	≤ 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

Recd. by RP on 1/16/24

E 3677

Ken Koehnlein
Sr. Manager, Quality Assurance

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

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

avantor™ | J.T.Baker®

Material No.: 9077-02
Batch No.: 22C2862010
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	0.2 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.3
Titrable Base (µeq/g)	≤ 0.10	< 0.02
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

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

M5493 - M5708
Added 4/14/23
JMG

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 2

Certificate of Analysis

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	≥ 99.0 %	100.0 %
pH of 5% Solution at 25°C	5.0 - 9.0	6.3
Insoluble Matter	≤ 0.005 %	0.003 %
Iodide (I)	≤ 0.002 %	< 0.002 %
Bromide (Br)	≤ 0.01 %	< 0.01 %
Chlorate and Nitrate (as NO_3)	≤ 0.003 %	< 0.001 %
ACS - Phosphate (PO_4)	≤ 5 ppm	< 5 ppm
Sulfate (SO_4)	≤ 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)	≤ 0.002 %	< 0.001 %
Magnesium (Mg)	≤ 0.001 %	< 0.001 %
Potassium (K)	≤ 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

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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Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

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	2,009.8 µg/mL	+/- 18.6904 µg/mL	Gravimetric
	CAS # 96-12-8 (Lot FBL01)		+/- 113.6299 µg/mL	Unstressed
	Purity 97%		+/- 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)

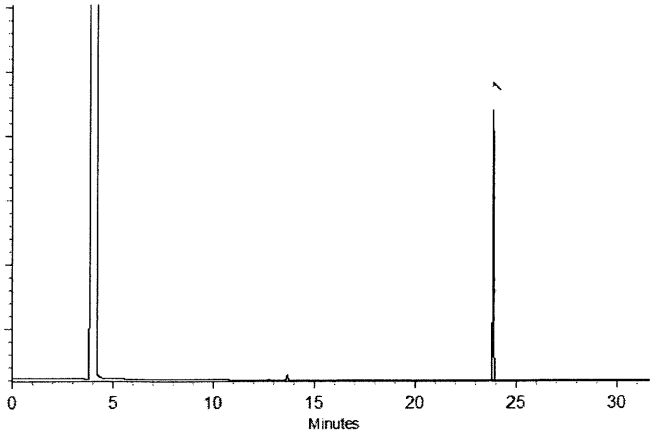
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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

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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.:** A0151983

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 : August 31, 2024 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,2-Dibromoethane (EDB)	2,004.0 µg/mL	+/- 11.9032	µg/mL	Gravimetric
	CAS # 106-93-4 (Lot BCBH3877V)		+/- 112.3887	µg/mL	Unstressed
	Purity 99%		+/- 115.0172	µg/mL	Stressed

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

P10332
↓
P10335

AR
03/25/21

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

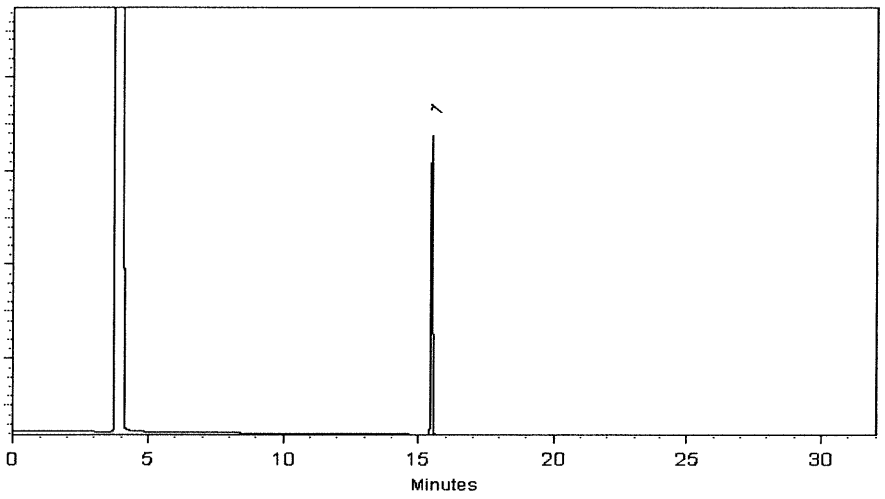
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

Matt Fragassi - Mix Technician

Date Mixed: 18-Aug-2019 **Balance:** 1128342314

Tyler Brown - Operations Tech-ARM QC

Date Passed: 20-Aug-2019

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

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Certificate #3222.02

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 +/- 11.2713 µg/mL +/- 11.5336 µg/mL	Gravimetric Unstressed Stressed
2	1,2,3-Trichloropropane **CAS #** 96-18-4 (Lot BCBH8722V) **Purity** 99%	200.0 µg/mL	+/- 1.4182 µg/mL +/- 11.2431 µg/mL +/- 11.5049 µg/mL	Gravimetric Unstressed Stressed
3	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 (Lot FBL01) **Purity** 97%	199.8 µg/mL	+/- 1.4169 µg/mL +/- 11.2330 µg/mL +/- 11.4945 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)

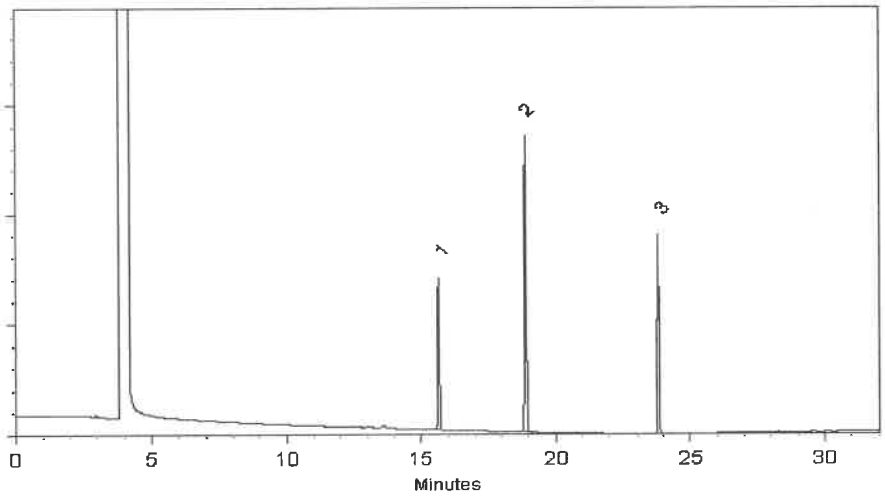
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

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