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Cover Page

Order ID : Q2264

Project ID : PVSC Monthly 2025

Client : Ardmore Chemical

Lab Sample Number	Client Sample Number
Q2264-01	EFF-WW
Q2264-04	EF-WW

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 6/12/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

Value	If the result is a value greater than or equal to the detection limit, report the value
U	Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required.
ND	Indicates the analyte was analyzed for, but not detected
J	Indicates an estimated value**.** This flag is used: (1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.) (2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others.
B	Indicates the analyte was found in the blank as well as the sample report as "12 B".
E	Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor.
P	This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P".
N	This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used.
A	This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product.
Q	Indicates the LCS did not meet the control limits requirements

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **Q2264**

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

QA Review Signature: **KETAN PATEL** **Date:** **06/12/2025**

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LAB CHRONICLE

OrderID:	Q2264	**OrderDate:**	6/6/2025 2:07:00 PM
Client:	Ardmore Chemical	**Project:**	PVSC Monthly 2025
Contact:	Michael Sharphouse	**Location:**	D41,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q2264-01	**EFF-WW**	**Water**			**06/06/25**			**06/06/25**
			VOC-PP	624.1			06/11/25	

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Hit Summary Sheet
SW-846

SDG No.: Q2264

Client: Ardmore Chemical

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID:	**EFF-WW**							
Q2264-01	EFF-WW	Water	Chloroform	12.0	J	2.80	25.0	ug/L
			Total Voc :	12.0				
			Total Concentration:	12.0				

QC SUMMARY

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Surrogate Summary

SDG No.: Q2264

Client: Ardmore Chemical

Analytical Method: SW624.1

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
Q2264-01	EFF-WW	1,2-Dichloroethane-d4	30	32.5	108	91	110
		Toluene-d8	30	29.0	97	91	112
		4-Bromofluorobenzene	30	29.5	98	63	112
VX0611WBL01	VX0611WBL01	1,2-Dichloroethane-d4	30	30.5	102	91	110
		Toluene-d8	30	29.8	99	91	112
		4-Bromofluorobenzene	30	30.3	101	63	112
VX0611WBS01	VX0611WBS01	1,2-Dichloroethane-d4	30	29.9	100	91	110
		Toluene-d8	30	29.9	100	91	112
		4-Bromofluorobenzene	30	30.1	100	63	112
VX0611WBSD0	VX0611WBSD01	1,2-Dichloroethane-d4	30	30.4	101	91	110
		Toluene-d8	30	30.0	100	91	112
		4-Bromofluorobenzene	30	30.5	102	63	112

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q2264

Client: Ardmore Chemical

Analytical Method: SW624.1 **Datafile :** VX046629.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VX0611WBS01	Chloromethane	20	17.1	ug/L	86			1	205	
	Vinyl Chloride	20	17.8	ug/L	89			5	195	
	Bromomethane	20	13.4	ug/L	67			15	185	
	Chloroethane	20	19.2	ug/L	96			40	160	
	Trichlorofluoromethane	20	17.6	ug/L	88			50	150	
	1,1-Dichloroethene	20	18.0	ug/L	90			50	150	
	Acrolein	100	92.5	ug/L	93			60	140	
	Acrylonitrile	100	88.1	ug/L	88			60	140	
	Methylene Chloride	20	18.9	ug/L	95			60	140	
	trans-1,2-Dichloroethene	20	18.6	ug/L	93			70	130	
	1,1-Dichloroethane	20	18.4	ug/L	92			70	130	
	Carbon Tetrachloride	20	19.3	ug/L	97			70	130	
	Chloroform	20	19.2	ug/L	96			70	135	
	1,1,1-Trichloroethane	20	19.1	ug/L	96			70	130	
	Benzene	20	19.1	ug/L	96			65	135	
	1,2-Dichloroethane	20	19.3	ug/L	97			70	130	
	Trichloroethene	20	18.5	ug/L	93			65	135	
	1,2-Dichloropropane	20	18.3	ug/L	92			35	165	
	Bromodichloromethane	20	18.7	ug/L	94			65	135	
	Toluene	20	18.7	ug/L	94			70	130	
	t-1,3-Dichloropropene	20	18.4	ug/L	92			50	150	
	cis-1,3-Dichloropropene	20	18.9	ug/L	95			25	175	
	1,1,2-Trichloroethane	20	19.3	ug/L	97			70	130	
	2-Chloroethyl vinyl ether	100	89.2	ug/L	89			1	225	
	Dibromochloromethane	20	18.6	ug/L	93			70	135	
	Tetrachloroethene	20	18.5	ug/L	93			70	130	
	Chlorobenzene	20	18.8	ug/L	94			65	135	
	Ethyl Benzene	20	18.6	ug/L	93			60	140	
	m/p-Xylenes	40	38.1	ug/L	95			87	111	
	o-Xylene	20	18.3	ug/L	92			87	111	
	Bromoform	20	18.8	ug/L	94			70	130	
	1,1,2,2-Tetrachloroethane	20	18.3	ug/L	92			60	140	
	1,3-Dichlorobenzene	20	19.1	ug/L	96			70	130	
	1,4-Dichlorobenzene	20	19.4	ug/L	97			65	135	
	1,2-Dichlorobenzene	20	19.2	ug/L	96			65	135	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q2264

Client: Ardmore Chemical

Analytical Method: SW624.1 **Datafile :** VX046630.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VX0611WBSD01	Chloromethane	20	16.4	ug/L	82	5		1	205	20
	Vinyl Chloride	20	17.1	ug/L	86	3		5	195	20
	Bromomethane	20	14.7	ug/L	74	10		15	185	20
	Chloroethane	20	20.6	ug/L	103	7		40	160	20
	Trichlorofluoromethane	20	18.0	ug/L	90	2		50	150	20
	1,1-Dichloroethene	20	17.6	ug/L	88	2		50	150	20
	Acrolein	100	110	ug/L	110	17		60	140	20
	Acrylonitrile	100	92.7	ug/L	93	6		60	140	20
	Methylene Chloride	20	18.6	ug/L	93	2		60	140	20
	trans-1,2-Dichloroethene	20	17.9	ug/L	90	3		70	130	20
	1,1-Dichloroethane	20	18.0	ug/L	90	2		70	130	20
	Carbon Tetrachloride	20	19.0	ug/L	95	2		70	130	20
	Chloroform	20	18.9	ug/L	95	1		70	135	20
	1,1,1-Trichloroethane	20	18.8	ug/L	94	2		70	130	20
	Benzene	20	19.0	ug/L	95	1		65	135	20
	1,2-Dichloroethane	20	19.5	ug/L	98	1		70	130	20
	Trichloroethene	20	18.7	ug/L	94	1		65	135	20
	1,2-Dichloropropane	20	19.1	ug/L	96	4		35	165	20
	Bromodichloromethane	20	19.5	ug/L	98	4		65	135	20
	Toluene	20	18.8	ug/L	94	0		70	130	20
	t-1,3-Dichloropropene	20	19.3	ug/L	97	5		50	150	20
	cis-1,3-Dichloropropene	20	19.3	ug/L	97	2		25	175	20
	1,1,2-Trichloroethane	20	18.8	ug/L	94	3		70	130	20
	2-Chloroethyl vinyl ether	100	95.1	ug/L	95	7		1	225	20
	Dibromochloromethane	20	19.4	ug/L	97	4		70	135	20
	Tetrachloroethene	20	18.9	ug/L	95	2		70	130	20
	Chlorobenzene	20	18.6	ug/L	93	1		65	135	20
	Ethyl Benzene	20	18.6	ug/L	93	0		60	140	20
	m/p-Xylenes	40	38.3	ug/L	96	1		87	111	20
	o-Xylene	20	18.6	ug/L	93	1		87	111	20
	Bromoform	20	19.1	ug/L	96	2		70	130	20
	1,1,2,2-Tetrachloroethane	20	19.4	ug/L	97	5		60	140	20
	1,3-Dichlorobenzene	20	19.5	ug/L	98	2		70	130	20
	1,4-Dichlorobenzene	20	19.7	ug/L	99	2		65	135	20
	1,2-Dichlorobenzene	20	19.5	ug/L	98	2		65	135	20

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VX0611WBL01

Lab Name: CHEMTECH Contract: ARDM01

Lab Code: CHEM Case No.: Q2264 SAS No.: Q2264 SDG NO.: Q2264

Lab File ID: VX046631.D Lab Sample ID: VX0611WBL01

Date Analyzed: 06/11/2025 Time Analyzed: 12:31

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA_X

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VX0611WBS01	VX0611WBS01	VX046629.D	06/11/2025
VX0611WBSD01	VX0611WBSD01	VX046630.D	06/11/2025
EFF-WW	Q2264-01	VX046634.D	06/11/2025

COMMENTS:

Raw Data: **VX046613.D**

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: ARDM01

Lab Code: CHEM Case No.: Q2264 SAS No.: Q2264 SDG NO.: Q2264

Lab File ID: VX046613.D BFB Injection Date: 06/10/2025

Instrument ID: MSVOA_X BFB Injection Time: 19:57

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.3
75	30.0 - 60.0% of mass 95	53.6
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.5 (0.7) 1
174	50.0 - 100.0% of mass 95	70
175	5.0 - 9.0% of mass 174	5.2 (7.4) 1
176	95.0 - 101.0% of mass 174	66.7 (95.2) 1
177	5.0 - 9.0% of mass 176	4.6 (6.8) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDICC005	VSTDICC005	VX046614.D	06/10/2025	20:19
VSTDICCC020	VSTDICCC020	VX046615.D	06/10/2025	20:40
VSTDICC050	VSTDICC050	VX046616.D	06/10/2025	21:01
VSTDICC100	VSTDICC100	VX046617.D	06/10/2025	21:22
VSTDICC150	VSTDICC150	VX046618.D	06/10/2025	21:44

Raw Data: **VX046627.D**

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: ARDM01

Lab Code: CHEM Case No.: Q2264 SAS No.: Q2264 SDG NO.: Q2264

Lab File ID: VX046627.D BFB Injection Date: 06/11/2025

Instrument ID: MSVOA_X BFB Injection Time: 10:45

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.6
75	30.0 - 60.0% of mass 95	53.2
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.6 (0.8) 1
174	50.0 - 100.0% of mass 95	68.5
175	5.0 - 9.0% of mass 174	5.1 (7.4) 1
176	95.0 - 101.0% of mass 174	66.2 (96.6) 1
177	5.0 - 9.0% of mass 176	4.2 (6.4) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC020	VSTDCCC020	VX046628.D	06/11/2025	11:12
VX0611WBS01	VX0611WBS01	VX046629.D	06/11/2025	11:43
VX0611WBSD01	VX0611WBSD01	VX046630.D	06/11/2025	12:09
VX0611WBL01	VX0611WBL01	VX046631.D	06/11/2025	12:31
EFF-WW	Q2264-01	VX046634.D	06/11/2025	13:40

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ARDM01

Lab Code: CHEM Case No.: Q2264 SAS No.: Q2264 SDG NO.: Q2264

Lab File ID: VX046628.D Date Analyzed: 06/11/2025

Instrument ID: MSVOA_X Time Analyzed: 11:12

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	20635	4.91	110776	6.76	99656	10.06
UPPER LIMIT	41270	5.41	221552	7.263	199312	10.555
LOWER LIMIT	10317.5	4.41	55388	6.263	49828	9.555
EPA SAMPLE NO.						
EFF-WW	16594	4.92	91514	6.77	85872	10.06
VX0611WBL01	19239	4.92	103534	6.77	93773	10.06
VX0611WBS01	20422	4.91	109005	6.76	100408	10.06
VX0611WBSD01	19624	4.91	102297	6.76	94515	10.06

IS1 = Bromochloromethane
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ARDM01

Lab Code: CHEM Case No.: Q2264 SAS No.: Q2264 SDG NO.: Q2264

Lab File ID: VX046628.D Date Analyzed: 06/11/2025

Instrument ID: MSVOA_X Time Analyzed: 11:12

GC Column: DB-624UI ID: 0.18 (mm) Heated Purge: (Y/N) N

	IS4 AREA #	RT #				
12 HOUR STD	0	0				
UPPER LIMIT	0					
LOWER LIMIT	0					
EPA SAMPLE NO.						
EFF-WW	0	0.00				
VX0611WBL01	0	0.00				
VX0611WBS01	0	0.00				
VX0611WBSD01	0	0.00				

IS4 =

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

 # Column used to flag values outside QC limits with an asterisk.
*** Values outside of QC limits.**

SAMPLE DATA

Raw Data: **VX046634.D**

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

Report of Analysis

Client:	Ardmore Chemical	Date Collected:	06/06/25
Project:	PVSC Monthly 2025	Date Received:	06/06/25
Client Sample ID:	EFF-WW	SDG No.:	Q2264
Lab Sample ID:	Q2264-01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-PP
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX046634.D	5		06/11/25 13:40	VX061125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
74-87-3	Chloromethane	3.20	U	3.20	25.0	ug/L
75-01-4	Vinyl Chloride	4.20	U	4.20	25.0	ug/L
74-83-9	Bromomethane	4.00	U	4.00	25.0	ug/L
75-00-3	Chloroethane	11.6	U	11.6	25.0	ug/L
75-69-4	Trichlorofluoromethane	4.00	U	4.00	25.0	ug/L
75-35-4	1,1-Dichloroethene	3.80	U	3.80	25.0	ug/L
107-02-8	Acrolein	33.1	U	33.1	130	ug/L
107-13-1	Acrylonitrile	14.0	U	14.0	130	ug/L
75-09-2	Methylene Chloride	4.30	U	4.30	25.0	ug/L
156-60-5	trans-1,2-Dichloroethene	4.10	U	4.10	25.0	ug/L
75-34-3	1,1-Dichloroethane	3.40	U	3.40	25.0	ug/L
56-23-5	Carbon Tetrachloride	3.70	U	3.70	25.0	ug/L
67-66-3	Chloroform	12.0	J	2.80	25.0	ug/L
71-55-6	1,1,1-Trichloroethane	3.20	U	3.20	25.0	ug/L
71-43-2	Benzene	2.30	U	2.30	25.0	ug/L
107-06-2	1,2-Dichloroethane	2.50	U	2.50	25.0	ug/L
79-01-6	Trichloroethene	2.50	U	2.50	25.0	ug/L
78-87-5	1,2-Dichloropropane	2.30	U	2.30	25.0	ug/L
75-27-4	Bromodichloromethane	3.20	U	3.20	25.0	ug/L
108-88-3	Toluene	2.30	U	2.30	25.0	ug/L
10061-02-6	t-1,3-Dichloropropene	3.60	U	3.60	25.0	ug/L
10061-01-5	cis-1,3-Dichloropropene	3.40	U	3.40	25.0	ug/L
79-00-5	1,1,2-Trichloroethane	2.30	U	2.30	25.0	ug/L
110-75-8	2-Chloroethyl vinyl ether	23.2	U	23.2	130	ug/L
124-48-1	Dibromochloromethane	3.30	U	3.30	25.0	ug/L
127-18-4	Tetrachloroethene	4.20	U	4.20	25.0	ug/L
108-90-7	Chlorobenzene	2.40	U	2.40	25.0	ug/L
100-41-4	Ethyl Benzene	2.80	U	2.80	25.0	ug/L
179601-23-1	m/p-Xylenes	6.50	U	6.50	50.0	ug/L
95-47-6	o-Xylene	3.40	U	3.40	25.0	ug/L

Raw Data: **VX046634.D**

Alliance TECHNICAL GROUP
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Fax : 908 789 8922

Report of Analysis

Client:	Ardmore Chemical	Date Collected:	06/06/25
Project:	PVSC Monthly 2025	Date Received:	06/06/25
Client Sample ID:	EFF-WW	SDG No.:	Q2264
Lab Sample ID:	Q2264-01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-PP
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX046634.D	5		06/11/25 13:40	VX061125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
75-25-2	Bromoform	4.70	U	4.70	25.0	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	2.20	U	2.20	25.0	ug/L
541-73-1	1,3-Dichlorobenzene	3.40	U	3.40	25.0	ug/L
106-46-7	1,4-Dichlorobenzene	4.10	U	4.10	25.0	ug/L
95-50-1	1,2-Dichlorobenzene	3.40	U	3.40	25.0	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	32.5		91 - 110	108%	SPK: 30
2037-26-5	Toluene-d8	29.0		91 - 112	97%	SPK: 30
460-00-4	4-Bromofluorobenzene	29.5		63 - 112	98%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	16600	4.922			
540-36-3	1,4-Difluorobenzene	91500	6.769			
3114-55-4	Chlorobenzene-d5	85900	10.055			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Sample Results: **VX046634.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046634.D
Acq On : 11 Jun 2025 13:40
Operator : JC/MD
Sample : Q2264-01 5X
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
EFF-WW

Manual Integrations APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

Quant Time: Jun 12 01:39:36 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.922	128	16594	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.769	114	91514	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	85872	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.964	65	43589	32.451	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 108.167%			
60) 4-Bromofluorobenzene	11.079	95	42732	29.523	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 98.400%			
63) Toluene-d8	8.653	98	111256	29.005	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 96.700%			
Target Compounds						Qvalue
15) Acetone	2.392	58	435179	3708.832	ug/l	89
20) Diisopropyl ether	3.776	45	9730m	2.861	ug/l	
25) Chloroform	5.123	83	4822	2.405	ug/l	91
30) 2-Butanone	4.599	43	3520m	5.487	ug/l	
59) 2-Hexanone	9.446	43	1766	1.792	ug/l #	89

(#) = qualifier out of range (m) = manual integration (+) = signals summed

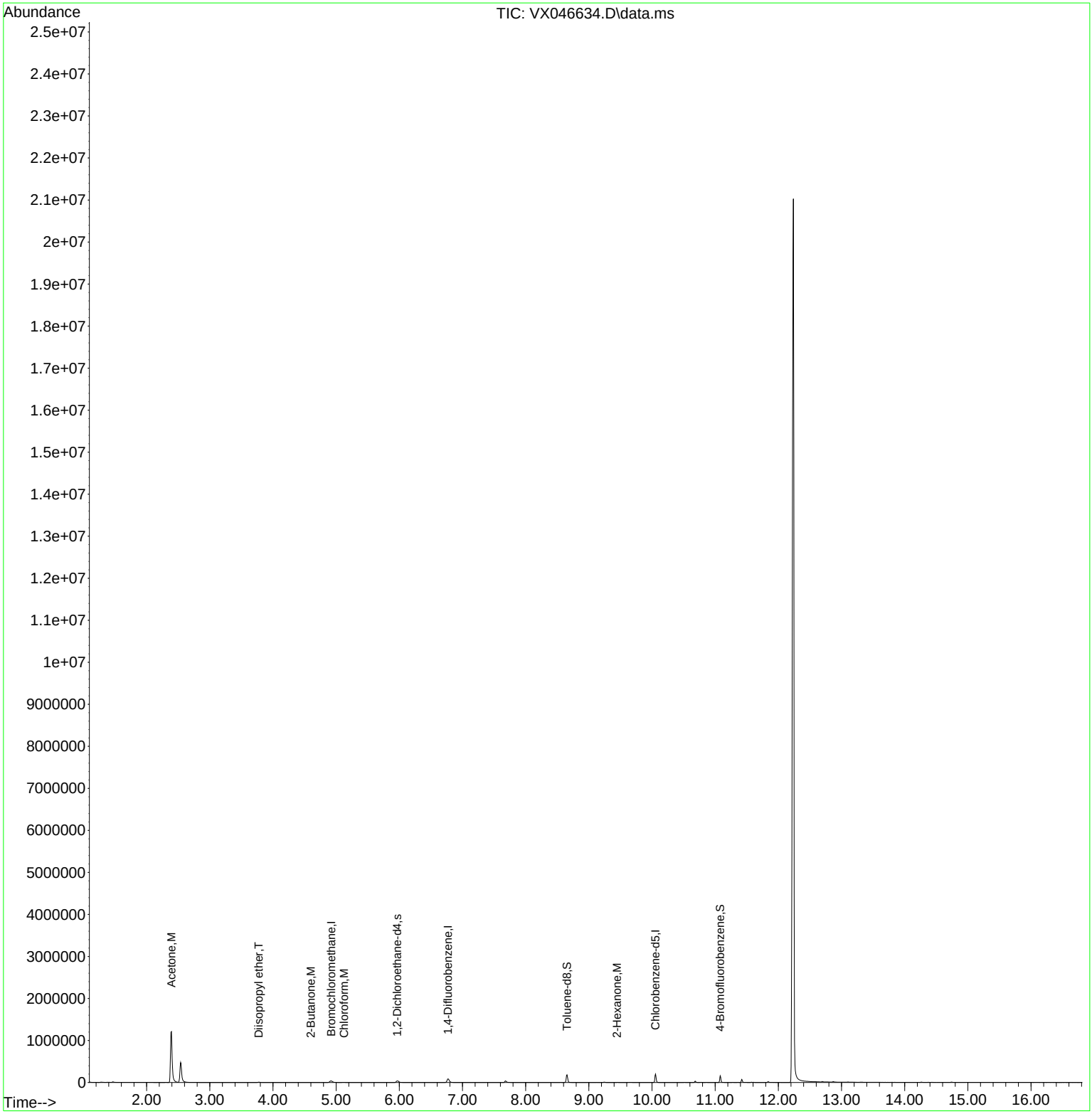
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046634.D
Acq On : 11 Jun 2025 13:40
Operator : JC/MD
Sample : Q2264-01 5X
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

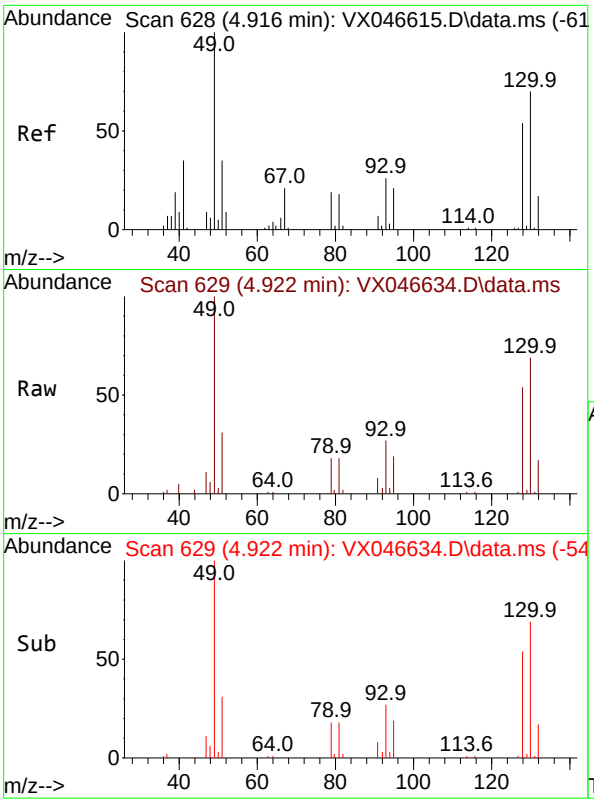
Quant Time: Jun 12 01:39:36 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
EFF-WW

Manual Integrations APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

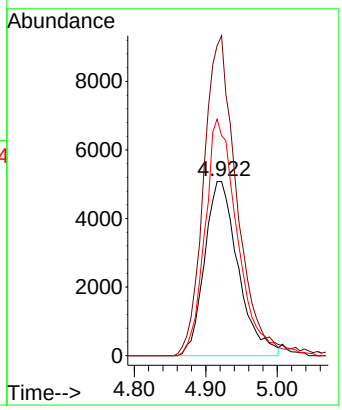




#1
Bromochloromethane
Concen: 30.000 ug/l
RT: 4.922 min Scan# 6
Delta R.T. 0.006 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion:128 Resp: 1659

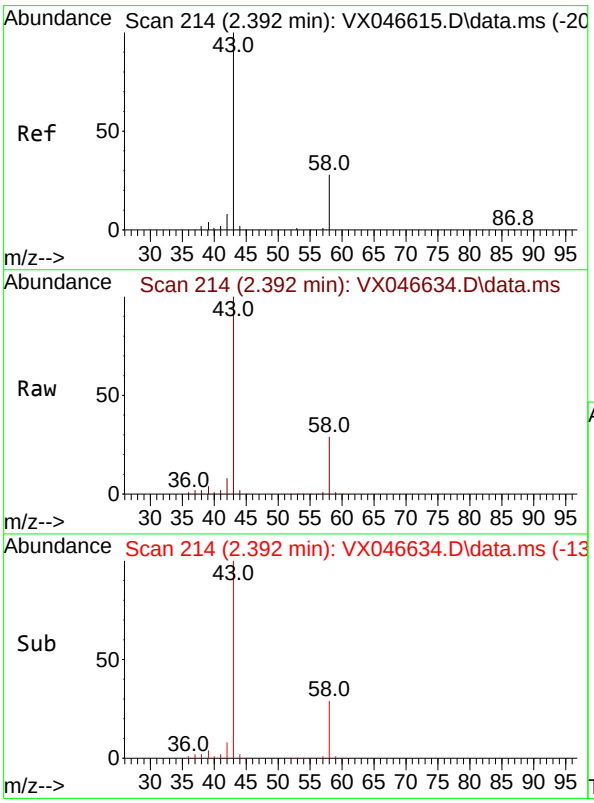
Ion	Ratio	Lower	Upper
128	100		
49	180.4	0.0	448.3
130	131.1	0.0	312.0



Instrument :
MSVOA_X
ClientSampleId :
EFF-WW

Manual Integrations
APPROVED

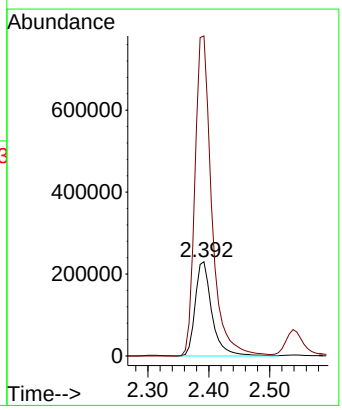
Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

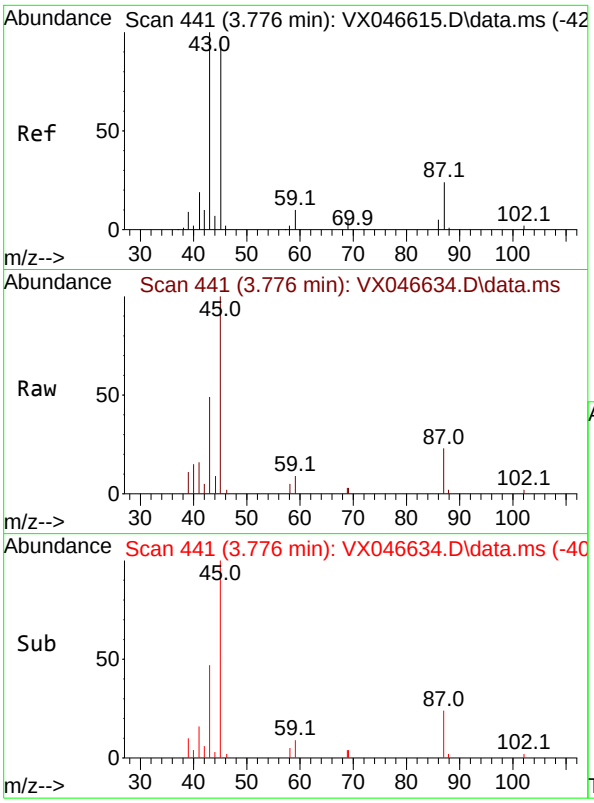


#15
Acetone
Concen: 3708.832 ug/l
RT: 2.392 min Scan# 214
Delta R.T. 0.000 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion: 58 Resp: 435179

Ion	Ratio	Lower	Upper
58	100		
43	339.7	290.6	435.8

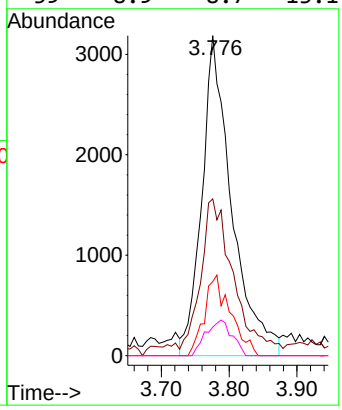




#20
Diisopropyl ether
Concen: 2.861 ug/l m
RT: 3.776 min Scan# 44
Delta R.T. 0.000 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion: 45 Resp: 973

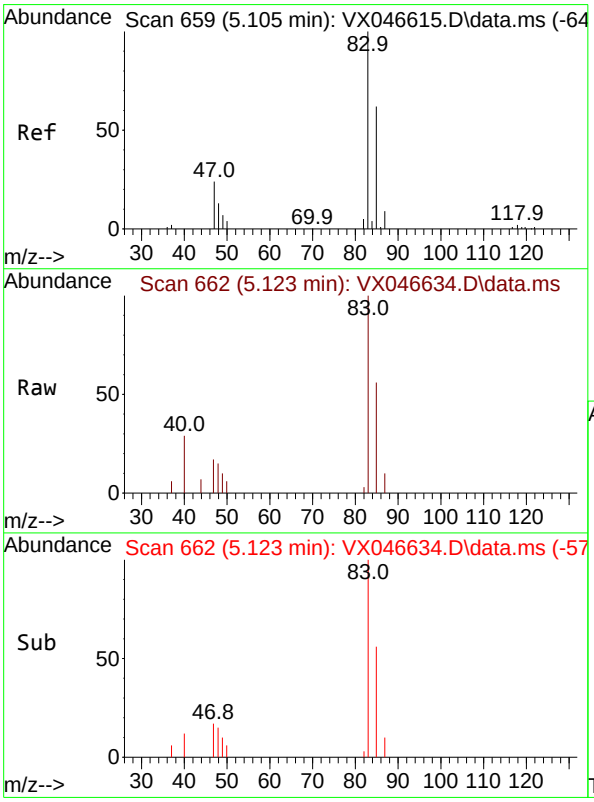
Ion	Ratio	Lower	Upper
45	100		
43	49.0	83.2	124.8#
87	23.1	20.2	30.4
59	8.9	8.7	13.1



Instrument :
MSVOA_X
ClientSampleId :
EFF-WW

Manual Integrations
APPROVED

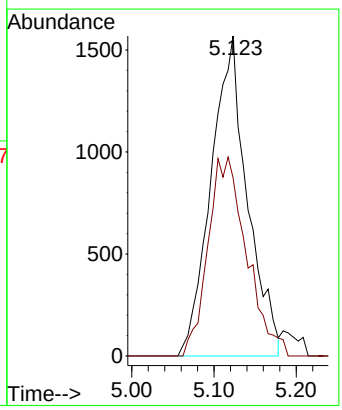
Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

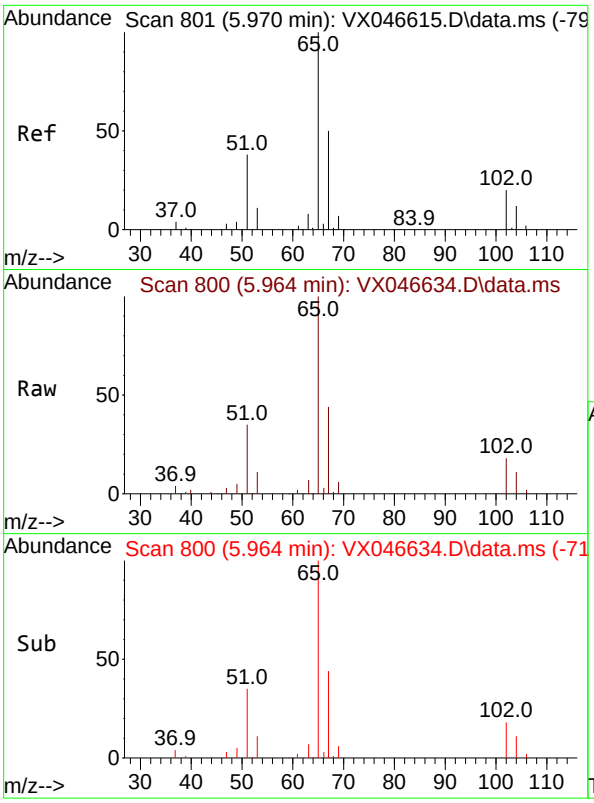


#25
Chloroform
Concen: 2.405 ug/l
RT: 5.123 min Scan# 662
Delta R.T. 0.018 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion: 83 Resp: 4822

Ion	Ratio	Lower	Upper
83	100		
85	55.6	49.8	74.6





#27
1,2-Dichloroethane-d4
Concen: 32.451 ug/l
RT: 5.964 min Scan# 8
Delta R.T. -0.006 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

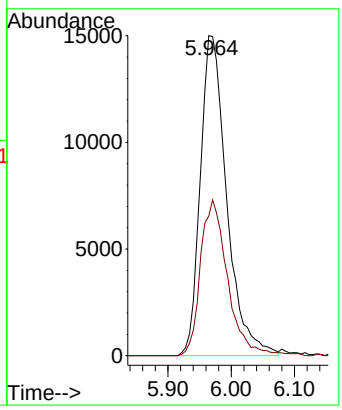
Tgt Ion: 65 Resp: 4358

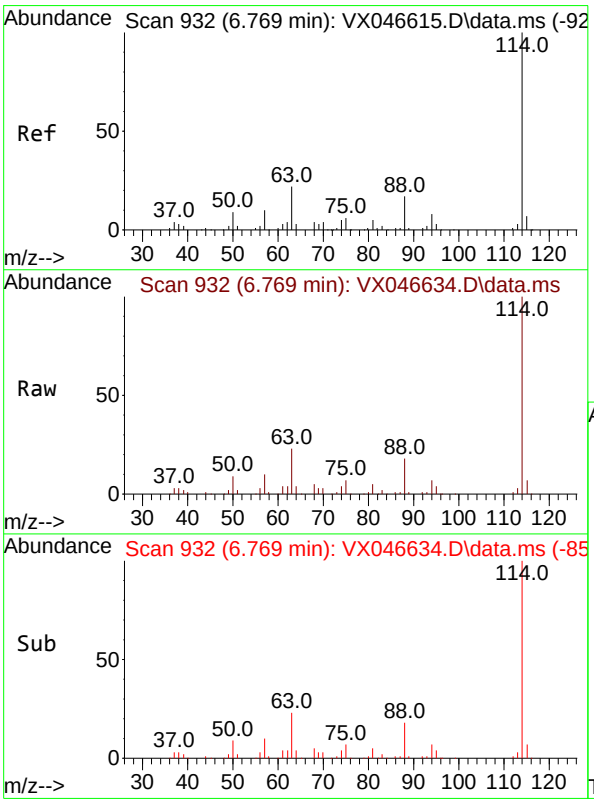
Ion	Ratio	Lower	Upper
65	100		
67	49.8	41.4	62.2

Instrument :
MSVOA_X
ClientSampleId :
EFF-WW

Manual Integrations
APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

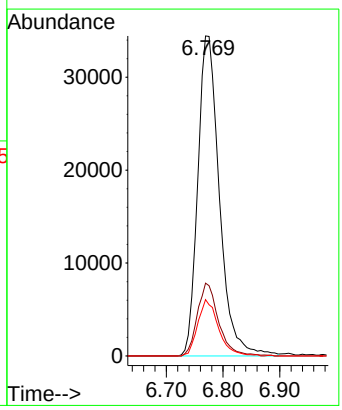


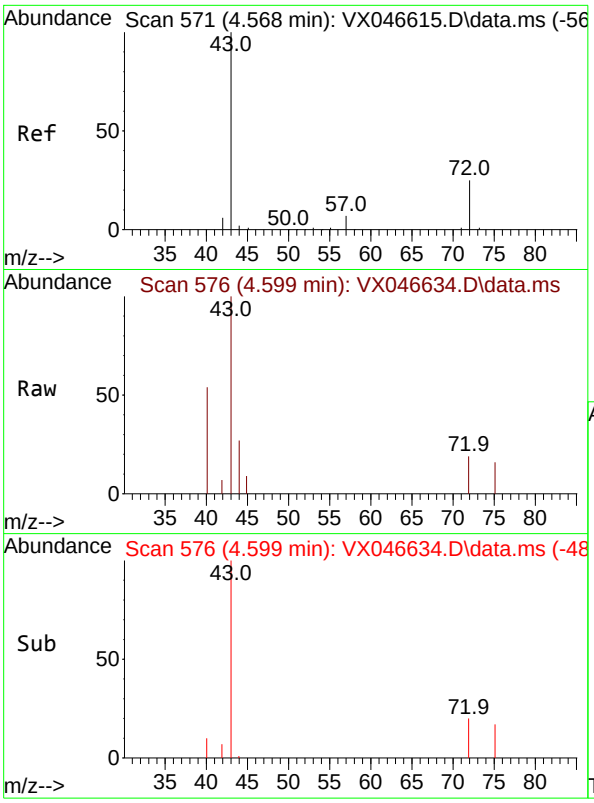


#28
1,4-Difluorobenzene
Concen: 30.000 ug/l
RT: 6.769 min Scan# 932
Delta R.T. 0.000 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion:114 Resp: 91514

Ion	Ratio	Lower	Upper
114	100		
63	22.2	18.1	27.1
88	16.8	14.1	21.1





#30
2-Butanone
Concen: 5.487 ug/l m
RT: 4.599 min Scan# 5
Delta R.T. 0.031 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion: 43 Resp: 352

Ion	Ratio	Lower	Upper
43	100		
57	0.0	5.8	8.6#
72	0.0	19.4	29.2#

Instrument :
MSVOA_X
ClientSampleId :
EFF-WW

Manual Integrations
APPROVED

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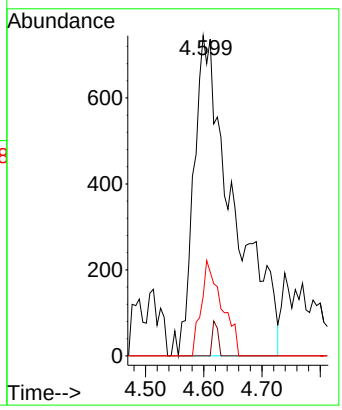
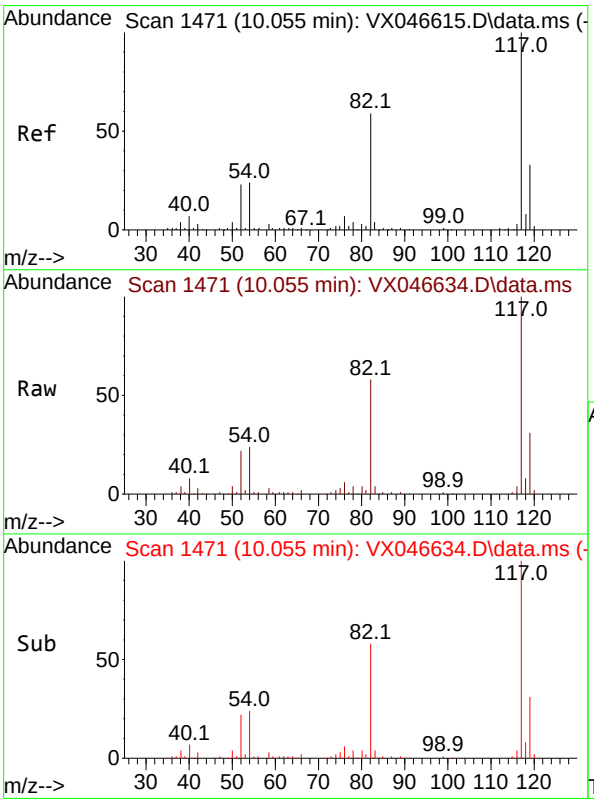
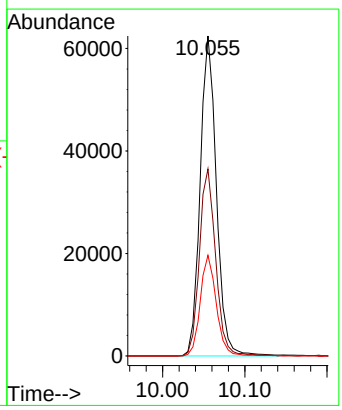


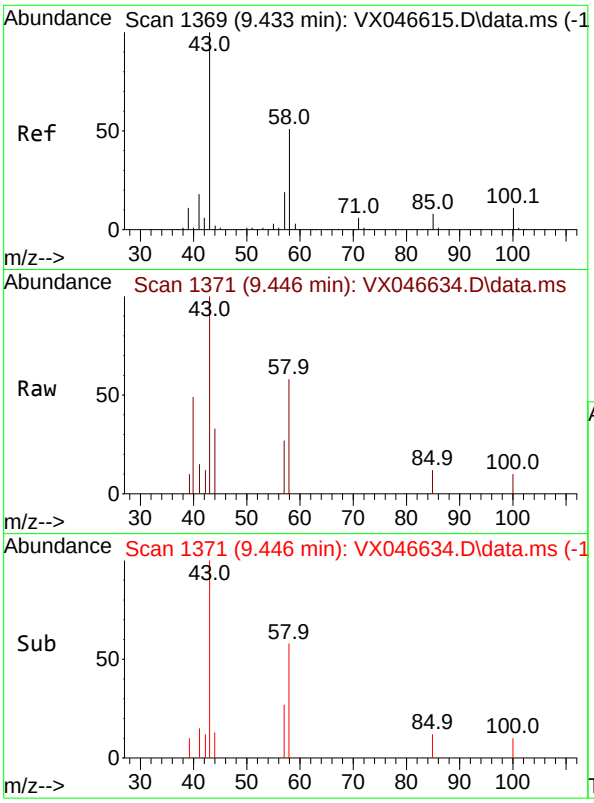


#57
Chlorobenzene-d5
Concen: 30.000 ug/l
RT: 10.055 min Scan# 1471
Delta R.T. 0.000 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion:117 Resp: 85872

Ion	Ratio	Lower	Upper
117	100		
82	58.4	46.5	69.7
119	31.0	25.8	38.6

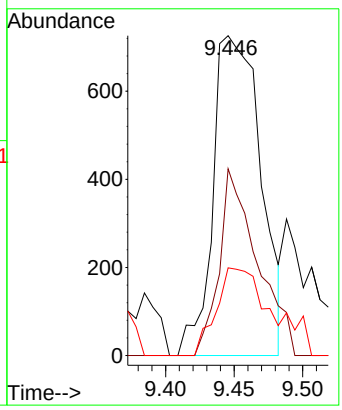




#59
2-Hexanone
Concen: 1.792 ug/l
RT: 9.446 min Scan# 1
Delta R.T. 0.012 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion: 43 Resp: 176

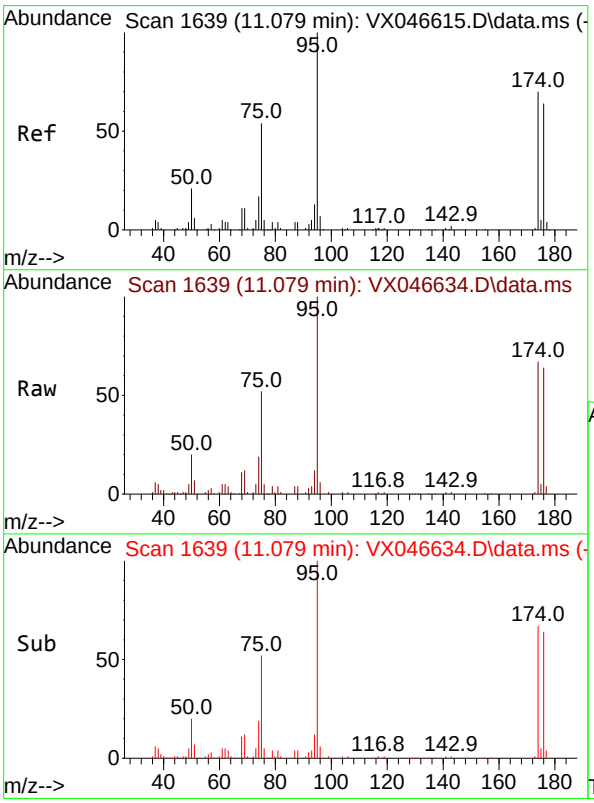
Ion	Ratio	Lower	Upper
43	100		
58	46.5	39.8	59.8
57	30.1	14.5	21.7



Instrument :
MSVOA_X
ClientSampleId :
EFF-WW

Manual Integrations
APPROVED

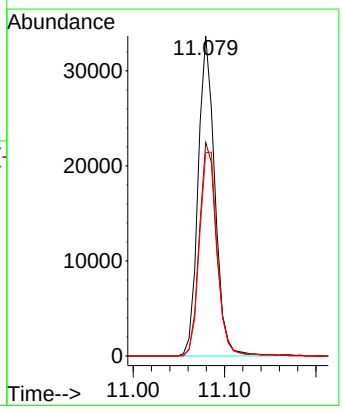
Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

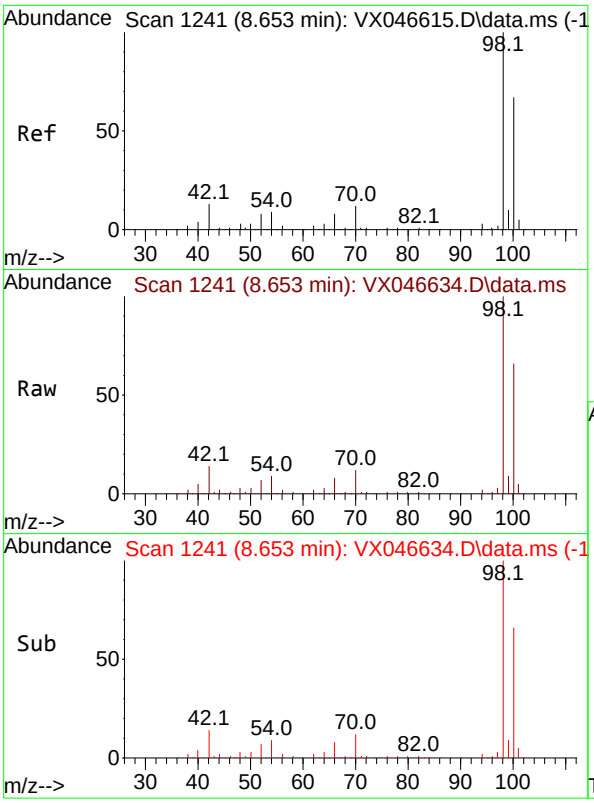


#60
4-Bromofluorobenzene
Concen: 29.523 ug/l
RT: 11.079 min Scan# 1639
Delta R.T. 0.000 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion: 95 Resp: 42732

Ion	Ratio	Lower	Upper
95	100		
174	69.0	56.0	84.0
176	67.3	52.2	78.4

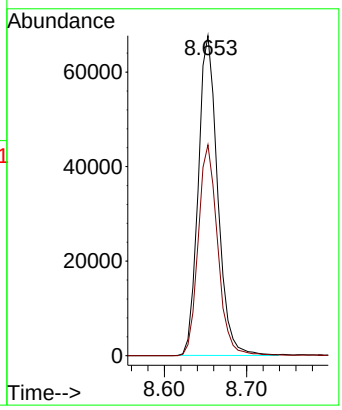




#63
Toluene-d8
Concen: 29.005 ug/l
RT: 8.653 min Scan# 1
Delta R.T. 0.000 min
Lab File: VX046634.D
Acq: 11 Jun 2025 13:40

Tgt Ion: 98 Resp: 11125

Ion	Ratio	Lower	Upper
98	100		
100	66.2	52.6	79.0



Instrument :
MSVOA_X
ClientSampleId :
EFF-WW

Manual Integrations
APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

CALIBRATION SUMMARY

Raw Data

Alliance TECHNICAL GROUP

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

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ARDM01

Lab Code: CHEM Case No.: Q2264 SAS No.: Q2264 SDG No.: Q2264

Instrument ID: MSVOA_X Calibration Date(s): 06/10/2025 06/10/2025

Heated Purge: (Y/N) N Calibration Time(s): 20:19 21:44

GC Column: DB-624UI ID: 0.18 (mm)

LAB FILE ID: RRF005 = VX046614.D RRF020 = VX046615.D RRF050 = VX046616.D
RRF100 = VX046617.D RRF150 = VX046618.D RRF =

COMPOUND	RRF005	RRF020	RRF050	RRF100	RRF150	RRF	$\overline{RRF}$	% RSD
Chloromethane	2.074	2.119	1.934	2.075	1.846		2.010	5.7
Vinyl Chloride	1.964	2.039	1.866	2.045	1.772		1.937	6
Bromomethane	1.292	1.283	1.129	1.091	0.990		1.157	11.2
Chloroethane	1.143	1.108	1.106	1.162	1.046		1.113	4
Trichlorofluoromethane	2.825	2.970	2.572	2.960	2.547		2.775	7.4
1,1-Dichloroethene	1.851	1.842	1.661	1.911	1.690		1.791	6.1
Acrolein	0.228	0.207	0.189	0.261	0.221		0.221	12.2
Acrylonitrile	0.972	0.976	0.832	0.985	0.873		0.928	7.5
Methylene Chloride	2.161	2.078	1.819	2.024	1.799		1.976	8.1
trans-1,2-Dichloroethene	1.935	1.920	1.756	1.939	1.731		1.856	5.6
1,1-Dichloroethane	3.710	3.704	3.211	3.694	3.291		3.522	7.1
Carbon Tetrachloride	0.524	0.556	0.490	0.542	0.477		0.518	6.5
Chloroform	3.918	3.837	3.244	3.783	3.345		3.625	8.5
1,1,1-Trichloroethane	0.599	0.628	0.537	0.613	0.539		0.583	7.3
Benzene	1.464	1.500	1.310	1.415	1.244		1.387	7.7
1,2-Dichloroethane	0.570	0.582	0.468	0.536	0.467		0.525	10.4
Trichloroethene	0.375	0.366	0.339	0.352	0.308		0.348	7.5
1,2-Dichloropropane	0.361	0.369	0.334	0.352	0.314		0.346	6.4
Bromodichloromethane	0.526	0.576	0.504	0.548	0.480		0.527	7.1
Toluene	1.663	1.749	1.544	1.682	1.492		1.626	6.5
t-1,3-Dichloropropene	0.444	0.475	0.463	0.517	0.463		0.472	5.8
cis-1,3-Dichloropropene	0.503	0.547	0.515	0.566	0.505		0.527	5.3
1,1,2-Trichloroethane	0.341	0.352	0.322	0.324	0.291		0.326	7.1
2-Chloroethyl vinyl ether	0.252	0.286	0.268	0.296	0.193		0.259	15.6
Dibromochloromethane	0.375	0.406	0.388	0.398	0.354		0.384	5.3
Tetrachloroethene	0.346	0.332	0.299	0.312	0.283		0.314	8
Chlorobenzene	1.106	1.099	1.014	1.067	0.957		1.049	6
Ethyl Benzene	1.878	1.964	1.821	1.919	1.700		1.856	5.5
m/p-Xylenes	0.688	0.734	0.681	0.704	0.626		0.687	5.7
o-Xylene	0.665	0.703	0.652	0.676	0.610		0.661	5.2

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

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

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ARDM01

Lab Code: CHEM Case No.: Q2264 SAS No.: Q2264 SDG No.: Q2264

Instrument ID: MSVOA_X Calibration Date(s): 06/10/2025 06/10/2025

Heated Purge: (Y/N) N Calibration Time(s): 20:19 21:44

GC Column: DB-624UI ID: 0.18 (mm)

LAB FILE ID: RRF005 = VX046614.D RRF020 = VX046615.D RRF050 = VX046616.D
RRF100 = VX046617.D RRF150 = VX046618.D RRF =

COMPOUND	RRF005	RRF020	RRF050	RRF100	RRF150	RRF	$\overline{RRF}$	% RSD
Bromoform	0.226	0.249	0.241	0.249	0.222		0.237	5.3
1,1,2,2-Tetrachloroethane	0.571	0.565	0.502	0.513	0.456		0.521	9.1
1,3-Dichlorobenzene	0.833	0.825	0.753	0.768	0.691		0.774	7.5
1,4-Dichlorobenzene	0.850	0.837	0.745	0.766	0.695		0.779	8.3
1,2-Dichlorobenzene	0.808	0.799	0.721	0.740	0.656		0.745	8.3
1,2-Dichloroethane-d4	2.549	2.442	2.160	2.504	2.486		2.428	6.4
Toluene-d8	1.359	1.354	1.307	1.342	1.337		1.340	1.5
4-Bromofluorobenzene	0.515	0.506	0.505	0.497	0.505		0.506	1.2

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

Response Factor Report MSVOA_X2

Method Path : Z:\voasrv\HPCHEM1\MSVOA_X\Method\
Method File : 624X061025W.M
Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
Last Update : Wed Jun 11 06:20:28 2025
Response Via : Initial Calibration

Calibration Files
5 =VX046614.D 20 =VX046615.D 50 =VX046616.D 100 =VX046617.D 150 =VX046618.D

		Compound	5	20	50	100	150	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	M	Dichlorodifluoro...	1.938	2.037	1.917	2.061	1.799	1.950	5.37
3)	M	Chloromethane	2.074	2.119	1.934	2.075	1.846	2.010	5.74
4)	M	Vinyl Chloride	1.964	2.039	1.866	2.045	1.772	1.937	6.05
5)	M	Bromomethane	1.292	1.283	1.129	1.091	0.990	1.157	11.20
6)	M	Chloroethane	1.143	1.108	1.106	1.162	1.046	1.113	3.99
7)	M	Trichlorofluorom...	2.825	2.970	2.572	2.960	2.547	2.775	7.37
8)	T	Diethyl Ether	1.052	1.034	0.828	1.024	0.924	0.972	9.75
9)		1,1,2-Trichlorot...	1.957	1.939	1.689	1.916	1.729	1.846	6.87
10)	M	1,1-Dichloroethene	1.851	1.842	1.661	1.911	1.690	1.791	6.11
11)		Methyl Iodide	2.305	2.520	2.360	2.641	2.382	2.442	5.61
12)		Methyl Acetate	2.402	3.119	1.734	2.182	1.850	2.257	24.34
13)	M	Acrolein	0.228	0.207	0.189	0.261	0.221	0.221	12.19
14)	M	Acrylonitrile	0.972	0.976	0.832	0.985	0.873	0.928	7.54
15)	M	Acetone	0.210	0.221	0.198	0.231	0.200	0.212	6.57
16)	M	Carbon Disulfide	4.793	5.206	4.642	5.359	4.843	4.969	6.06
17)		Allyl chloride	3.327	3.381	2.928	3.483	3.128	3.249	6.81
18)	M	Methylene Chloride	2.161	2.078	1.819	2.024	1.799	1.976	8.10
19)	M	trans-1,2-Dichlo...	1.935	1.920	1.756	1.939	1.731	1.856	5.58
20)	T	Diisopropyl ether	6.089	6.535	5.660	6.592	5.862	6.147	6.66
21)	M	1,1-Dichloroethane	3.710	3.704	3.211	3.694	3.291	3.522	7.07
22)	M	cis-1,2-Dichloro...	2.201	2.288	2.041	2.261	2.029	2.164	5.64
23)	M	tert-Butyl Alcohol	0.182	0.185	0.167	0.211	0.192	0.187	8.57
24)	M	Methyl tert-Buty...	5.273	5.726	5.109	5.977	5.269	5.471	6.67
25)	M	Chloroform	3.918	3.837	3.244	3.783	3.345	3.625	8.49
26)		Cyclohexane	3.367	3.389	2.899	3.406	3.008	3.214	7.51
27)	s	1,2-Dichloroetha...	2.549	2.442	2.160	2.504	2.486	2.428	6.37
28)	I	1,4-Difluorobenzene	----------ISTD----------						
29)		1,1-Dichloropropene	0.496	0.515	0.431	0.484	0.433	0.472	8.09
30)	M	2-Butanone	0.207	0.225	0.201	0.223	0.196	0.210	6.14
31)		2,2-Dichloropropane	0.428	0.439	0.396	0.441	0.392	0.419	5.69
32)	M	1,1,1-Trichloroe...	0.599	0.628	0.537	0.613	0.539	0.583	7.31
33)	M	Carbon Tetrachlo...	0.524	0.556	0.490	0.542	0.477	0.518	6.49
34)	M	Benzene	1.464	1.500	1.310	1.415	1.244	1.387	7.72
35)		Methacrylonitrile	0.246	0.266	0.255	0.278	0.245	0.258	5.46
36)	M	1,2-Dichloroethane	0.570	0.582	0.468	0.536	0.467	0.525	10.41
37)	M	Trichloroethene	0.375	0.366	0.339	0.352	0.308	0.348	7.49
38)		Methylcyclohexane	0.584	0.627	0.593	0.624	0.568	0.599	4.24
39)	M	1,2-Dichloropropane	0.361	0.369	0.334	0.352	0.314	0.346	6.39
40)		Dibromomethane	0.279	0.278	0.246	0.260	0.230	0.259	8.11
41)	M	Bromodichloromet...	0.526	0.576	0.504	0.548	0.480	0.527	7.06
42)	M	Vinyl Acetate	0.855	0.868	0.896	1.019	0.901	0.908	7.18
43)		Ethyl Acetate	0.436	0.471	0.420	0.478	0.423	0.446	6.14
44)		Isopropyl Acetate	0.655	0.716	0.628	0.789	0.696	0.697	8.91
45)	T	1,4-Dioxane	0.004	0.005	0.004	0.005	0.004	0.004	6.70
46)		Methyl methacrylate	0.354	0.408	0.360	0.414	0.365	0.380	7.50
47)		n-amyl Acetate	0.571	0.565	0.681	0.687	0.613	0.623	9.38
48)	M	t-1,3-Dichloropr...	0.444	0.475	0.463	0.517	0.463	0.472	5.78
49)	T	cis-1,3-Dichloro...	0.503	0.547	0.515	0.566	0.505	0.527	5.33
50)	M	1,1,2-Trichloroe...	0.341	0.352	0.322	0.324	0.291	0.326	7.11
51)		Ethyl methacrylate	0.454	0.517	0.497	0.536	0.473	0.496	6.65
52)		1,3-Dichloropropane	0.580	0.623	0.559	0.569	0.508	0.568	7.30
53)	M	Dibromochloromet...	0.375	0.406	0.388	0.398	0.354	0.384	5.34
54)	M	1,2-Dibromoethane	0.362	0.362	0.340	0.346	0.304	0.343	6.95
55)	M	2-Chloroethyl vi...	0.252	0.286	0.268	0.296	0.193	0.259	15.64
56)	M	Bromoform	0.226	0.249	0.241	0.249	0.222	0.237	5.26

Method Path : Z:\voasrv\HPCHEM1\MSVOA_X\Method\
Method File : 624X061025W.M

57)	I	Chlorobenzene-d5	----------ISTD----------						
58)	M	4-Methyl-2-Penta...	0.489	0.521	0.452	0.520	0.457	0.488	6.78
59)	M	2-Hexanone	0.327	0.369	0.337	0.365	0.323	0.344	6.26
60)	S	4-Bromofluoroben...	0.515	0.506	0.505	0.497	0.505	0.506	1.22
61)	M	Tetrachloroethene	0.346	0.332	0.299	0.312	0.283	0.314	8.04
62)	M	Toluene	1.663	1.749	1.544	1.682	1.492	1.626	6.47
63)	S	Toluene-d8	1.359	1.354	1.307	1.342	1.337	1.340	1.51
64)	M	Chlorobenzene	1.106	1.099	1.014	1.067	0.957	1.049	5.96
65)		1,1,1,2-Tetrachl...	0.348	0.370	0.348	0.366	0.326	0.351	5.01
66)	M	Ethyl Benzene	1.878	1.964	1.821	1.919	1.700	1.856	5.49
67)	M	m/p-Xylenes	0.688	0.734	0.681	0.704	0.626	0.687	5.73
68)	M	o-Xylene	0.665	0.703	0.652	0.676	0.610	0.661	5.17
69)	M	Styrene	1.121	1.225	1.110	1.167	1.043	1.133	5.96
70)		Isopropylbenzene	1.841	1.878	1.745	1.795	1.612	1.774	5.83
71)	M	1,1,2,2-Tetrachl...	0.571	0.565	0.502	0.513	0.456	0.521	9.12
72)		1,2,3-Trichlorop...	0.465	0.466	0.423	0.434	0.388	0.435	7.48
73)		Bromobenzene	0.447	0.435	0.402	0.420	0.375	0.416	6.83
74)		n-propylbenzene	2.146	2.267	2.103	2.165	1.926	2.122	5.88
75)		2-Chlorotoluene	1.335	1.363	1.235	1.279	1.139	1.270	6.96
76)		1,3,5-Trimethylb...	1.536	1.580	1.447	1.489	1.319	1.474	6.78
77)		t-1,4-Dichloro-2...	0.132	0.145	0.144	0.164	0.150	0.147	7.86
78)		4-Chlorotoluene	1.528	1.596	1.430	1.472	1.321	1.469	7.07
79)		tert-butylbenzene	1.519	1.569	1.436	1.502	1.325	1.470	6.40
80)		1,2,4-Trimethylb...	1.493	1.565	1.423	1.482	1.317	1.456	6.37
81)		sec-Butylbenzene	1.963	2.011	1.841	1.893	1.699	1.881	6.43
82)		p-Isopropyltoluene	1.559	1.660	1.527	1.564	1.411	1.544	5.80
83)	M	1,3-Dichlorobenzene	0.833	0.825	0.753	0.768	0.691	0.774	7.49
84)	M	1,4-Dichlorobenzene	0.850	0.837	0.745	0.766	0.695	0.779	8.31
85)		n-Butylbenzene	1.513	1.603	1.461	1.499	1.362	1.488	5.88
86)	T	Hexachloroethane	0.267	0.279	0.262	0.283	0.250	0.268	5.01
87)	M	1,2-Dichlorobenzene	0.808	0.799	0.721	0.740	0.656	0.745	8.32
88)		1,2-Dibromo-3-Ch...	0.101	0.112	0.106	0.116	0.102	0.108	6.14
89)		1,2,4-Trichlorob...	0.490	0.516	0.473	0.516	0.460	0.491	5.12
90)		Hexachlorobutadiene	0.230	0.228	0.209	0.215	0.199	0.216	5.96
91)	M	Naphthalene	1.505	1.617	1.534	1.649	1.484	1.558	4.61
92)		1,2,3-Trichlorob...	0.485	0.511	0.464	0.504	0.446	0.482	5.62

(#) = Out of Range

Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046614.D
Acq On : 10 Jun 2025 20:19
Operator : JC/MD
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 33 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Quant Time: Jun 11 05:56:16 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane	4.916	128	20339	30.000	ug/l		0.00
28) 1,4-Difluorobenzene	6.769	114	108711	30.000	ug/l		0.00
57) Chlorobenzene-d5	10.055	117	100056	30.000	ug/l		0.00
System Monitoring Compounds							
27) 1,2-Dichloroethane-d4	5.964	65	51846	27.060	ug/l		0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 90.200%#				
60) 4-Bromofluorobenzene	11.079	95	51515	28.084	ug/l		0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 93.600%				
63) Toluene-d8	8.653	98	135945	25.528	ug/l		0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 85.100%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.179	85	6570	3.970	ug/l		99
3) Chloromethane	1.307	50	7029	3.631	ug/l		97
4) Vinyl Chloride	1.386	62	6659	3.553	ug/l		100
5) Bromomethane	1.624	94	4379	5.987	ug/l		86
6) Chloroethane	1.703	64	3876	3.884	ug/l		96
7) Trichlorofluoromethane	1.904	101	9576	3.737	ug/l		96
8) Diethyl Ether	2.148	74	3565m	3.737	ug/l		
9) 1,1,2-Trichlorotrifluo...	2.349	101	6635	4.287	ug/l		97
10) 1,1-Dichloroethene	2.331	96	6274	4.171	ug/l		93
11) Methyl Iodide	2.465	142	7812	4.351	ug/l		97
12) Methyl Acetate	2.715	43	8141	4.326	ug/l		99
13) Acrolein	2.246	56	3864m	11.944	ug/l		
14) Acrylonitrile	3.075	53	16477	19.615	ug/l		96
15) Acetone	2.392	58	3564	16.008	ug/l		95
16) Carbon Disulfide	2.526	76	16246	3.799	ug/l		97
17) Allyl chloride	2.685	41	11278	4.010	ug/l		94
18) Methylene Chloride	2.807	84	7325	4.352	ug/l		98
19) trans-1,2-Dichloroethene	3.111	96	6558	4.296	ug/l		96
20) Diisopropyl ether	3.782	45	20640	3.834	ug/l		96
21) 1,1-Dichloroethane	3.623	63	12577	4.190	ug/l		97
22) cis-1,2-Dichloroethene	4.507	96	7461	4.085	ug/l		97
23) tert-Butyl Alcohol	2.965	59	3079	11.259	ug/l	#	100
24) Methyl tert-Butyl Ether	3.130	73	17874	3.672	ug/l		99
25) Chloroform	5.105	83	13281	4.539	ug/l		93
26) Cyclohexane	5.483	56	11414	4.131	ug/l	#	97
29) 1,1-Dichloropropene	5.702	75	8995m	4.533	ug/l		
30) 2-Butanone	4.574	43	18746	17.149	ug/l	#	95
31) 2,2-Dichloropropane	4.495	77	7756	3.602	ug/l		95
32) 1,1,1-Trichloroethane	5.398	97	10859m	4.503	ug/l		
33) Carbon Tetrachloride	5.684	117	9491	4.628	ug/l		98
34) Benzene	6.050	78	26529	4.329	ug/l		99
35) Methacrylonitrile	4.934	41	4456	3.751	ug/l		90
36) 1,2-Dichloroethane	6.111	62	10321	4.805	ug/l		96
37) Trichloroethene	7.135	130	6787	4.704	ug/l		94
38) Methylcyclohexane	7.391	83	10589	4.024	ug/l		99
39) 1,2-Dichloropropane	7.440	63	6540m	4.306	ug/l		
40) Dibromomethane	7.592	93	5059	4.591	ug/l		97
41) Bromodichloromethane	7.824	83	9535	4.313	ug/l	#	96
42) Vinyl Acetate	3.739	43	77412	18.221	ug/l		98

Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046614.D
Acq On : 10 Jun 2025 20:19
Operator : JC/MD
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 33 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Quant Time: Jun 11 05:56:16 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.739	43	7901	3.772	ug/l	#	93
44) Isopropyl Acetate	6.361	43	11865	3.470	ug/l		98
45) 1,4-Dioxane	7.678	88	1577	47.827	ug/l	#	66
46) Methyl methacrylate	7.702	41	6418m	3.745	ug/l		
47) n-amyl Acetate	10.848	43	10344	3.541	ug/l		99
48) t-1,3-Dichloropropene	8.988	75	8052	3.828	ug/l		97
49) cis-1,3-Dichloropropene	8.373	75	9107	3.855	ug/l		95
50) 1,1,2-Trichloroethane	9.153	97	6180	4.347	ug/l		92
51) Ethyl methacrylate	9.122	69	8230	3.665	ug/l		95
52) 1,3-Dichloropropane	9.311	76	10513	4.209	ug/l		99
53) Dibromochloromethane	9.519	129	6791	4.264	ug/l		97
54) 1,2-Dibromoethane	9.616	107	6561m	4.514	ug/l		
55) 2-Chloroethyl vinyl ether	8.245	63	22805	19.690	ug/l		99
56) Bromoform	10.799	173	4103	4.083	ug/l		98
58) 4-Methyl-2-Pentanone	8.574	43	40811	18.799	ug/l		98
59) 2-Hexanone	9.433	43	27294	17.430	ug/l		99
61) Tetrachloroethene	9.275	164	5776	4.781	ug/l		93
62) Toluene	8.720	91	27732	4.271	ug/l		99
64) Chlorobenzene	10.080	112	18438	4.574	ug/l		98
65) 1,1,1,2-Tetrachloroethane	10.165	131	5797	4.329	ug/l		98
66) Ethyl Benzene	10.195	91	31311	4.369	ug/l		95
67) m/p-Xylenes	10.305	106	22936	8.659	ug/l		97
68) o-Xylene	10.640	106	11097	4.286	ug/l		99
69) Styrene	10.659	104	18699	4.280	ug/l		99
70) Isopropylbenzene	10.964	105	30702	4.557	ug/l		99
71) 1,1,2,2-Tetrachloroethane	11.214	83	9519	4.357	ug/l		99
72) 1,2,3-Trichloropropane	11.238	75	7755m	4.303	ug/l		
73) Bromobenzene	11.201	156	7460	4.799	ug/l		97
74) n-propylbenzene	11.305	91	35787	4.437	ug/l		99
75) 2-Chlorotoluene	11.366	91	22257	4.585	ug/l		99
76) 1,3,5-Trimethylbenzene	11.451	105	25610	4.595	ug/l		100
77) t-1,4-Dichloro-2-butene	11.018	75	2205	3.597	ug/l		73
78) 4-Chlorotoluene	11.457	91	25479	4.653	ug/l		100
79) tert-butylbenzene	11.713	119	25323	4.521	ug/l		99
80) 1,2,4-Trimethylbenzene	11.750	105	24894	4.475	ug/l		98
81) sec-Butylbenzene	11.890	105	32733	4.630	ug/l		99
82) p-Isopropyltoluene	12.006	119	25993	4.517	ug/l		99
83) 1,3-Dichlorobenzene	11.970	146	13898	4.793	ug/l		99
84) 1,4-Dichlorobenzene	12.043	146	14175	4.923	ug/l		98
85) n-Butylbenzene	12.335	91	25235	4.722	ug/l		100
86) Hexachloroethane	12.536	117	4454	4.374	ug/l		96
87) 1,2-Dichlorobenzene	12.335	146	13468	4.757	ug/l		99
88) 1,2-Dibromo-3-Chloropr...	12.945	75	1679	3.904	ug/l		95
89) 1,2,4-Trichlorobenzene	13.585	180	8164	4.637	ug/l		99
90) Hexachlorobutadiene	13.725	225	3828	5.291	ug/l		100
91) Naphthalene	13.774	128	25102	4.155	ug/l		98
92) 1,2,3-Trichlorobenzene	13.957	180	8091	4.528	ug/l		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

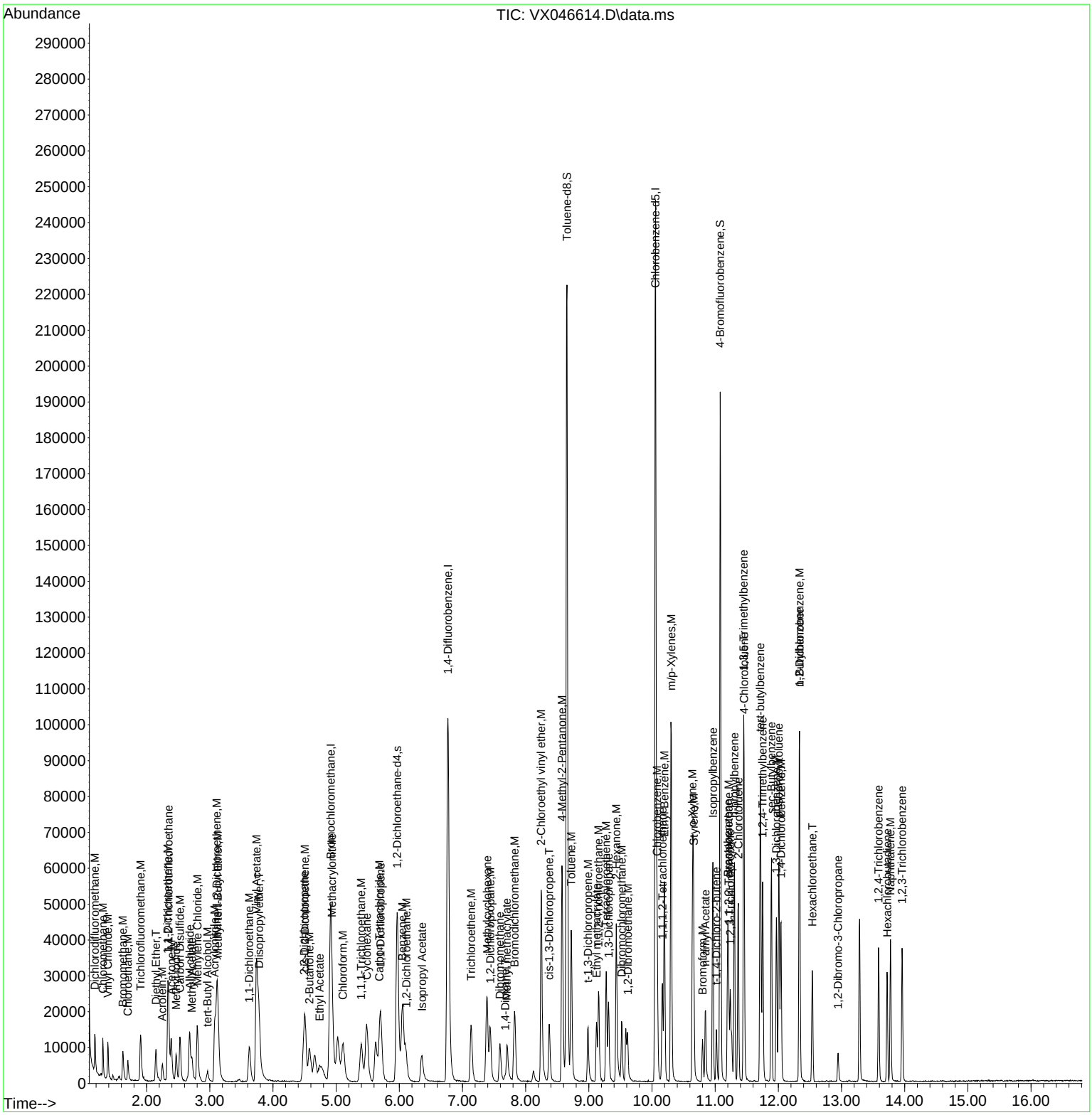
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046614.D
Acq On : 10 Jun 2025 20:19
Operator : JC/MD
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jun 11 05:56:16 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046615.D
Acq On : 10 Jun 2025 20:40
Operator : JC/MD
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 34 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Quant Time: Jun 11 05:57:14 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.916	128	19846	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.769	114	104620	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	96769	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.970	65	48470	25.927	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 86.433%#			
60) 4-Bromofluorobenzene	11.079	95	48951	27.592	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 91.967%			
63) Toluene-d8	8.653	98	131066	25.448	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 84.833%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.185	85	26946	16.689	ug/l	100
3) Chloromethane	1.307	50	28042	14.844	ug/l	100
4) Vinyl Chloride	1.386	62	26978	14.752	ug/l	100
5) Bromomethane	1.630	94	16981	23.792	ug/l	100
6) Chloroethane	1.703	64	14658	15.053	ug/l	100
7) Trichlorofluoromethane	1.904	101	39293	15.714	ug/l	100
8) Diethyl Ether	2.148	74	13681	14.696	ug/l	100
9) 1,1,2-Trichlorotrifluo...	2.349	101	25658	16.992	ug/l	100
10) 1,1-Dichloroethene	2.337	96	24368	16.602	ug/l	100
11) Methyl Iodide	2.465	142	33343	19.034	ug/l	100
12) Methyl Acetate	2.715	43	41260	22.468	ug/l	100
13) Acrolein	2.251	56	13684	43.350	ug/l	100
14) Acrylonitrile	3.075	53	64536	78.733	ug/l	100
15) Acetone	2.392	58	14635	67.367	ug/l	100
16) Carbon Disulfide	2.532	76	68876	16.507	ug/l	100
17) Allyl chloride	2.678	41	44732	16.299	ug/l	100
18) Methylene Chloride	2.806	84	27492	16.740	ug/l	100
19) trans-1,2-Dichloroethene	3.111	96	25402	17.055	ug/l	100
20) Diisopropyl ether	3.776	45	86462	16.458	ug/l	100
21) 1,1-Dichloroethane	3.629	63	49010	16.732	ug/l	100
22) cis-1,2-Dichloroethene	4.507	96	30268	16.984	ug/l	100
23) tert-Butyl Alcohol	2.959	59	12258	45.938	ug/l #	100
24) Methyl tert-Butyl Ether	3.129	73	75763	15.953	ug/l	100
25) Chloroform	5.105	83	50765	17.781	ug/l	100
26) Cyclohexane	5.483	56	44838	16.632	ug/l #	100
29) 1,1-Dichloropropene	5.708	75	35945	18.824	ug/l	100
30) 2-Butanone	4.568	43	78333	74.462	ug/l	100
31) 2,2-Dichloropropane	4.495	77	30601	14.766	ug/l	100
32) 1,1,1-Trichloroethane	5.397	97	43830	18.885	ug/l	100
33) Carbon Tetrachloride	5.690	117	38777	19.649	ug/l	100
34) Benzene	6.050	78	104632	17.740	ug/l	100
35) Methacrylonitrile	4.940	41	18569	16.244	ug/l	100
36) 1,2-Dichloroethane	6.098	62	40595	19.638	ug/l	100
37) Trichloroethene	7.135	130	25550	18.401	ug/l	100
38) Methylcyclohexane	7.385	83	43701	17.255	ug/l	100
39) 1,2-Dichloropropane	7.433	63	25723	17.600	ug/l	100
40) Dibromomethane	7.592	93	19378	18.274	ug/l	100
41) Bromodichloromethane	7.824	83	40158	18.873	ug/l	100
42) Vinyl Acetate	3.733	43	302566	74.002	ug/l	100

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046615.D
Acq On : 10 Jun 2025 20:40
Operator : JC/MD
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 34 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Quant Time: Jun 11 05:57:14 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Ethyl Acetate	4.727	43	32877m	16.308	ug/l	
44) Isopropyl Acetate	6.348	43	49958	15.182	ug/l	100
45) 1,4-Dioxane	7.665	88	6680	210.513	ug/l	100
46) Methyl methacrylate	7.702	41	28485	17.272	ug/l	100
47) n-amyl Acetate	10.841	43	39401	14.016	ug/l	100
48) t-1,3-Dichloropropene	8.982	75	33109	16.357	ug/l	100
49) cis-1,3-Dichloropropene	8.372	75	38153	16.782	ug/l	100
50) 1,1,2-Trichloroethane	9.153	97	24532	17.930	ug/l	100
51) Ethyl methacrylate	9.116	69	36066	16.690	ug/l	100
52) 1,3-Dichloropropane	9.311	76	43428	18.066	ug/l	100
53) Dibromochloromethane	9.525	129	28331	18.483	ug/l	100
54) 1,2-Dibromoethane	9.610	107	25214	18.026	ug/l	100
55) 2-Chloroethyl vinyl ether	8.244	63	99715	89.461	ug/l	100
56) Bromoform	10.799	173	17350	17.940	ug/l	100
58) 4-Methyl-2-Pentanone	8.574	43	168105	80.064	ug/l	100
59) 2-Hexanone	9.433	43	119031	78.596	ug/l	100
61) Tetrachloroethene	9.275	164	21427	18.338	ug/l	100
62) Toluene	8.720	91	112826	17.967	ug/l	100
64) Chlorobenzene	10.079	112	70885	18.184	ug/l	100
65) 1,1,1,2-Tetrachloroethane	10.165	131	23888	18.443	ug/l	100
66) Ethyl Benzene	10.195	91	126701	18.282	ug/l	100
67) m/p-Xylenes	10.299	106	94670	36.954	ug/l	100
68) o-Xylene	10.640	106	45327	18.103	ug/l	100
69) Styrene	10.652	104	79010	18.701	ug/l	100
70) Isopropylbenzene	10.963	105	121135	18.592	ug/l	100
71) 1,1,2,2-Tetrachloroethane	11.213	83	36421	17.238	ug/l	100
72) 1,2,3-Trichloropropane	11.238	75	30060m	17.246	ug/l	
73) Bromobenzene	11.195	156	28085	18.679	ug/l	100
74) n-propylbenzene	11.305	91	146242	18.746	ug/l	100
75) 2-Chlorotoluene	11.360	91	87919	18.725	ug/l	100
76) 1,3,5-Trimethylbenzene	11.451	105	101937	18.912	ug/l	100
77) t-1,4-Dichloro-2-butene	11.018	75	9358	15.786	ug/l	100
78) 4-Chlorotoluene	11.451	91	102991	19.447	ug/l	100
79) tert-butylbenzene	11.713	119	101208	18.685	ug/l	100
80) 1,2,4-Trimethylbenzene	11.750	105	100948	18.762	ug/l	100
81) sec-Butylbenzene	11.890	105	129718	18.971	ug/l	100
82) p-Isopropyltoluene	12.006	119	107112	19.247	ug/l	100
83) 1,3-Dichlorobenzene	11.969	146	53209	18.974	ug/l	100
84) 1,4-Dichlorobenzene	12.036	146	53974	19.383	ug/l	100
85) n-Butylbenzene	12.329	91	103405	20.005	ug/l	100
86) Hexachloroethane	12.536	117	17967	18.242	ug/l	100
87) 1,2-Dichlorobenzene	12.335	146	51572	18.834	ug/l	100
88) 1,2-Dibromo-3-Chloropr...	12.939	75	7234	17.392	ug/l	100
89) 1,2,4-Trichlorobenzene	13.585	180	33278	19.543	ug/l	100
90) Hexachlorobutadiene	13.719	225	14708	21.021	ug/l	100
91) Naphthalene	13.774	128	104308	17.854	ug/l	100
92) 1,2,3-Trichlorobenzene	13.957	180	32955	19.068	ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

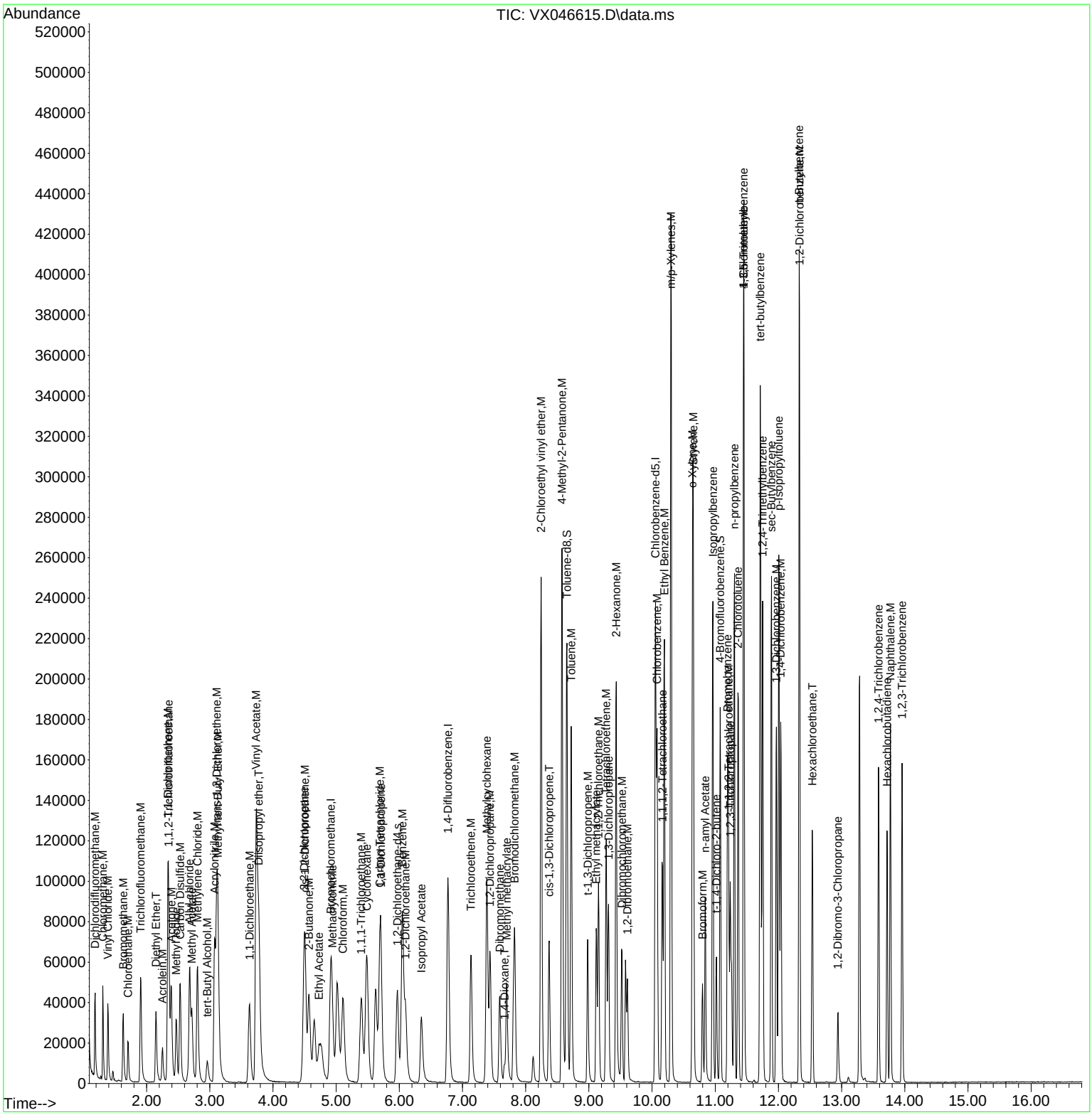
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046615.D
Acq On : 10 Jun 2025 20:40
Operator : JC/MD
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Jun 11 05:57:14 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046616.D
Acq On : 10 Jun 2025 21:01
Operator : JC/MD
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 35 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Quant Time: Jun 11 05:58:10 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.916	128	21014	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.769	114	108888	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	102388	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.964	65	45397	22.933	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 76.433%#			
60) 4-Bromofluorobenzene	11.079	95	51686	27.535	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 91.800%			
63) Toluene-d8	8.653	98	133859	24.564	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 81.867%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.185	85	67152	39.278	ug/l	97
3) Chloromethane	1.307	50	67721	33.855	ug/l	97
4) Vinyl Chloride	1.386	62	65364	33.754	ug/l	99
5) Bromomethane	1.624	94	39531	52.308	ug/l	99
6) Chloroethane	1.703	64	38731	37.564	ug/l	100
7) Trichlorofluoromethane	1.904	101	90096	34.029	ug/l	100
8) Diethyl Ether	2.148	74	28989	29.408	ug/l	98
9) 1,1,2-Trichlorotrifluo...	2.349	101	59156	36.998	ug/l	97
10) 1,1-Dichloroethene	2.337	96	58166	37.425	ug/l	93
11) Methyl Iodide	2.471	142	82662	44.566	ug/l	99
12) Methyl Acetate	2.715	43	60732	31.234	ug/l	93
13) Acrolein	2.252	56	33095	99.015	ug/l	98
14) Acrylonitrile	3.075	53	145764	167.946	ug/l	100
15) Acetone	2.392	58	34647	150.621	ug/l	88
16) Carbon Disulfide	2.532	76	162583	36.799	ug/l	98
17) Allyl chloride	2.678	41	102544	35.288	ug/l	97
18) Methylene Chloride	2.806	84	63723	36.645	ug/l	99
19) trans-1,2-Dichloroethene	3.105	96	61492	38.991	ug/l	100
20) Diisopropyl ether	3.770	45	198220	35.634	ug/l	86
21) 1,1-Dichloroethane	3.629	63	112467	36.263	ug/l	98
22) cis-1,2-Dichloroethene	4.501	96	71470	37.873	ug/l	97
23) tert-Butyl Alcohol	2.959	59	29200	103.348	ug/l #	100
24) Methyl tert-Butyl Ether	3.123	73	178920	35.579	ug/l	97
25) Chloroform	5.111	83	113621	37.584	ug/l	93
26) Cyclohexane	5.483	56	101516	35.563	ug/l #	95
29) 1,1-Dichloropropene	5.708	75	78147	39.321	ug/l	96
30) 2-Butanone	4.568	43	182756	166.916	ug/l	98
31) 2,2-Dichloropropane	4.489	77	71776	33.277	ug/l	99
32) 1,1,1-Trichloroethane	5.397	97	97388	40.317	ug/l	97
33) Carbon Tetrachloride	5.690	117	88852	43.258	ug/l	97
34) Benzene	6.050	78	237672	38.717	ug/l	97
35) Methacrylonitrile	4.928	41	46275	38.894	ug/l	98
36) 1,2-Dichloroethane	6.092	62	84980	39.499	ug/l	97
37) Trichloroethene	7.135	130	61466	42.532	ug/l	99
38) Methylcyclohexane	7.385	83	107594	40.817	ug/l	95
39) 1,2-Dichloropropane	7.434	63	60670	39.885	ug/l	96
40) Dibromomethane	7.586	93	44659	40.463	ug/l	98
41) Bromodichloromethane	7.824	83	91514	41.323	ug/l	96
42) Vinyl Acetate	3.733	43	813088	191.071	ug/l	97

Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046616.D
Acq On : 10 Jun 2025 21:01
Operator : JC/MD
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jun 11 05:58:10 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.727	43	76175	36.304	ug/l	#	88
44) Isopropyl Acetate	6.348	43	113962	33.274	ug/l		100
45) 1,4-Dioxane	7.659	88	15163	459.116	ug/l	#	93
46) Methyl methacrylate	7.696	41	65423	38.115	ug/l		96
47) n-amyl Acetate	10.842	43	123546	42.227	ug/l		98
48) t-1,3-Dichloropropene	8.976	75	83937	39.844	ug/l		100
49) cis-1,3-Dichloropropene	8.366	75	93527	39.526	ug/l		98
50) 1,1,2-Trichloroethane	9.153	97	58480	41.067	ug/l		93
51) Ethyl methacrylate	9.116	69	90255	40.129	ug/l		95
52) 1,3-Dichloropropane	9.311	76	101492	40.566	ug/l		99
53) Dibromochloromethane	9.519	129	70368	44.108	ug/l		99
54) 1,2-Dibromoethane	9.610	107	61792	42.444	ug/l		99
55) 2-Chloroethyl vinyl ether	8.244	63	242780	209.277	ug/l		98
56) Bromoform	10.799	173	43675	43.391	ug/l		98
58) 4-Methyl-2-Pentanone	8.574	43	385957	173.732	ug/l		98
59) 2-Hexanone	9.427	43	287325	179.309	ug/l		98
61) Tetrachloroethene	9.275	164	50960	41.220	ug/l		98
62) Toluene	8.720	91	263456	39.653	ug/l		100
64) Chlorobenzene	10.079	112	173096	41.967	ug/l		99
65) 1,1,1,2-Tetrachloroethane	10.165	131	59332	43.293	ug/l		98
66) Ethyl Benzene	10.195	91	310680	42.368	ug/l		99
67) m/p-Xylenes	10.299	106	232571	85.802	ug/l		97
68) o-Xylene	10.640	106	111285	42.006	ug/l		98
69) Styrene	10.653	104	189444	42.379	ug/l		98
70) Isopropylbenzene	10.963	105	297820	43.202	ug/l		100
71) 1,1,2,2-Tetrachloroethane	11.207	83	85664	38.320	ug/l		98
72) 1,2,3-Trichloropropane	11.238	75	72131m	39.112	ug/l		
73) Bromobenzene	11.195	156	68580	43.109	ug/l		98
74) n-propylbenzene	11.305	91	358912	43.482	ug/l		99
75) 2-Chlorotoluene	11.360	91	210797	42.431	ug/l		100
76) 1,3,5-Trimethylbenzene	11.451	105	246843	43.282	ug/l		100
77) t-1,4-Dichloro-2-butene	11.018	75	24547	39.135	ug/l		94
78) 4-Chlorotoluene	11.451	91	244058	43.554	ug/l		100
79) tert-butylbenzene	11.713	119	245096	42.765	ug/l		100
80) 1,2,4-Trimethylbenzene	11.750	105	242787	42.646	ug/l		99
81) sec-Butylbenzene	11.890	105	314122	43.418	ug/l		99
82) p-Isopropyltoluene	12.006	119	260529	44.246	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	128582	43.335	ug/l		98
84) 1,4-Dichlorobenzene	12.036	146	127142	43.154	ug/l		99
85) n-Butylbenzene	12.329	91	249335	45.589	ug/l		99
86) Hexachloroethane	12.536	117	44755	42.946	ug/l		98
87) 1,2-Dichlorobenzene	12.335	146	123006	42.457	ug/l		99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	18139	41.216	ug/l		99
89) 1,2,4-Trichlorobenzene	13.585	180	80770	44.831	ug/l		99
90) Hexachlorobutadiene	13.725	225	35663	48.174	ug/l		99
91) Naphthalene	13.774	128	261755	42.345	ug/l		99
92) 1,2,3-Trichlorobenzene	13.957	180	79158	43.289	ug/l		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

ICAL Form

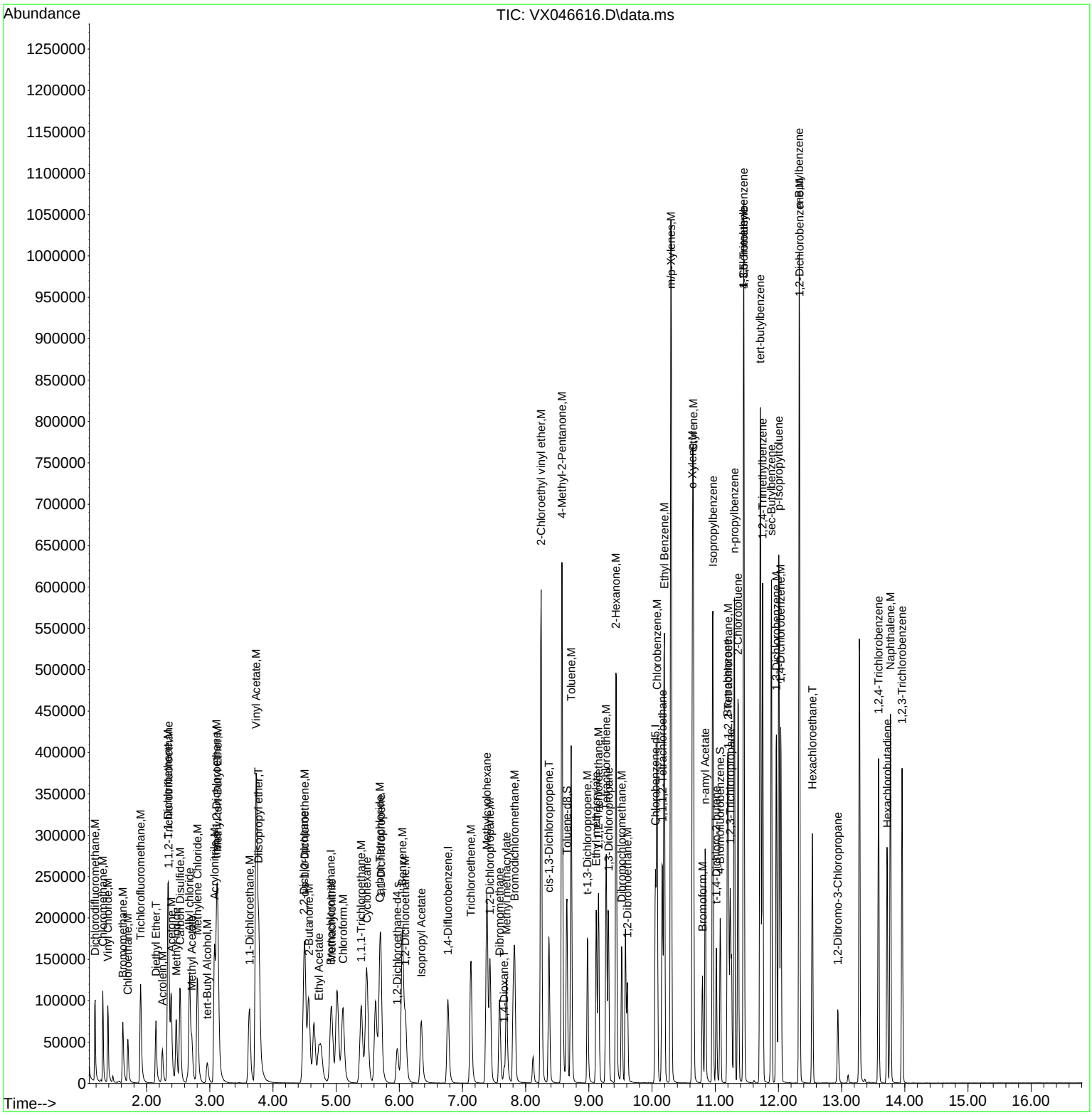
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046616.D
Acq On : 10 Jun 2025 21:01
Operator : JC/MD
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jun 11 05:58:10 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046617.D
Acq On : 10 Jun 2025 21:22
Operator : JC/MD
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 36 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Quant Time: Jun 11 05:59:07 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.910	128	18480	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.769	114	101087	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	90301	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.964	65	46278	26.584	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery =	88.600%#		
60) 4-Bromofluorobenzene	11.079	95	44924	27.136	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery =	90.467%		
63) Toluene-d8	8.653	98	121203	25.219	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery =	84.067%#		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.179	85	126953	84.439	ug/l	97
3) Chloromethane	1.307	50	127847	72.676	ug/l	97
4) Vinyl Chloride	1.386	62	125947	73.958	ug/l	98
5) Bromomethane	1.618	94	67188	101.096	ug/l	98
6) Chloroethane	1.697	64	71567	78.929	ug/l	98
7) Trichlorofluoromethane	1.904	101	182315	78.301	ug/l	100
8) Diethyl Ether	2.148	74	63050	72.732	ug/l	96
9) 1,1,2-Trichlorotrifluo...	2.343	101	118050	83.957	ug/l	99
10) 1,1-Dichloroethene	2.337	96	117733	86.139	ug/l	98
11) Methyl Iodide	2.465	142	162711	99.752	ug/l	99
12) Methyl Acetate	2.715	43	134440	78.621	ug/l	99
13) Acrolein	2.252	56	80516	273.923	ug/l	99
14) Acrylonitrile	3.075	53	303346	397.435	ug/l	100
15) Acetone	2.386	58	71106	351.507	ug/l	95
16) Carbon Disulfide	2.526	76	330142	84.972	ug/l	99
17) Allyl chloride	2.678	41	214540	83.951	ug/l	96
18) Methylene Chloride	2.800	84	124706	81.549	ug/l	96
19) trans-1,2-Dichloroethene	3.105	96	119413	86.099	ug/l	99
20) Diisopropyl ether	3.770	45	406048	83.005	ug/l	90
21) 1,1-Dichloroethane	3.623	63	227553	83.430	ug/l	98
22) cis-1,2-Dichloroethene	4.501	96	139255	83.913	ug/l	97
23) tert-Butyl Alcohol	2.965	59	64891	261.163	ug/l #	100
24) Methyl tert-Butyl Ether	3.123	73	368205	83.260	ug/l	98
25) Chloroform	5.105	83	233034	87.654	ug/l	95
26) Cyclohexane	5.483	56	209782	83.567	ug/l #	100
29) 1,1-Dichloropropene	5.702	75	163173	88.439	ug/l	98
30) 2-Butanone	4.562	43	375531	369.450	ug/l	99
31) 2,2-Dichloropropane	4.489	77	148694	74.259	ug/l	98
32) 1,1,1-Trichloroethane	5.391	97	206409	92.045	ug/l	98
33) Carbon Tetrachloride	5.690	117	182507	95.711	ug/l	99
34) Benzene	6.050	78	476940	83.690	ug/l	100
35) Methacrylonitrile	4.928	41	93603	84.745	ug/l	97
36) 1,2-Dichloroethane	6.092	62	180713	90.478	ug/l	99
37) Trichloroethene	7.129	130	118601	88.401	ug/l	90
38) Methylcyclohexane	7.385	83	210185	85.889	ug/l	96
39) 1,2-Dichloropropane	7.434	63	118552	83.951	ug/l	91
40) Dibromomethane	7.586	93	87518	85.415	ug/l	99
41) Bromodichloromethane	7.824	83	184639	89.807	ug/l #	97
42) Vinyl Acetate	3.733	43	1716533	434.505	ug/l	98

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046617.D
Acq On : 10 Jun 2025 21:22
Operator : JC/MD
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jun 11 05:59:07 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
43) Ethyl Acetate	4.721	43	161006m	82.655 ug/l		
44) Isopropyl Acetate	6.348	43	265905	83.629 ug/l		99
45) 1,4-Dioxane	7.659	88	30924	1008.598 ug/l	#	90
46) Methyl methacrylate	7.696	41	139613	87.615 ug/l		97
47) n-amyl Acetate	10.841	43	231600	85.267 ug/l		98
48) t-1,3-Dichloropropene	8.976	75	174247	89.095 ug/l		99
49) cis-1,3-Dichloropropene	8.366	75	190854	86.882 ug/l		99
50) 1,1,2-Trichloroethane	9.153	97	109109	82.533 ug/l		96
51) Ethyl methacrylate	9.116	69	180726	86.556 ug/l		96
52) 1,3-Dichloropropane	9.311	76	191705	82.538 ug/l		98
53) Dibromochloromethane	9.519	129	134118	90.555 ug/l		99
54) 1,2-Dibromoethane	9.610	107	116714	86.355 ug/l		100
55) 2-Chloroethyl vinyl ether	8.244	63	498407	462.783 ug/l		99
56) Bromoform	10.799	173	83888	89.774 ug/l		98
58) 4-Methyl-2-Pentanone	8.574	43	782773	399.516 ug/l		99
59) 2-Hexanone	9.427	43	549776	389.020 ug/l		98
61) Tetrachloroethene	9.275	164	93766	85.997 ug/l		98
62) Toluene	8.720	91	506147	86.377 ug/l		100
64) Chlorobenzene	10.079	112	321168	88.290 ug/l		99
65) 1,1,1,2-Tetrachloroethane	10.165	131	110074	91.070 ug/l		99
66) Ethyl Benzene	10.195	91	577722	89.331 ug/l		99
67) m/p-Xylenes	10.299	106	423852	177.301 ug/l		98
68) o-Xylene	10.640	106	203409	87.056 ug/l		99
69) Styrene	10.652	104	351137	89.064 ug/l		99
70) Isopropylbenzene	10.963	105	540361	88.877 ug/l		100
71) 1,1,2,2-Tetrachloroethane	11.213	83	154296	78.260 ug/l		99
72) 1,2,3-Trichloropropane	11.238	75	130638m	80.319 ug/l		
73) Bromobenzene	11.195	156	126288	90.009 ug/l		98
74) n-propylbenzene	11.305	91	651781	89.532 ug/l		100
75) 2-Chlorotoluene	11.366	91	384866	87.839 ug/l		100
76) 1,3,5-Trimethylbenzene	11.451	105	448179	89.103 ug/l		99
77) t-1,4-Dichloro-2-butene	11.018	75	49424	89.342 ug/l		88
78) 4-Chlorotoluene	11.451	91	443031	89.645 ug/l		99
79) tert-butylbenzene	11.713	119	452187	89.460 ug/l		99
80) 1,2,4-Trimethylbenzene	11.750	105	446143	88.856 ug/l		99
81) sec-Butylbenzene	11.890	105	569918	89.319 ug/l		100
82) p-Isopropyltoluene	12.006	119	470629	90.626 ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	231179	88.341 ug/l		100
84) 1,4-Dichlorobenzene	12.036	146	230534	88.720 ug/l		98
85) n-Butylbenzene	12.329	91	451055	93.511 ug/l		98
86) Hexachloroethane	12.536	117	85307	92.816 ug/l		98
87) 1,2-Dichlorobenzene	12.335	146	222638	87.133 ug/l		99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	34992	90.153 ug/l		97
89) 1,2,4-Trichlorobenzene	13.585	180	155404	97.801 ug/l		98
90) Hexachlorobutadiene	13.725	225	64850	99.325 ug/l		97
91) Naphthalene	13.774	128	496416	91.055 ug/l		100
92) 1,2,3-Trichlorobenzene	13.957	180	151656	94.037 ug/l		100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

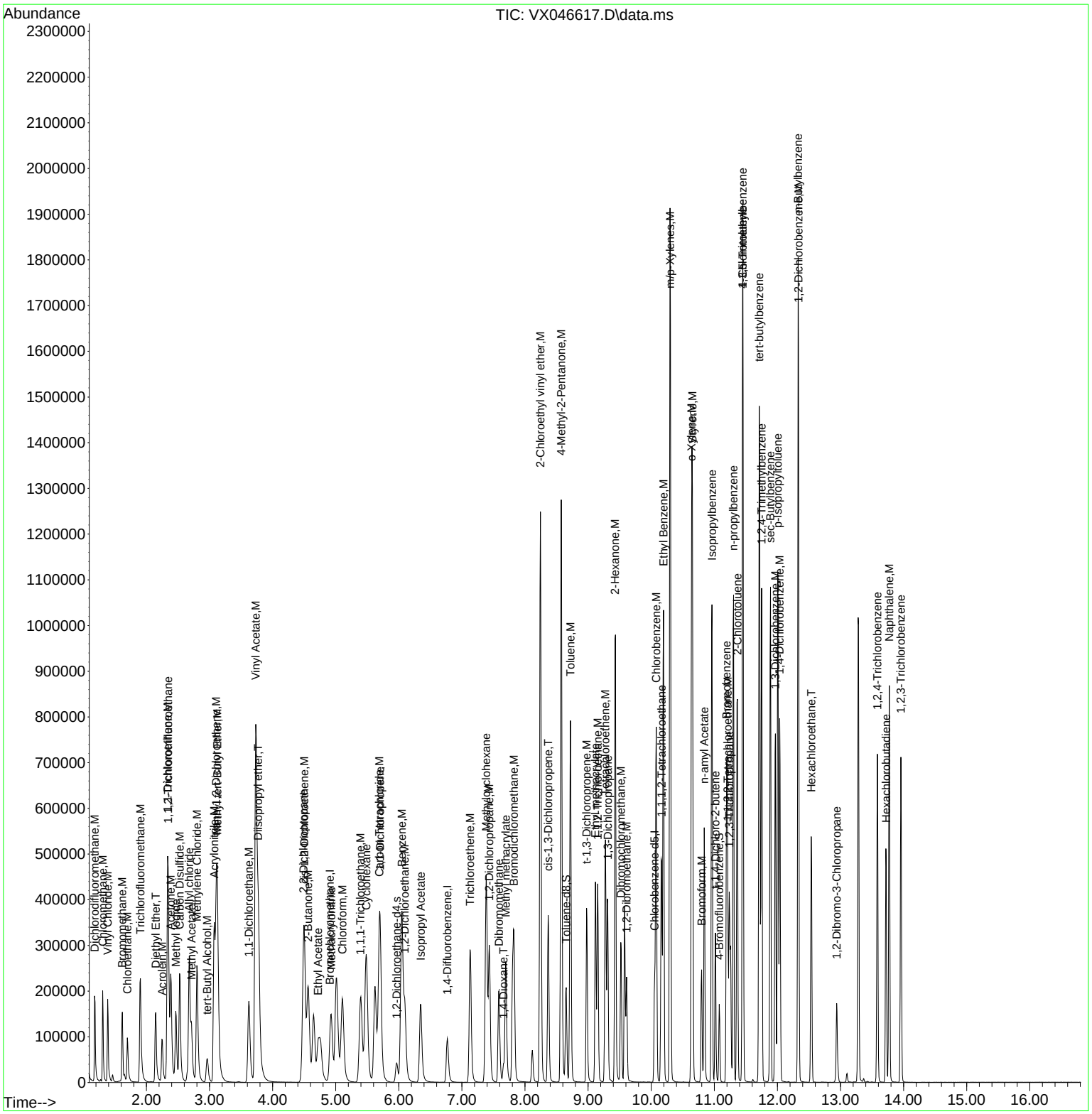
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046617.D
Acq On : 10 Jun 2025 21:22
Operator : JC/MD
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jun 11 05:59:07 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046618.D
Acq On : 10 Jun 2025 21:44
Operator : JC/MD
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 37 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Quant Time: Jun 11 06:00:03 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane	4.916	128	14285	30.000	ug/l		0.00
28) 1,4-Difluorobenzene	6.769	114	79056	30.000	ug/l		0.00
57) Chlorobenzene-d5	10.055	117	70233	30.000	ug/l		0.00
System Monitoring Compounds							
27) 1,2-Dichloroethane-d4	5.964	65	35515	26.392	ug/l		0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 87.967%#				
60) 4-Bromofluorobenzene	11.079	95	35488	27.562	ug/l		0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 91.867%				
63) Toluene-d8	8.653	98	93932	25.129	ug/l		0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 83.767%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.179	85	128493	110.561	ug/l		96
3) Chloromethane	1.307	50	131817	96.938	ug/l		98
4) Vinyl Chloride	1.386	62	126578	96.157	ug/l		99
5) Bromomethane	1.618	94	70720	137.659	ug/l		98
6) Chloroethane	1.697	64	74708	106.589	ug/l		100
7) Trichlorofluoromethane	1.904	101	181942	101.088	ug/l		99
8) Diethyl Ether	2.148	74	66011	98.510	ug/l		99
9) 1,1,2-Trichlorotrifluo...	2.343	101	123494	113.620	ug/l		99
10) 1,1-Dichloroethene	2.337	96	120691	114.235	ug/l		96
11) Methyl Iodide	2.465	142	170109	134.912	ug/l		99
12) Methyl Acetate	2.715	43	132151	99.978	ug/l		100
13) Acrolein	2.252	56	78842	346.997	ug/l		100
14) Acrylonitrile	3.075	53	311908	528.659	ug/l		99
15) Acetone	2.386	58	71578	457.751	ug/l		97
16) Carbon Disulfide	2.526	76	345932	115.182	ug/l		100
17) Allyl chloride	2.678	41	223397	113.089	ug/l		97
18) Methylene Chloride	2.800	84	128528	108.730	ug/l		96
19) trans-1,2-Dichloroethene	3.105	96	123601	115.290	ug/l		99
20) Diisopropyl ether	3.770	45	418693	110.725	ug/l		88
21) 1,1-Dichloroethane	3.623	63	235079	111.501	ug/l		99
22) cis-1,2-Dichloroethene	4.501	96	144888	112.946	ug/l		98
23) tert-Butyl Alcohol	2.959	59	68721	357.798	ug/l	#	100
24) Methyl tert-Butyl Ether	3.123	73	376330	110.087	ug/l		98
25) Chloroform	5.105	83	238920	116.259	ug/l		96
26) Cyclohexane	5.483	56	214840	110.715	ug/l	#	97
29) 1,1-Dichloropropene	5.702	75	171308	118.723	ug/l		99
30) 2-Butanone	4.562	43	386857	486.654	ug/l		99
31) 2,2-Dichloropropane	4.489	77	154777	98.837	ug/l		99
32) 1,1,1-Trichloroethane	5.397	97	213130	121.528	ug/l		98
33) Carbon Tetrachloride	5.684	117	188561	126.443	ug/l		98
34) Benzene	6.050	78	491901	110.370	ug/l		99
35) Methacrylonitrile	4.934	41	96674	111.916	ug/l		98
36) 1,2-Dichloroethane	6.099	62	184658	118.218	ug/l		99
37) Trichloroethene	7.129	130	121885	116.166	ug/l		88
38) Methylcyclohexane	7.385	83	224529	117.319	ug/l		96
39) 1,2-Dichloropropane	7.434	63	124027	112.304	ug/l		92
40) Dibromomethane	7.586	93	90996	113.559	ug/l		99
41) Bromodichloromethane	7.824	83	189762	118.021	ug/l	#	97
42) Vinyl Acetate	3.733	43	1779960	576.121	ug/l		98

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046618.D
Acq On : 10 Jun 2025 21:44
Operator : JC/MD
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jun 11 06:00:03 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
43) Ethyl Acetate	4.721	43	167022m	109.638	ug/l		
44) Isopropyl Acetate	6.342	43	275162	110.657	ug/l		99
45) 1,4-Dioxane	7.659	88	32186	1342.301	ug/l	#	91
46) Methyl methacrylate	7.696	41	144279	115.776	ug/l		97
47) n-amyl Acetate	10.842	43	242185	114.012	ug/l		97
48) t-1,3-Dichloropropene	8.976	75	182939	119.607	ug/l		99
49) cis-1,3-Dichloropropene	8.366	75	199663	116.222	ug/l		100
50) 1,1,2-Trichloroethane	9.153	97	114954	111.187	ug/l		96
51) Ethyl methacrylate	9.116	69	186954	114.491	ug/l		98
52) 1,3-Dichloropropane	9.311	76	200619	110.446	ug/l		98
53) Dibromochloromethane	9.519	129	139959	120.833	ug/l		98
54) 1,2-Dibromoethane	9.610	107	120053	113.580	ug/l		99
55) 2-Chloroethyl vinyl ether	8.244	63	381595	453.061	ug/l		99
56) Bromoform	10.799	173	87839	120.198	ug/l		99
58) 4-Methyl-2-Pentanone	8.574	43	802150	526.387	ug/l		99
59) 2-Hexanone	9.427	43	566900	515.756	ug/l		98
61) Tetrachloroethene	9.275	164	99513	117.346	ug/l		97
62) Toluene	8.720	91	523875	114.948	ug/l		100
64) Chlorobenzene	10.080	112	336208	118.833	ug/l		99
65) 1,1,1,2-Tetrachloroethane	10.165	131	114449	121.746	ug/l		99
66) Ethyl Benzene	10.195	91	597149	118.718	ug/l		99
67) m/p-Xylenes	10.299	106	439865	236.574	ug/l		98
68) o-Xylene	10.640	106	214100	117.814	ug/l		98
69) Styrene	10.653	104	366379	119.483	ug/l		99
70) Isopropylbenzene	10.964	105	566056	119.707	ug/l		100
71) 1,1,2,2-Tetrachloroethane	11.213	83	160113	104.414	ug/l		98
72) 1,2,3-Trichloropropane	11.238	75	136200m	107.666	ug/l		
73) Bromobenzene	11.195	156	131791	120.771	ug/l		98
74) n-propylbenzene	11.305	91	676405	119.463	ug/l		99
75) 2-Chlorotoluene	11.360	91	399989	117.375	ug/l		100
76) 1,3,5-Trimethylbenzene	11.451	105	463327	118.435	ug/l		99
77) t-1,4-Dichloro-2-butene	11.018	75	52534	122.099	ug/l		86
78) 4-Chlorotoluene	11.451	91	463836	120.673	ug/l		99
79) tert-butylbenzene	11.713	119	465227	118.339	ug/l		99
80) 1,2,4-Trimethylbenzene	11.750	105	462422	118.414	ug/l		99
81) sec-Butylbenzene	11.890	105	596540	120.205	ug/l		99
82) p-Isopropyltoluene	12.006	119	495558	122.693	ug/l		99
83) 1,3-Dichlorobenzene	11.969	146	242658	119.223	ug/l		99
84) 1,4-Dichlorobenzene	12.036	146	244059	120.762	ug/l		98
85) n-Butylbenzene	12.329	91	478218	127.471	ug/l		99
86) Hexachloroethane	12.536	117	87631	122.587	ug/l		96
87) 1,2-Dichlorobenzene	12.335	146	230502	115.987	ug/l		100
88) 1,2-Dibromo-3-Chloropr...	12.939	75	35888	118.880	ug/l		98
89) 1,2,4-Trichlorobenzene	13.585	180	161569	130.735	ug/l		100
90) Hexachlorobutadiene	13.725	225	69903	137.656	ug/l		98
91) Naphthalene	13.774	128	521011	122.873	ug/l		100
92) 1,2,3-Trichlorobenzene	13.957	180	156655	124.892	ug/l		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

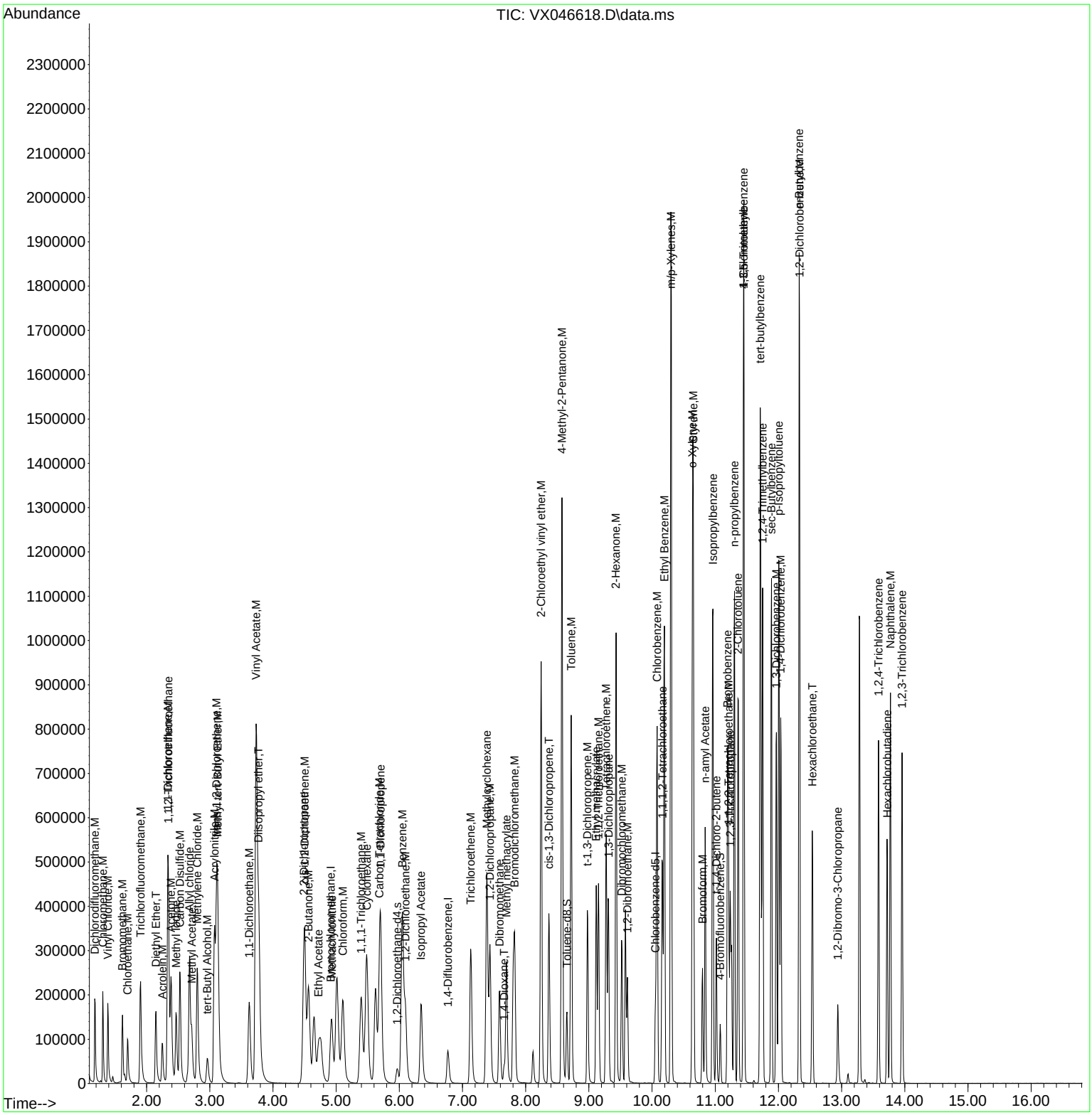
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046618.D
Acq On : 10 Jun 2025 21:44
Operator : JC/MD
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jun 11 06:00:03 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 05:53:18 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046620.D
Acq On : 10 Jun 2025 22:26
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 39 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX061025

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Quant Time: Jun 11 06:31:04 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.916	128	19502	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.769	114	102720	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	94298	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.964	65	47044	29.800	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 99.333%			
60) 4-Bromofluorobenzene	11.079	95	47841	30.100	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 100.333%			
63) Toluene-d8	8.653	98	127505	30.271	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 100.900%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.185	85	23255	18.341	ug/l	95
3) Chloromethane	1.307	50	23695	18.139	ug/l	96
4) Vinyl Chloride	1.386	62	23516	18.673	ug/l	98
5) Bromomethane	1.630	94	16055	21.347	ug/l	97
6) Chloroethane	1.703	64	13014	17.987	ug/l	95
7) Trichlorofluoromethane	1.904	101	34019	18.859	ug/l	100
8) Diethyl Ether	2.148	74	11129	17.609	ug/l	94
9) 1,1,2-Trichlorotrifluo...	2.343	101	22388	18.654	ug/l	98
10) 1,1-Dichloroethene	2.337	96	21173	18.187	ug/l	93
11) Methyl Iodide	2.471	142	28540	17.981	ug/l	99
12) Methyl Acetate	2.715	43	23837	16.244	ug/l	95
13) Acrolein	2.252	56	15494	107.751	ug/l	98
14) Acrylonitrile	3.075	53	56070	92.978	ug/l	100
15) Acetone	2.386	58	13263	96.180	ug/l	93
16) Carbon Disulfide	2.532	76	61158	18.935	ug/l	99
17) Allyl chloride	2.678	41	38539	18.246	ug/l	97
18) Methylene Chloride	2.800	84	24288	18.904	ug/l	93
19) trans-1,2-Dichloroethene	3.111	96	22089	18.309	ug/l	98
20) Diisopropyl ether	3.770	45	77020	19.273	ug/l #	84
21) 1,1-Dichloroethane	3.629	63	42965	18.765	ug/l	99
22) cis-1,2-Dichloroethene	4.507	96	26042	18.515	ug/l	97
23) tert-Butyl Alcohol	2.959	59	10713m	87.957	ug/l	
24) Methyl tert-Butyl Ether	3.123	73	67674	19.029	ug/l	99
25) Chloroform	5.111	83	44938	19.068	ug/l	94
26) Cyclohexane	5.483	56	40470	19.372	ug/l #	99
29) 1,1-Dichloropropene	5.702	75	31429	19.447	ug/l	99
30) 2-Butanone	4.568	43	69729	96.829	ug/l	99
31) 2,2-Dichloropropane	4.489	77	26066	18.167	ug/l	99
32) 1,1,1-Trichloroethane	5.397	97	38918	19.489	ug/l	98
33) Carbon Tetrachloride	5.690	117	34697	19.577	ug/l	95
34) Benzene	6.050	78	91082	19.182	ug/l	100
35) Methacrylonitrile	4.934	41	16567	18.761	ug/l	97
36) 1,2-Dichloroethane	6.092	62	35133	19.556	ug/l	100
37) Trichloroethene	7.135	130	22786	19.124	ug/l	93
38) Methylcyclohexane	7.385	83	39592	19.300	ug/l	98
39) 1,2-Dichloropropane	7.434	63	22488	18.986	ug/l	93
40) Dibromomethane	7.586	93	17216	19.442	ug/l	99
41) Bromodichloromethane	7.824	83	35030	19.418	ug/l #	97
42) Vinyl Acetate	3.733	43	311920	100.381	ug/l	98

Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046620.D
Acq On : 10 Jun 2025 22:26
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Jun 11 06:31:04 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
ICVVX061025

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.727	43	30123	19.747 ug/l #	91
44) Isopropyl Acetate	6.348	43	47093	19.737 ug/l	99
45) 1,4-Dioxane	7.659	88	6089	404.565 ug/l #	90
46) Methyl methacrylate	7.702	41	25547	19.609 ug/l	97
47) n-amyl Acetate	10.842	43	41994	19.676 ug/l	100
48) t-1,3-Dichloropropene	8.982	75	29793	18.423 ug/l	99
49) cis-1,3-Dichloropropene	8.366	75	35002	19.386 ug/l	96
50) 1,1,2-Trichloroethane	9.153	97	21725	19.467 ug/l	98
51) Ethyl methacrylate	9.116	69	32296	19.032 ug/l	98
52) 1,3-Dichloropropane	9.311	76	37211	19.143 ug/l	96
53) Dibromochloromethane	9.519	129	25255	19.199 ug/l	99
54) 1,2-Dibromoethane	9.610	107	22587	19.241 ug/l	99
55) 2-Chloroethyl vinyl ether	8.244	63	88573	99.945 ug/l	100
56) Bromoform	10.799	173	15704	19.319 ug/l	98
58) 4-Methyl-2-Pentanone	8.574	43	151408	98.710 ug/l	99
59) 2-Hexanone	9.433	43	105767	97.744 ug/l	98
61) Tetrachloroethene	9.275	164	19049	19.275 ug/l	99
62) Toluene	8.720	91	99135	19.399 ug/l	99
64) Chlorobenzene	10.079	112	63797	19.355 ug/l	99
65) 1,1,1,2-Tetrachloroethane	10.165	131	21209	19.199 ug/l	98
66) Ethyl Benzene	10.195	91	112742	19.321 ug/l	99
67) m/p-Xylenes	10.299	106	84228	39.025 ug/l	100
68) o-Xylene	10.640	106	41009	19.734 ug/l	97
69) Styrene	10.653	104	69270	19.447 ug/l	98
70) Isopropylbenzene	10.963	105	109015	19.548 ug/l	100
71) 1,1,2,2-Tetrachloroethane	11.213	83	32028	19.550 ug/l	99
72) 1,2,3-Trichloropropane	11.238	75	26343m	19.261 ug/l	
73) Bromobenzene	11.195	156	25200	19.277 ug/l	99
74) n-propylbenzene	11.305	91	132000	19.794 ug/l	100
75) 2-Chlorotoluene	11.360	91	78088	19.560 ug/l	99
76) 1,3,5-Trimethylbenzene	11.451	105	91935	19.841 ug/l	99
77) t-1,4-Dichloro-2-butene	11.018	75	8334	18.038 ug/l	94
78) 4-Chlorotoluene	11.451	91	92213	19.964 ug/l	99
79) tert-butylbenzene	11.713	119	91390	19.777 ug/l	100
80) 1,2,4-Trimethylbenzene	11.750	105	91018	19.890 ug/l	99
81) sec-Butylbenzene	11.890	105	115967	19.611 ug/l	100
82) p-Isopropyltoluene	12.006	119	96508	19.884 ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	47835	19.658 ug/l	99
84) 1,4-Dichlorobenzene	12.036	146	48644	19.878 ug/l	99
85) n-Butylbenzene	12.329	91	92530	19.790 ug/l	99
86) Hexachloroethane	12.536	117	16219	19.242 ug/l	96
87) 1,2-Dichlorobenzene	12.335	146	46237	19.751 ug/l	99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	6474	19.157 ug/l	97
89) 1,2,4-Trichlorobenzene	13.585	180	30504	19.764 ug/l	99
90) Hexachlorobutadiene	13.725	225	13613	20.031 ug/l	97
91) Naphthalene	13.774	128	94364	19.272 ug/l	100
92) 1,2,3-Trichlorobenzene	13.957	180	29352	19.375 ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
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Acq On : 10 Jun 2025 22:26
Operator : JC/MD
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ALS Vial : 39 Sample Multiplier: 1

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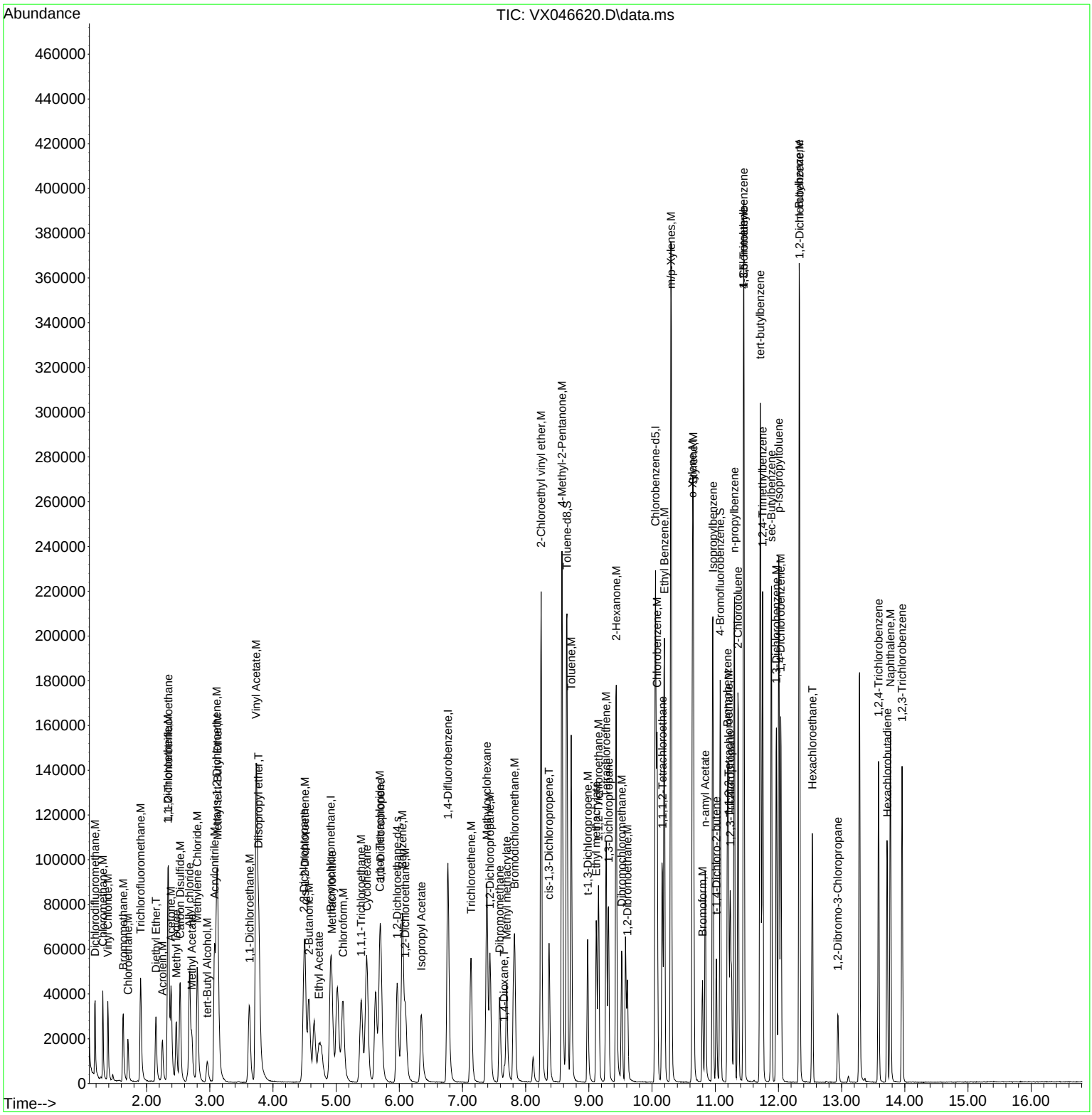
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
ICVVX061025

Manual Integrations APPROVED

Reviewed By :John Carlone 06/11/2025
Supervised By :Mahesh Dadoda 06/11/2025



Evaluate Continuing Calibration Report

ICAL Form

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Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	98	0.00
2	M	Dichlorodifluoromethane	1.950	1.789	8.3	86	0.00
3	M	Chloromethane	2.010	1.823	9.3	84	0.00
4	M	Vinyl Chloride	1.937	1.809	6.6	87	0.00
5	M	Bromomethane	1.157	1.235	-6.7	95	0.00
6	M	Chloroethane	1.113	1.001	10.1	89	0.00
7	M	Trichlorofluoromethane	2.775	2.617	5.7	87	0.00
8	T	Diethyl Ether	0.972	0.856	11.9	81	0.00
9		1,1,2-Trichlorotrifluoroeth	1.846	1.722	6.7	87	0.00
10	M	1,1-Dichloroethene	1.791	1.629	9.0	87	0.00
11		Methyl Iodide	2.442	2.195	10.1	86	0.00
12		Methyl Acetate	2.257	1.833	18.8	58	0.00
13	M	Acrolein	0.221	0.238	-7.7	113	0.00
14	M	Acrylonitrile	0.928	0.863	7.0	87	0.00
15	M	Acetone	0.212	0.204	3.8	91	0.00
16	M	Carbon Disulfide	4.969	4.704	5.3	89	0.00
17		Allyl chloride	3.249	2.964	8.8	86	0.00
18	M	Methylene Chloride	1.976	1.868	5.5	88	0.00
19	M	trans-1,2-Dichloroethene	1.856	1.699	8.5	87	0.00
20	T	Diisopropyl ether	6.147	5.924	3.6	89	0.00
21	M	1,1-Dichloroethane	3.522	3.305	6.2	88	0.00
22	M	cis-1,2-Dichloroethene	2.164	2.003	7.4	86	0.00
23	M	tert-Butyl Alcohol	0.187	0.165	11.8	87	0.00
24	M	Methyl tert-Butyl Ether	5.471	5.205	4.9	89	0.00
25	M	Chloroform	3.625	3.456	4.7	89	0.00
26		Cyclohexane	3.214	3.113	3.1	90	0.00
27	s	1,2-Dichloroethane-d4	2.428	2.412	0.7	97	0.00
28	I	1,4-Difluorobenzene	1.000	1.000	0.0	98	0.00
29		1,1-Dichloropropene	0.472	0.459	2.8	87	0.00
30	M	2-Butanone	0.210	0.204	2.9	89	0.00
31		2,2-Dichloropropane	0.419	0.381	9.1	85	0.00
32	M	1,1,1-Trichloroethane	0.583	0.568	2.6	89	0.00
33	M	Carbon Tetrachloride	0.518	0.507	2.1	89	0.00
34	M	Benzene	1.387	1.330	4.1	87	0.00
35		Methacrylonitrile	0.258	0.242	6.2	89	0.00
36	M	1,2-Dichloroethane	0.525	0.513	2.3	87	0.00
37	M	Trichloroethene	0.348	0.333	4.3	89	0.00
38		Methylcyclohexane	0.599	0.578	3.5	91	0.00
39	M	1,2-Dichloropropane	0.346	0.328	5.2	87	0.00
40		Dibromomethane	0.259	0.251	3.1	89	0.00
41	M	Bromodichloromethane	0.527	0.512	2.8	87	0.00
42	M	Vinyl Acetate	0.908	0.911	-0.3	103	0.00
43		Ethyl Acetate	0.446	0.440	1.3	92	0.00
44		Isopropyl Acetate	0.697	0.688	1.3	94	0.00
45	T	1,4-Dioxane	0.004	0.004	0.0	91	0.00
46		Methyl methacrylate	0.380	0.373	1.8	90	0.00
47		n-amyl Acetate	0.623	0.613	1.6	107	0.00
48	M	t-1,3-Dichloropropene	0.472	0.435	7.8	90	0.00

Evaluate Continuing Calibration Report

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046620.D
Acq On : 10 Jun 2025 22:26
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 39 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX061025

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Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	cis-1,3-Dichloropropene	0.527	0.511	3.0	92	0.00
50	M	1,1,2-Trichloroethane	0.326	0.317	2.8	89	0.00
51		Ethyl methacrylate	0.496	0.472	4.8	90	0.00
52		1,3-Dichloropropane	0.568	0.543	4.4	86	0.00
53	M	Dibromochloromethane	0.384	0.369	3.9	89	0.00
54	M	1,2-Dibromoethane	0.343	0.330	3.8	90	0.00
55	M	2-Chloroethyl vinyl ether	0.259	0.259	0.0	89	0.00
56	M	Bromoform	0.237	0.229	3.4	91	0.00
57	I	Chlorobenzene-d5	1.000	1.000	0.0	97	0.00
58	M	4-Methyl-2-Pentanone	0.488	0.482	1.2	90	0.00
59	M	2-Hexanone	0.344	0.336	2.3	89	0.00
60	S	4-Bromofluorobenzene	0.506	0.507	-0.2	98	0.00
61	M	Tetrachloroethene	0.314	0.303	3.5	89	0.00
62	M	Toluene	1.626	1.577	3.0	88	0.00
63	S	Toluene-d8	1.340	1.352	-0.9	97	0.00
64	M	Chlorobenzene	1.049	1.015	3.2	90	0.00
65		1,1,1,2-Tetrachloroethane	0.351	0.337	4.0	89	0.00
66	M	Ethyl Benzene	1.856	1.793	3.4	89	0.00
67	M	m/p-Xylenes	0.687	0.670	2.5	89	0.00
68	M	o-Xylene	0.661	0.652	1.4	90	0.00
69	M	Styrene	1.133	1.102	2.7	88	0.00
70		Isopropylbenzene	1.774	1.734	2.3	90	0.00
71	M	1,1,2,2-Tetrachloroethane	0.521	0.509	2.3	88	0.00
72		1,2,3-Trichloropropane	0.435	0.419	3.7	88	0.00
73		Bromobenzene	0.416	0.401	3.6	90	0.00
74		n-propylbenzene	2.122	2.100	1.0	90	0.00
75		2-Chlorotoluene	1.270	1.242	2.2	89	0.00
76		1,3,5-Trimethylbenzene	1.474	1.462	0.8	90	0.00
77		t-1,4-Dichloro-2-butene	0.147	0.133	9.5	89	0.00
78		4-Chlorotoluene	1.469	1.467	0.1	90	0.00
79		tert-butylbenzene	1.470	1.454	1.1	90	0.00
80		1,2,4-Trimethylbenzene	1.456	1.448	0.5	90	0.00
81		sec-Butylbenzene	1.881	1.845	1.9	89	0.00
82		p-Isopropyltoluene	1.544	1.535	0.6	90	0.00
83	M	1,3-Dichlorobenzene	0.774	0.761	1.7	90	0.00
84	M	1,4-Dichlorobenzene	0.779	0.774	0.6	90	0.00
85		n-Butylbenzene	1.488	1.472	1.1	89	0.00
86	T	Hexachloroethane	0.268	0.258	3.7	90	0.00
87	M	1,2-Dichlorobenzene	0.745	0.735	1.3	90	0.00
88		1,2-Dibromo-3-Chloropropane	0.108	0.103	4.6	89	0.00
89		1,2,4-Trichlorobenzene	0.491	0.485	1.2	92	0.00
90		Hexachlorobutadiene	0.216	0.217	-0.5	93	0.00
91	M	Naphthalene	1.558	1.501	3.7	90	0.00
92		1,2,3-Trichlorobenzene	0.482	0.467	3.1	89	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
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ALS Vial : 39 Sample Multiplier: 1

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Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	30.000	30.000	0.0	98	0.00
2	M	Dichlorodifluoromethane	20.000	18.341	8.3	86	0.00
3	M	Chloromethane	20.000	18.139	9.3	84	0.00
4	M	Vinyl Chloride	20.000	18.673	6.6	87	0.00
5	M	Bromomethane	20.000	21.347	-6.7	95	0.00
6	M	Chloroethane	20.000	17.987	10.1	89	0.00
7	M	Trichlorofluoromethane	20.000	18.859	5.7	87	0.00
8	T	Diethyl Ether	20.000	17.609	12.0	81	0.00
9		1,1,2-Trichlorotrifluoroeth	20.000	18.654	6.7	87	0.00
10	M	1,1-Dichloroethene	20.000	18.187	9.1	87	0.00
11		Methyl Iodide	20.000	17.981	10.1	86	0.00
12		Methyl Acetate	20.000	16.244	18.8	58	0.00
13	M	Acrolein	100.000	107.751	-7.8	113	0.00
14	M	Acrylonitrile	100.000	92.978	7.0	87	0.00
15	M	Acetone	100.000	96.180	3.8	91	0.00
16	M	Carbon Disulfide	20.000	18.935	5.3	89	0.00
17		Allyl chloride	20.000	18.246	8.8	86	0.00
18	M	Methylene Chloride	20.000	18.904	5.5	88	0.00
19	M	trans-1,2-Dichloroethene	20.000	18.309	8.5	87	0.00
20	T	Diisopropyl ether	20.000	19.273	3.6	89	0.00
21	M	1,1-Dichloroethane	20.000	18.765	6.2	88	0.00
22	M	cis-1,2-Dichloroethene	20.000	18.515	7.4	86	0.00
23	M	tert-Butyl Alcohol	100.000	87.957	12.0	87	0.00
24	M	Methyl tert-Butyl Ether	20.000	19.029	4.9	89	0.00
25	M	Chloroform	20.000	19.068	4.7	89	0.00
26		Cyclohexane	20.000	19.372	3.1	90	0.00
27	s	1,2-Dichloroethane-d4	30.000	29.800	0.7	97	0.00
28	I	1,4-Difluorobenzene	30.000	30.000	0.0	98	0.00
29		1,1-Dichloropropene	20.000	19.447	2.8	87	0.00
30	M	2-Butanone	100.000	96.829	3.2	89	0.00
31		2,2-Dichloropropane	20.000	18.167	9.2	85	0.00
32	M	1,1,1-Trichloroethane	20.000	19.489	2.6	89	0.00
33	M	Carbon Tetrachloride	20.000	19.577	2.1	89	0.00
34	M	Benzene	20.000	19.182	4.1	87	0.00
35		Methacrylonitrile	20.000	18.761	6.2	89	0.00
36	M	1,2-Dichloroethane	20.000	19.556	2.2	87	0.00
37	M	Trichloroethene	20.000	19.124	4.4	89	0.00
38		Methylcyclohexane	20.000	19.300	3.5	91	0.00
39	M	1,2-Dichloropropane	20.000	18.986	5.1	87	0.00
40		Dibromomethane	20.000	19.442	2.8	89	0.00
41	M	Bromodichloromethane	20.000	19.418	2.9	87	0.00
42	M	Vinyl Acetate	100.000	100.381	-0.4	103	0.00
43		Ethyl Acetate	20.000	19.747	1.3	92	0.00
44		Isopropyl Acetate	20.000	19.737	1.3	94	0.00
45	T	1,4-Dioxane	400.000	404.565	-1.1	91	0.00
46		Methyl methacrylate	20.000	19.609	2.0	90	0.00
47		n-amyl Acetate	20.000	19.676	1.6	107	0.00
48	M	t-1,3-Dichloropropene	20.000	18.423	7.9	90	0.00

Evaluate Continuing Calibration Report

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046620.D
Acq On : 10 Jun 2025 22:26
Operator : JC/MD
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 39 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX061025

Quant Time: Jun 11 06:31:04 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
49	T	cis-1,3-Dichloropropene	20.000	19.386	3.1	92	0.00
50	M	1,1,2-Trichloroethane	20.000	19.467	2.7	89	0.00
51		Ethyl methacrylate	20.000	19.032	4.8	90	0.00
52		1,3-Dichloropropane	20.000	19.143	4.3	86	0.00
53	M	Dibromochloromethane	20.000	19.199	4.0	89	0.00
54	M	1,2-Dibromoethane	20.000	19.241	3.8	90	0.00
55	M	2-Chloroethyl vinyl ether	100.000	99.945	0.1	89	0.00
56	M	Bromoform	20.000	19.319	3.4	91	0.00
57	I	Chlorobenzene-d5	30.000	30.000	0.0	97	0.00
58	M	4-Methyl-2-Pentanone	100.000	98.710	1.3	90	0.00
59	M	2-Hexanone	100.000	97.744	2.3	89	0.00
60	S	4-Bromofluorobenzene	30.000	30.100	-0.3	98	0.00
61	M	Tetrachloroethene	20.000	19.275	3.6	89	0.00
62	M	Toluene	20.000	19.399	3.0	88	0.00
63	S	Toluene-d8	30.000	30.271	-0.9	97	0.00
64	M	Chlorobenzene	20.000	19.355	3.2	90	0.00
65		1,1,1,2-Tetrachloroethane	20.000	19.199	4.0	89	0.00
66	M	Ethyl Benzene	20.000	19.321	3.4	89	0.00
67	M	m/p-Xylenes	40.000	39.025	2.4	89	0.00
68	M	o-Xylene	20.000	19.734	1.3	90	0.00
69	M	Styrene	20.000	19.447	2.8	88	0.00
70		Isopropylbenzene	20.000	19.548	2.3	90	0.00
71	M	1,1,2,2-Tetrachloroethane	20.000	19.550	2.2	88	0.00
72		1,2,3-Trichloropropane	20.000	19.261	3.7	88	0.00
73		Bromobenzene	20.000	19.277	3.6	90	0.00
74		n-propylbenzene	20.000	19.794	1.0	90	0.00
75		2-Chlorotoluene	20.000	19.560	2.2	89	0.00
76		1,3,5-Trimethylbenzene	20.000	19.841	0.8	90	0.00
77		t-1,4-Dichloro-2-butene	20.000	18.038	9.8	89	0.00
78		4-Chlorotoluene	20.000	19.964	0.2	90	0.00
79		tert-butylbenzene	20.000	19.777	1.1	90	0.00
80		1,2,4-Trimethylbenzene	20.000	19.890	0.5	90	0.00
81		sec-Butylbenzene	20.000	19.611	1.9	89	0.00
82		p-Isopropyltoluene	20.000	19.884	0.6	90	0.00
83	M	1,3-Dichlorobenzene	20.000	19.658	1.7	90	0.00
84	M	1,4-Dichlorobenzene	20.000	19.878	0.6	90	0.00
85		n-Butylbenzene	20.000	19.790	1.1	89	0.00
86	T	Hexachloroethane	20.000	19.242	3.8	90	0.00
87	M	1,2-Dichlorobenzene	20.000	19.751	1.2	90	0.00
88		1,2-Dibromo-3-Chloropropane	20.000	19.157	4.2	89	0.00
89		1,2,4-Trichlorobenzene	20.000	19.764	1.2	92	0.00
90		Hexachlorobutadiene	20.000	20.031	-0.2	93	0.00
91	M	Naphthalene	20.000	19.272	3.6	90	0.00
92		1,2,3-Trichlorobenzene	20.000	19.375	3.1	89	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Raw Data: **VX046628.D**

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

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ARDM01

Lab Code: CHEM Case No.: Q2264 SAS No.: Q2264 SDG No.: Q2264

Instrument ID: MSVOA_X Calibration Date/Time: 06/11/2025 11:12

Lab File ID: VX046628.D Init. Calib. Date(s): 06/10/2025 06/10/2025

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:19 21:44

GC Column: DB-624UI ID: 0.18 (mm)

COMPOUND	RRF	RRF020	MIN RRF	%D	MAX%D
Chloromethane	2.010	1.881		-6.42	
Vinyl Chloride	1.937	1.909	0.1	-1.45	
Bromomethane	1.157	0.828	0.1	-28.44	
Chloroethane	1.113	1.062		-4.58	
Trichlorofluoromethane	2.775	2.841		2.38	
1,1-Dichloroethene	1.791	1.741	0.1	-2.79	
Acrolein	0.221	0.222		0.45	
Acrylonitrile	0.928	0.862		-7.11	
Methylene Chloride	1.976	1.991		0.76	
trans-1,2-Dichloroethene	1.856	1.850		-0.32	
1,1-Dichloroethane	3.522	3.486	0.2	-1.02	
Carbon Tetrachloride	0.518	0.536	0.1	3.47	
Chloroform	3.625	3.724	0.2	2.73	
1,1,1-Trichloroethane	0.583	0.591	0.1	1.37	
Benzene	1.387	1.393	0.5	0.43	
1,2-Dichloroethane	0.525	0.538	0.1	2.48	
Trichloroethene	0.348	0.342	0.3	-1.72	
1,2-Dichloropropane	0.346	0.347		0.29	
Bromodichloromethane	0.527	0.525	0.2	-0.38	
Toluene	1.626	1.647	0.4	1.29	
t-1,3-Dichloropropene	0.472	0.458	0.1	-2.97	
cis-1,3-Dichloropropene	0.527	0.516	0.2	-2.09	
1,1,2-Trichloroethane	0.326	0.326	0.1	0	
2-Chloroethyl vinyl ether	0.259	0.255		-1.54	
Dibromochloromethane	0.384	0.390	0.1	1.56	
Tetrachloroethene	0.314	0.317	0.2	0.95	
Chlorobenzene	1.049	1.052	0.5	0.29	
Ethyl Benzene	1.856	1.841	0.1	-0.81	
m/p-Xylenes	0.687	0.689	0.3	0.29	
o-Xylene	0.661	0.658	0.3	-0.45	
Bromoform	0.237	0.239	0.1	0.84	
1,1,2,2-Tetrachloroethane	0.521	0.517	0.3	-0.77	
1,3-Dichlorobenzene	0.774	0.797	0.2	2.97	
1,4-Dichlorobenzene	0.779	0.799	0.2	2.57	
1,2-Dichlorobenzene	0.745	0.756	0.2	1.48	
1,2-Dichloroethane-d4	2.428	2.484	0.01	2.31	
Toluene-d8	1.340	1.361	0.01	1.57	
4-Bromofluorobenzene	0.506	0.516	0.2	1.98	

All other compounds must meet a minimum RRF of 0.010.
RRF of 1,4-Dioxane = Value should be divide by 1000.

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046628.D
Acq On : 11 Jun 2025 11:12
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 12 01:36:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

Manual Integrations APPROVED

Reviewed By :John Carlone
06/12/2025
Supervised By :Mahesh Dadoda
06/12/2025

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.910	128	20635	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	110776	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	99656	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.958	65	51255	30.685	ug/l	-0.01
Spiked Amount 30.000	Range 91 - 110		Recovery = 102.300%			
60) 4-Bromofluorobenzene	11.079	95	51455	30.633	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 102.100%			
63) Toluene-d8	8.647	98	135584	30.459	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 101.533%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.185	85	28077	20.929	ug/l	96
3) Chloromethane	1.307	50	25877	18.721	ug/l	95
4) Vinyl Chloride	1.386	62	26255	19.703	ug/l	99
5) Bromomethane	1.630	94	11390	14.313	ug/l	96
6) Chloroethane	1.703	64	14607	19.080	ug/l	96
7) Trichlorofluoromethane	1.904	101	39076	20.473	ug/l	99
8) Diethyl Ether	2.148	74	12999	19.438	ug/l	100
9) 1,1,2-Trichlorotrifluo...	2.343	101	25456	20.046	ug/l	99
10) 1,1-Dichloroethene	2.337	96	23957	19.448	ug/l	94
11) Methyl Iodide	2.465	142	22855	13.609	ug/l	99
12) Methyl Acetate	2.715	43	24983	16.090	ug/l	97
13) Acrolein	2.251	56	15250	100.231	ug/l	96
14) Acrylonitrile	3.075	53	59285	92.911	ug/l	98
15) Acetone	2.386	58	14193	97.272	ug/l	89
16) Carbon Disulfide	2.526	76	70029	20.491	ug/l	99
17) Allyl chloride	2.678	41	44404	19.868	ug/l	98
18) Methylene Chloride	2.800	84	27389	20.147	ug/l	95
19) trans-1,2-Dichloroethene	3.105	96	25444	19.932	ug/l	97
20) Diisopropyl ether	3.770	45	85373	20.190	ug/l	95
21) 1,1-Dichloroethane	3.623	63	47950	19.792	ug/l	97
22) cis-1,2-Dichloroethene	4.495	96	30310	20.366	ug/l	97
23) tert-Butyl Alcohol	2.953	59	10853	84.214	ug/l #	100
24) Methyl tert-Butyl Ether	3.123	73	73237	19.462	ug/l	99
25) Chloroform	5.105	83	51225	20.542	ug/l	97
26) Cyclohexane	5.477	56	44234	20.011	ug/l #	98
29) 1,1-Dichloropropene	5.702	75	34838	19.988	ug/l	100
30) 2-Butanone	4.562	43	73100	94.128	ug/l	99
31) 2,2-Dichloropropane	4.483	77	35277m	22.799	ug/l	
32) 1,1,1-Trichloroethane	5.391	97	43658	20.272	ug/l	99
33) Carbon Tetrachloride	5.690	117	39564	20.700	ug/l	97
34) Benzene	6.043	78	102859	20.087	ug/l	98
35) Methacrylonitrile	4.922	41	18615	19.547	ug/l	98
36) 1,2-Dichloroethane	6.092	62	39747	20.516	ug/l	99
37) Trichloroethene	7.129	130	25222	19.629	ug/l	88
38) Methylcyclohexane	7.385	83	44602	20.161	ug/l	97
39) 1,2-Dichloropropane	7.433	63	25659	20.087	ug/l	96
40) Dibromomethane	7.580	93	18843	19.732	ug/l	100
41) Bromodichloromethane	7.824	83	38780	19.934	ug/l #	96
42) Vinyl Acetate	3.733	43	337623	100.751	ug/l	99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046628.D
Acq On : 11 Jun 2025 11:12
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 12 01:36:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

Manual Integrations APPROVED

Reviewed By :John Carlone
06/12/2025
Supervised By :Mahesh Dadoda
06/12/2025

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Ethyl Acetate	4.721	43	32096m	19.510	ug/l	
44) Isopropyl Acetate	6.348	43	49810	19.357	ug/l	99
45) 1,4-Dioxane	7.659	88	5493	338.424	ug/l	96
46) Methyl methacrylate	7.696	41	26767	19.051	ug/l	96
47) n-amyl Acetate	10.841	43	44560	19.360	ug/l	100
48) t-1,3-Dichloropropene	8.976	75	33811	19.387	ug/l	96
49) cis-1,3-Dichloropropene	8.366	75	38134	19.585	ug/l	95
50) 1,1,2-Trichloroethane	9.153	97	24078	20.006	ug/l	94
51) Ethyl methacrylate	9.116	69	34021	18.591	ug/l	99
52) 1,3-Dichloropropane	9.305	76	41775	19.928	ug/l	98
53) Dibromochloromethane	9.518	129	28819	20.316	ug/l	97
54) 1,2-Dibromoethane	9.610	107	24633	19.458	ug/l	99
55) 2-Chloroethyl vinyl ether	8.244	63	94081	98.440	ug/l	98
56) Bromoform	10.799	173	17656	20.140	ug/l	99
58) 4-Methyl-2-Pentanone	8.574	43	157737	97.307	ug/l	99
59) 2-Hexanone	9.427	43	106198	92.866	ug/l	98
61) Tetrachloroethene	9.275	164	21065	20.169	ug/l	98
62) Toluene	8.720	91	109424	20.261	ug/l	99
64) Chlorobenzene	10.079	112	69901	20.067	ug/l	97
65) 1,1,1,2-Tetrachloroethane	10.159	131	22881	19.599	ug/l	99
66) Ethyl Benzene	10.195	91	122281	19.829	ug/l	99
67) m/p-Xylenes	10.299	106	91561	40.142	ug/l	99
68) o-Xylene	10.640	106	43725	19.910	ug/l	97
69) Styrene	10.652	104	76101	20.216	ug/l	99
70) Isopropylbenzene	10.963	105	119056	20.200	ug/l	99
71) 1,1,2,2-Tetrachloroethane	11.207	83	34367	19.850	ug/l	98
72) 1,2,3-Trichloropropane	11.238	75	28375m	19.632	ug/l	
73) Bromobenzene	11.195	156	27307	19.766	ug/l	98
74) n-propylbenzene	11.299	91	144502	20.504	ug/l	99
75) 2-Chlorotoluene	11.360	91	85256	20.207	ug/l	99
76) 1,3,5-Trimethylbenzene	11.451	105	100155	20.453	ug/l	100
77) t-1,4-Dichloro-2-butene	11.018	75	9214	18.871	ug/l	95
78) 4-Chlorotoluene	11.451	91	99675	20.420	ug/l	99
79) tert-butylbenzene	11.713	119	99639	20.403	ug/l	98
80) 1,2,4-Trimethylbenzene	11.750	105	100361	20.752	ug/l	99
81) sec-Butylbenzene	11.890	105	127530	20.407	ug/l	99
82) p-Isopropyltoluene	12.006	119	107730	21.003	ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	52959	20.594	ug/l	99
84) 1,4-Dichlorobenzene	12.036	146	53095	20.531	ug/l	98
85) n-Butylbenzene	12.329	91	102821	20.808	ug/l	100
86) Hexachloroethane	12.536	117	17610	19.769	ug/l	100
87) 1,2-Dichlorobenzene	12.335	146	50257	20.314	ug/l	99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	7096	19.869	ug/l	96
89) 1,2,4-Trichlorobenzene	13.585	180	32647	20.015	ug/l	98
90) Hexachlorobutadiene	13.719	225	14411	20.065	ug/l	99
91) Naphthalene	13.774	128	101783	19.669	ug/l	99
92) 1,2,3-Trichlorobenzene	13.957	180	32178	20.098	ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046628.D
Acq On : 11 Jun 2025 11:12
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 12 01:36:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

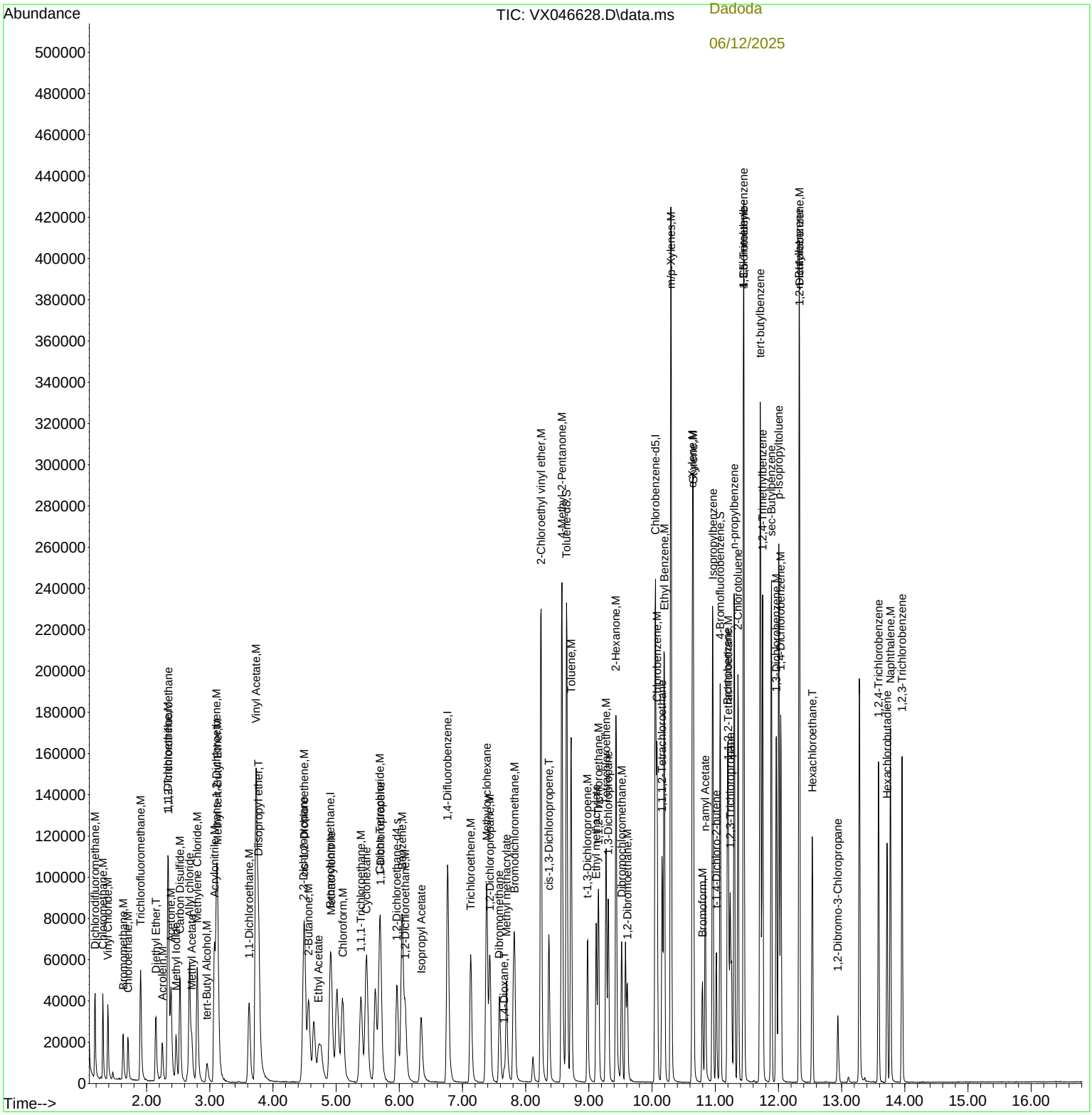
Manual Integrations APPROVED

Reviewed By :John Carlone

06/12/2025

Supervised By :Mahesh Dadoda

06/12/2025



Evaluate Continuing Calibration Report

Sample Results: **VX046628.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046628.D
Acq On : 11 Jun 2025 11:12
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Jun 12 01:36:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	1.000	1.000	0.0	104	0.00
2	M	Dichlorodifluoromethane	1.950	2.041	-4.7	104	0.00
3	M	Chloromethane	2.010	1.881	6.4	92	0.00
4	M	Vinyl Chloride	1.937	1.909	1.4	97	0.00
5	M	Bromomethane	1.157	0.828	28.4#	67	0.00
6	M	Chloroethane	1.113	1.062	4.6	100	0.00
7	M	Trichlorofluoromethane	2.775	2.841	-2.4	99	0.00
8	T	Diethyl Ether	0.972	0.945	2.8	95	0.00
9		1,1,2-Trichlorotrifluoroeth	1.846	1.850	-0.2	99	0.00
10	M	1,1-Dichloroethene	1.791	1.741	2.8	98	0.00
11		Methyl Iodide	2.442	1.661	32.0#	69	0.00
12		Methyl Acetate	2.257	1.816	19.5	61	0.00
13	M	Acrolein	0.221	0.222	-0.5	111	0.00
14	M	Acrylonitrile	0.928	0.862	7.1	92	0.00
15	M	Acetone	0.212	0.206	2.8	97	0.00
16	M	Carbon Disulfide	4.969	5.091	-2.5	102	0.00
17		Allyl chloride	3.249	3.228	0.6	99	0.00
18	M	Methylene Chloride	1.976	1.991	-0.8	100	0.00
19	M	trans-1,2-Dichloroethene	1.856	1.850	0.3	100	0.00
20	T	Diisopropyl ether	6.147	6.206	-1.0	99	0.00
21	M	1,1-Dichloroethane	3.522	3.486	1.0	98	0.00
22	M	cis-1,2-Dichloroethene	2.164	2.203	-1.8	100	-0.01
23	M	tert-Butyl Alcohol	0.187	0.158	15.5	89	0.00
24	M	Methyl tert-Butyl Ether	5.471	5.324	2.7	97	0.00
25	M	Chloroform	3.625	3.724	-2.7	101	0.00
26		Cyclohexane	3.214	3.215	-0.0	99	0.00
27	s	1,2-Dichloroethane-d4	2.428	2.484	-2.3	106	-0.01
28	I	1,4-Difluorobenzene	1.000	1.000	0.0	106	0.00
29		1,1-Dichloropropene	0.472	0.472	0.0	97	0.00
30	M	2-Butanone	0.210	0.198	5.7	93	0.00
31		2,2-Dichloropropane	0.419	0.478	-14.1	115	-0.01
32	M	1,1,1-Trichloroethane	0.583	0.591	-1.4	100	0.00
33	M	Carbon Tetrachloride	0.518	0.536	-3.5	102	0.00
34	M	Benzene	1.387	1.393	-0.4	98	0.00
35		Methacrylonitrile	0.258	0.252	2.3	100	-0.02
36	M	1,2-Dichloroethane	0.525	0.538	-2.5	98	0.00
37	M	Trichloroethene	0.348	0.342	1.7	99	0.00
38		Methylcyclohexane	0.599	0.604	-0.8	102	0.00
39	M	1,2-Dichloropropane	0.346	0.347	-0.3	100	0.00
40		Dibromomethane	0.259	0.255	1.5	97	-0.01
41	M	Bromodichloromethane	0.527	0.525	0.4	97	0.00
42	M	Vinyl Acetate	0.908	0.914	-0.7	112	0.00
43		Ethyl Acetate	0.446	0.435	2.5	98	0.00
44		Isopropyl Acetate	0.697	0.674	3.3	100	0.00
45	T	1,4-Dioxane	0.004	0.004	0.0	82	0.00
46		Methyl methacrylate	0.380	0.362	4.7	94	0.00
47		n-amyl Acetate	0.623	0.603	3.2	113	0.00
48	M	t-1,3-Dichloropropene	0.472	0.458	3.0	102	0.00

Sample Results: **VX046628.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046628.D
Acq On : 11 Jun 2025 11:12
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Jun 12 01:36:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
49	T	cis-1,3-Dichloropropene	0.527	0.516	2.1	100	0.00
50	M	1,1,2-Trichloroethane	0.326	0.326	0.0	98	0.00
51		Ethyl methacrylate	0.496	0.461	7.1	94	0.00
52		1,3-Dichloropropane	0.568	0.566	0.4	96	0.00
53	M	Dibromochloromethane	0.384	0.390	-1.6	102	0.00
54	M	1,2-Dibromoethane	0.343	0.334	2.6	98	0.00
55	M	2-Chloroethyl vinyl ether	0.259	0.255	1.5	94	0.00
56	M	Bromoform	0.237	0.239	-0.8	102	0.00
57	I	Chlorobenzene-d5	1.000	1.000	0.0	103	0.00
58	M	4-Methyl-2-Pentanone	0.488	0.475	2.7	94	0.00
59	M	2-Hexanone	0.344	0.320	7.0	89	0.00
60	S	4-Bromofluorobenzene	0.506	0.516	-2.0	105	0.00
61	M	Tetrachloroethene	0.314	0.317	-1.0	98	0.00
62	M	Toluene	1.626	1.647	-1.3	97	0.00
63	S	Toluene-d8	1.340	1.361	-1.6	103	0.00
64	M	Chlorobenzene	1.049	1.052	-0.3	99	0.00
65		1,1,1,2-Tetrachloroethane	0.351	0.344	2.0	96	0.00
66	M	Ethyl Benzene	1.856	1.841	0.8	97	0.00
67	M	m/p-Xylenes	0.687	0.689	-0.3	97	0.00
68	M	o-Xylene	0.661	0.658	0.5	96	0.00
69	M	Styrene	1.133	1.145	-1.1	96	0.00
70		Isopropylbenzene	1.774	1.792	-1.0	98	0.00
71	M	1,1,2,2-Tetrachloroethane	0.521	0.517	0.8	94	0.00
72		1,2,3-Trichloropropane	0.435	0.427	1.8	94	0.00
73		Bromobenzene	0.416	0.411	1.2	97	0.00
74		n-propylbenzene	2.122	2.175	-2.5	99	0.00
75		2-Chlorotoluene	1.270	1.283	-1.0	97	0.00
76		1,3,5-Trimethylbenzene	1.474	1.508	-2.3	98	0.00
77		t-1,4-Dichloro-2-butene	0.147	0.139	5.4	98	0.00
78		4-Chlorotoluene	1.469	1.500	-2.1	97	0.00
79		tert-butylbenzene	1.470	1.500	-2.0	98	0.00
80		1,2,4-Trimethylbenzene	1.456	1.511	-3.8	99	0.00
81		sec-Butylbenzene	1.881	1.920	-2.1	98	0.00
82		p-Isopropyltoluene	1.544	1.622	-5.1	101	0.00
83	M	1,3-Dichlorobenzene	0.774	0.797	-3.0	100	0.00
84	M	1,4-Dichlorobenzene	0.779	0.799	-2.6	98	0.00
85		n-Butylbenzene	1.488	1.548	-4.0	99	0.00
86	T	Hexachloroethane	0.268	0.265	1.1	98	0.00
87	M	1,2-Dichlorobenzene	0.745	0.756	-1.5	97	0.00
88		1,2-Dibromo-3-Chloropropane	0.108	0.107	0.9	98	0.00
89		1,2,4-Trichlorobenzene	0.491	0.491	0.0	98	0.00
90		Hexachlorobutadiene	0.216	0.217	-0.5	98	0.00
91	M	Naphthalene	1.558	1.532	1.7	98	0.00
92		1,2,3-Trichlorobenzene	0.482	0.484	-0.4	98	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Sample Results: **VX046628.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046628.D
Acq On : 11 Jun 2025 11:12
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Jun 12 01:36:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Bromochloromethane	30.000	30.000	0.0	104	0.00
2	M	Dichlorodifluoromethane	20.000	20.929	-4.6	104	0.00
3	M	Chloromethane	20.000	18.721	6.4	92	0.00
4	M	Vinyl Chloride	20.000	19.703	1.5	97	0.00
5	M	Bromomethane	20.000	14.313	28.4#	67	0.00
6	M	Chloroethane	20.000	19.080	4.6	100	0.00
7	M	Trichlorofluoromethane	20.000	20.473	-2.4	99	0.00
8	T	Diethyl Ether	20.000	19.438	2.8	95	0.00
9		1,1,2-Trichlorotrifluoroeth	20.000	20.046	-0.2	99	0.00
10	M	1,1-Dichloroethene	20.000	19.448	2.8	98	0.00
11		Methyl Iodide	20.000	13.609	32.0#	69	0.00
12		Methyl Acetate	20.000	16.090	19.6	61	0.00
13	M	Acrolein	100.000	100.231	-0.2	111	0.00
14	M	Acrylonitrile	100.000	92.911	7.1	92	0.00
15	M	Acetone	100.000	97.272	2.7	97	0.00
16	M	Carbon Disulfide	20.000	20.491	-2.5	102	0.00
17		Allyl chloride	20.000	19.868	0.7	99	0.00
18	M	Methylene Chloride	20.000	20.147	-0.7	100	0.00
19	M	trans-1,2-Dichloroethene	20.000	19.932	0.3	100	0.00
20	T	Diisopropyl ether	20.000	20.190	-1.0	99	0.00
21	M	1,1-Dichloroethane	20.000	19.792	1.0	98	0.00
22	M	cis-1,2-Dichloroethene	20.000	20.366	-1.8	100	-0.01
23	M	tert-Butyl Alcohol	100.000	84.214	15.8	89	0.00
24	M	Methyl tert-Butyl Ether	20.000	19.462	2.7	97	0.00
25	M	Chloroform	20.000	20.542	-2.7	101	0.00
26		Cyclohexane	20.000	20.011	-0.1	99	0.00
27	s	1,2-Dichloroethane-d4	30.000	30.685	-2.3	106	-0.01
28	I	1,4-Difluorobenzene	30.000	30.000	0.0	106	0.00
29		1,1-Dichloropropene	20.000	19.988	0.1	97	0.00
30	M	2-Butanone	100.000	94.128	5.9	93	0.00
31		2,2-Dichloropropane	20.000	22.799	-14.0	115	-0.01
32	M	1,1,1-Trichloroethane	20.000	20.272	-1.4	100	0.00
33	M	Carbon Tetrachloride	20.000	20.700	-3.5	102	0.00
34	M	Benzene	20.000	20.087	-0.4	98	0.00
35		Methacrylonitrile	20.000	19.547	2.3	100	-0.02
36	M	1,2-Dichloroethane	20.000	20.516	-2.6	98	0.00
37	M	Trichloroethene	20.000	19.629	1.9	99	0.00
38		Methylcyclohexane	20.000	20.161	-0.8	102	0.00
39	M	1,2-Dichloropropane	20.000	20.087	-0.4	100	0.00
40		Dibromomethane	20.000	19.732	1.3	97	-0.01
41	M	Bromodichloromethane	20.000	19.934	0.3	97	0.00
42	M	Vinyl Acetate	100.000	100.751	-0.8	112	0.00
43		Ethyl Acetate	20.000	19.510	2.4	98	0.00
44		Isopropyl Acetate	20.000	19.357	3.2	100	0.00
45	T	1,4-Dioxane	400.000	338.424	15.4	82	0.00
46		Methyl methacrylate	20.000	19.051	4.7	94	0.00
47		n-amyl Acetate	20.000	19.360	3.2	113	0.00
48	M	t-1,3-Dichloropropene	20.000	19.387	3.1	102	0.00

Sample Results: **VX046628.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046628.D
Acq On : 11 Jun 2025 11:12
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Jun 12 01:36:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
49	T	cis-1,3-Dichloropropene	20.000	19.585	2.1	100	0.00
50	M	1,1,2-Trichloroethane	20.000	20.006	-0.0	98	0.00
51		Ethyl methacrylate	20.000	18.591	7.0	94	0.00
52		1,3-Dichloropropane	20.000	19.928	0.4	96	0.00
53	M	Dibromochloromethane	20.000	20.316	-1.6	102	0.00
54	M	1,2-Dibromoethane	20.000	19.458	2.7	98	0.00
55	M	2-Chloroethyl vinyl ether	100.000	98.440	1.6	94	0.00
56	M	Bromoform	20.000	20.140	-0.7	102	0.00
57	I	Chlorobenzene-d5	30.000	30.000	0.0	103	0.00
58	M	4-Methyl-2-Pentanone	100.000	97.307	2.7	94	0.00
59	M	2-Hexanone	100.000	92.866	7.1	89	0.00
60	S	4-Bromofluorobenzene	30.000	30.633	-2.1	105	0.00
61	M	Tetrachloroethene	20.000	20.169	-0.8	98	0.00
62	M	Toluene	20.000	20.261	-1.3	97	0.00
63	S	Toluene-d8	30.000	30.459	-1.5	103	0.00
64	M	Chlorobenzene	20.000	20.067	-0.3	99	0.00
65		1,1,1,2-Tetrachloroethane	20.000	19.599	2.0	96	0.00
66	M	Ethyl Benzene	20.000	19.829	0.9	97	0.00
67	M	m/p-Xylenes	40.000	40.142	-0.4	97	0.00
68	M	o-Xylene	20.000	19.910	0.4	96	0.00
69	M	Styrene	20.000	20.216	-1.1	96	0.00
70		Isopropylbenzene	20.000	20.200	-1.0	98	0.00
71	M	1,1,2,2-Tetrachloroethane	20.000	19.850	0.7	94	0.00
72		1,2,3-Trichloropropane	20.000	19.632	1.8	94	0.00
73		Bromobenzene	20.000	19.766	1.2	97	0.00
74		n-propylbenzene	20.000	20.504	-2.5	99	0.00
75		2-Chlorotoluene	20.000	20.207	-1.0	97	0.00
76		1,3,5-Trimethylbenzene	20.000	20.453	-2.3	98	0.00
77		t-1,4-Dichloro-2-butene	20.000	18.871	5.6	98	0.00
78		4-Chlorotoluene	20.000	20.420	-2.1	97	0.00
79		tert-butylbenzene	20.000	20.403	-2.0	98	0.00
80		1,2,4-Trimethylbenzene	20.000	20.752	-3.8	99	0.00
81		sec-Butylbenzene	20.000	20.407	-2.0	98	0.00
82		p-Isopropyltoluene	20.000	21.003	-5.0	101	0.00
83	M	1,3-Dichlorobenzene	20.000	20.594	-3.0	100	0.00
84	M	1,4-Dichlorobenzene	20.000	20.531	-2.7	98	0.00
85		n-Butylbenzene	20.000	20.808	-4.0	99	0.00
86	T	Hexachloroethane	20.000	19.769	1.2	98	0.00
87	M	1,2-Dichlorobenzene	20.000	20.314	-1.6	97	0.00
88		1,2-Dibromo-3-Chloropropane	20.000	19.869	0.7	98	0.00
89		1,2,4-Trichlorobenzene	20.000	20.015	-0.1	98	0.00
90		Hexachlorobutadiene	20.000	20.065	-0.3	98	0.00
91	M	Naphthalene	20.000	19.669	1.7	98	0.00
92		1,2,3-Trichlorobenzene	20.000	20.098	-0.5	98	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

QC SAMPLE DATA

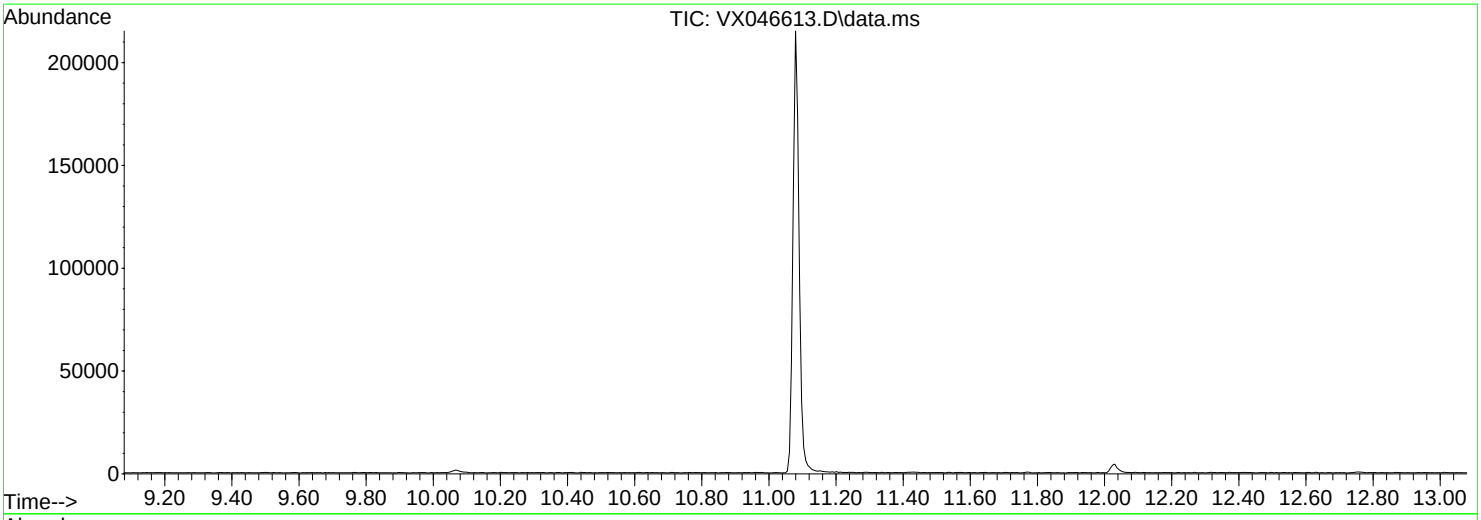
Sample Results: **VX046613.D**

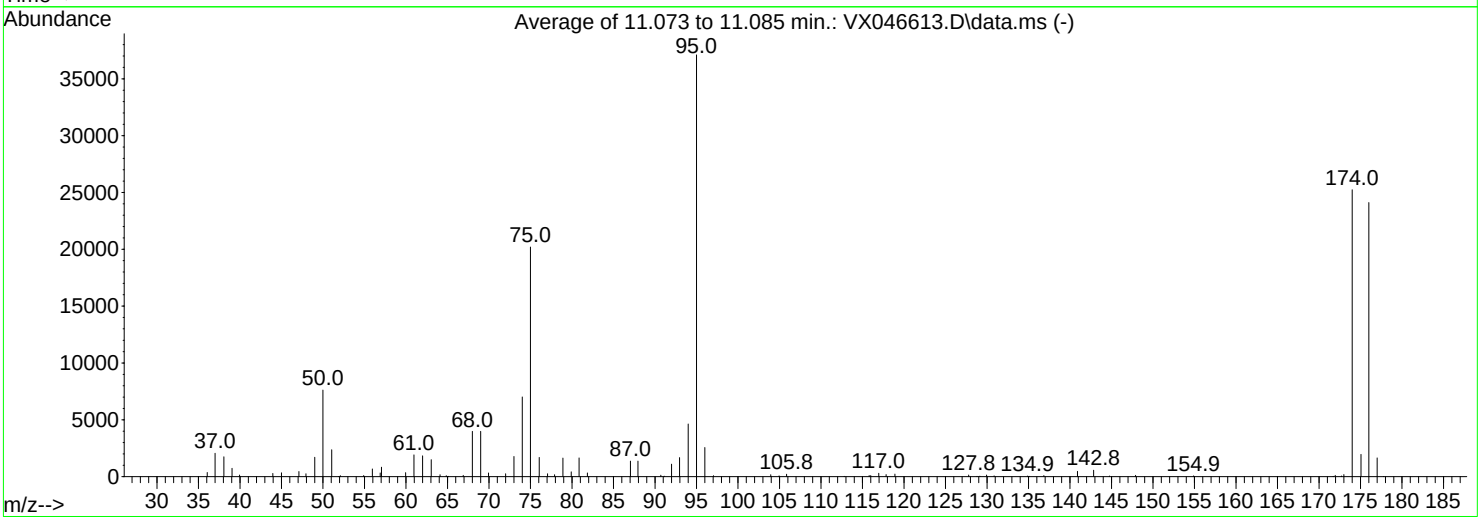
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061025\
Data File : VX046613.D
Acq On : 10 Jun 2025 19:57
Operator : JC/MD
Sample : BFB
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 32 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
BFB

Integration File: RTEINT.P

Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\82X060625W.M
Title : SW846 8260
Last Update : Fri Jun 06 16:56:12 2025





AutoFind: Scans 1638, 1639, 1640; Background Corrected with Scan 1632

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.5	7615	PASS
75	95	30	60	54.4	20195	PASS
95	95	100	100	100.0	37107	PASS
96	95	5	9	6.9	2556	PASS
173	174	0.00	2	0.7	178	PASS
174	95	50	100	68.0	25240	PASS
175	174	5	9	7.8	1961	PASS
176	174	95	101	95.5	24109	PASS
177	176	5	9	6.8	1649	PASS

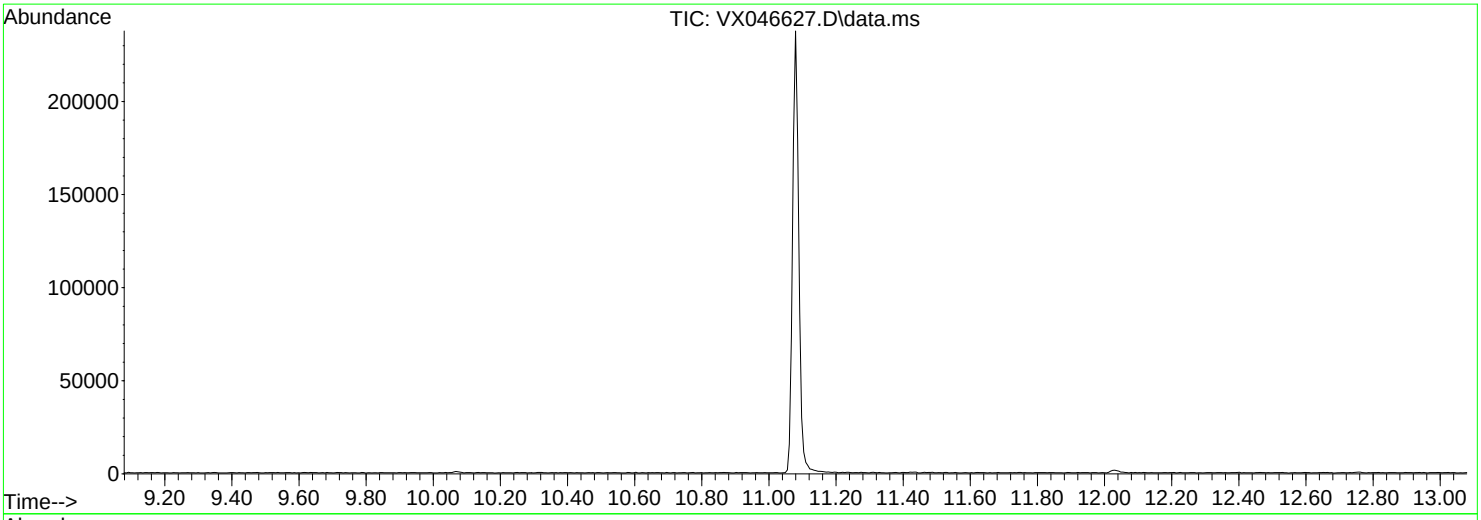
Sample Results: **VX046627.D**

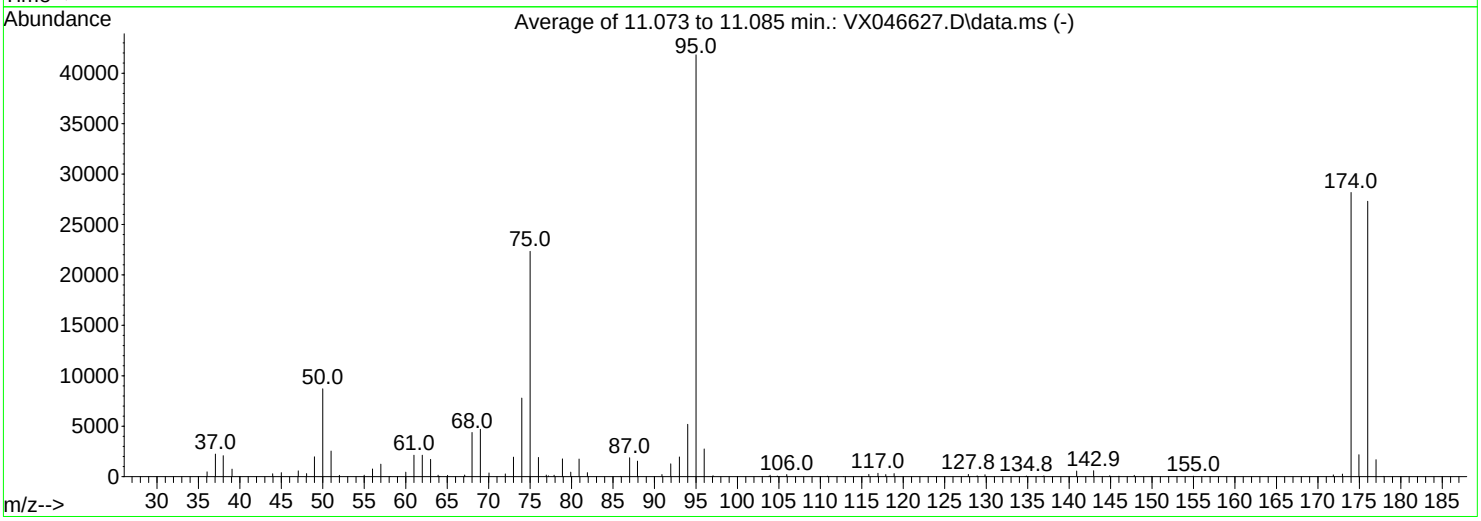
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046627.D
Acq On : 11 Jun 2025 10:45
Operator : JC/MD
Sample : BFB
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
BFB

Integration File: RTEINT3.P

Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
Last Update : Wed Jun 11 06:20:28 2025





AutoFind: Scans 1638, 1639, 1640; Background Corrected with Scan 1633

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.8	8713	PASS
75	95	30	60	53.4	22344	PASS
95	95	100	100	100.0	41819	PASS
96	95	5	9	6.6	2746	PASS
173	174	0.00	2	0.9	259	PASS
174	95	50	100	67.4	28179	PASS
175	174	5	9	7.7	2168	PASS
176	174	95	101	96.9	27299	PASS
177	176	5	9	6.2	1688	PASS

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

Report of Analysis

Client:	Ardmore Chemical		Date Collected:		
Project:	PVSC Monthly 2025		Date Received:		
Client Sample ID:	VX0611WBL01		SDG No.:	Q2264	
Lab Sample ID:	VX0611WBL01		Matrix:	Water	
Analytical Method:	E624.1		% Solid:	0	
Sample Wt/Vol:	5 Units:	mL	Final Vol:	5000	uL
Soil Aliquot Vol:		uL	Test:	VOC-PP	
GC Column:	DB-624UI ID :	0.18	Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX046631.D	1		06/11/25 12:31	VX061125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
74-87-3	Chloromethane	0.64	U	0.64	5.00	ug/L
75-01-4	Vinyl Chloride	0.83	U	0.83	5.00	ug/L
74-83-9	Bromomethane	0.80	U	0.80	5.00	ug/L
75-00-3	Chloroethane	2.30	U	2.30	5.00	ug/L
75-69-4	Trichlorofluoromethane	0.80	U	0.80	5.00	ug/L
75-35-4	1,1-Dichloroethene	0.76	U	0.76	5.00	ug/L
107-02-8	Acrolein	6.60	U	6.60	25.0	ug/L
107-13-1	Acrylonitrile	2.80	U	2.80	25.0	ug/L
75-09-2	Methylene Chloride	0.86	U	0.86	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	0.82	U	0.82	5.00	ug/L
75-34-3	1,1-Dichloroethane	0.68	U	0.68	5.00	ug/L
56-23-5	Carbon Tetrachloride	0.74	U	0.74	5.00	ug/L
67-66-3	Chloroform	0.55	U	0.55	5.00	ug/L
71-55-6	1,1,1-Trichloroethane	0.63	U	0.63	5.00	ug/L
71-43-2	Benzene	0.45	U	0.45	5.00	ug/L
107-06-2	1,2-Dichloroethane	0.50	U	0.50	5.00	ug/L
79-01-6	Trichloroethene	0.49	U	0.49	5.00	ug/L
78-87-5	1,2-Dichloropropane	0.46	U	0.46	5.00	ug/L
75-27-4	Bromodichloromethane	0.64	U	0.64	5.00	ug/L
108-88-3	Toluene	0.46	U	0.46	5.00	ug/L
10061-02-6	t-1,3-Dichloropropene	0.72	U	0.72	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.67	U	0.67	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	0.45	U	0.45	5.00	ug/L
110-75-8	2-Chloroethyl vinyl ether	4.60	U	4.60	25.0	ug/L
124-48-1	Dibromochloromethane	0.66	U	0.66	5.00	ug/L
127-18-4	Tetrachloroethene	0.84	U	0.84	5.00	ug/L
108-90-7	Chlorobenzene	0.47	U	0.47	5.00	ug/L
100-41-4	Ethyl Benzene	0.56	U	0.56	5.00	ug/L
179601-23-1	m/p-Xylenes	1.30	U	1.30	10.0	ug/L
95-47-6	o-Xylene	0.67	U	0.67	5.00	ug/L

Raw Data: **VX046631.D**

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

Report of Analysis

Client:	Ardmore Chemical		Date Collected:		
Project:	PVSC Monthly 2025		Date Received:		
Client Sample ID:	VX0611WBL01		SDG No.:	Q2264	
Lab Sample ID:	VX0611WBL01		Matrix:	Water	
Analytical Method:	E624.1		% Solid:	0	
Sample Wt/Vol:	5 Units: mL		Final Vol:	5000	uL
Soil Aliquot Vol:	uL		Test:	VOC-PP	
GC Column:	DB-624UI ID : 0.18		Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX046631.D	1		06/11/25 12:31	VX061125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
75-25-2	Bromoform	0.94	U	0.94	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.44	U	0.44	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	0.67	U	0.67	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	0.81	U	0.81	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	0.67	U	0.67	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	30.5		91 - 110	102%	SPK: 30
2037-26-5	Toluene-d8	29.8		91 - 112	99%	SPK: 30
460-00-4	4-Bromofluorobenzene	30.3		63 - 112	101%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	19200	4.916			
540-36-3	1,4-Difluorobenzene	104000	6.769			
3114-55-4	Chlorobenzene-d5	93800	10.055			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Sample Results: **VX046631.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046631.D
Acq On : 11 Jun 2025 12:31
Operator : JC/MD
Sample : VX0611WBL01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBL01

Quant Time: Jun 12 01:39:15 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

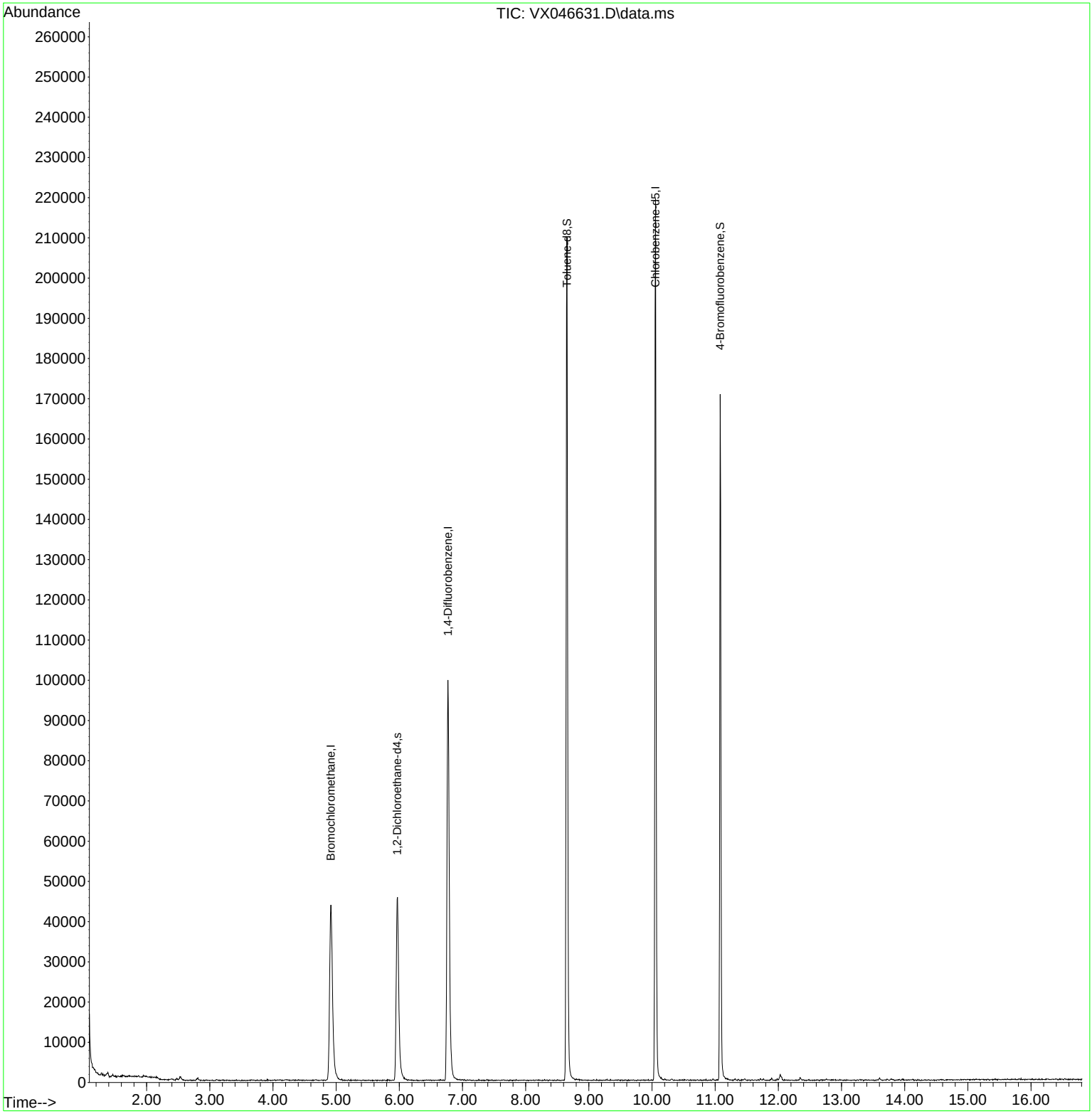
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.916	128	19239	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.769	114	103534	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	93773	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.964	65	47448	30.467	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 101.567%			
60) 4-Bromofluorobenzene	11.079	95	47923	30.320	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 101.067%			
63) Toluene-d8	8.653	98	124779	29.790	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 99.300%			
Target Compounds						Qvalue

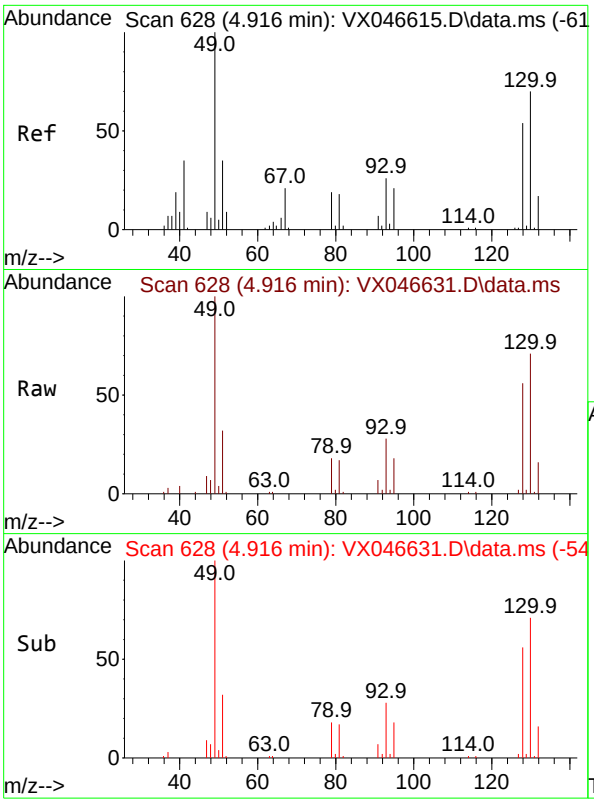
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046631.D
Acq On : 11 Jun 2025 12:31
Operator : JC/MD
Sample : VX0611WBL01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBL01

Quant Time: Jun 12 01:39:15 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration



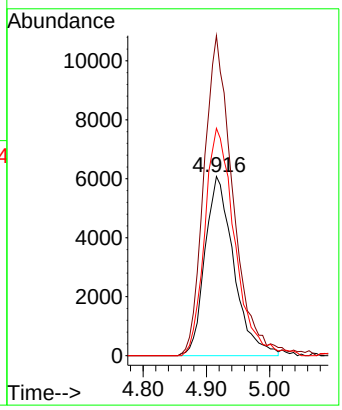


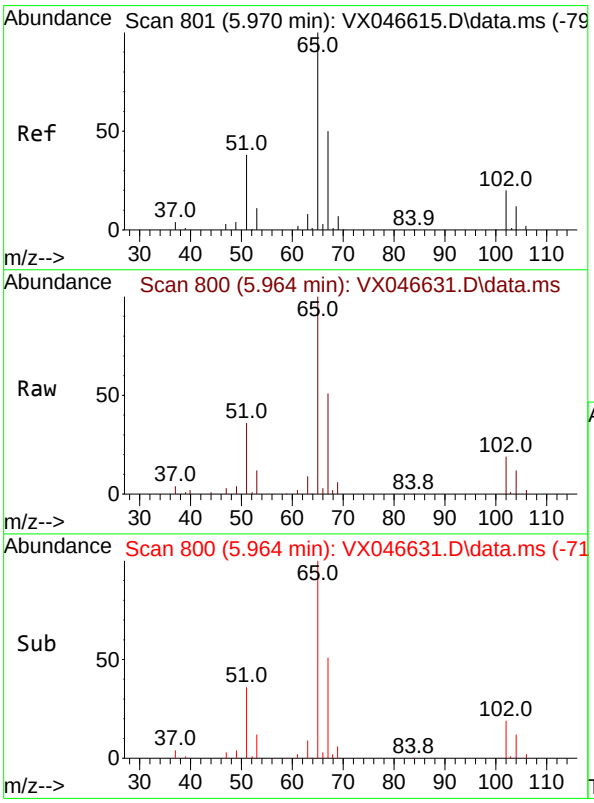
#1
Bromochloromethane
Concen: 30.000 ug/l
RT: 4.916 min Scan# 6
Delta R.T. -0.000 min
Lab File: VX046631.D
Acq: 11 Jun 2025 12:31

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBL01

Tgt Ion:128 Resp: 19239

Ion	Ratio	Lower	Upper
128	100		
49	176.4	0.0	448.3
130	129.9	0.0	312.0

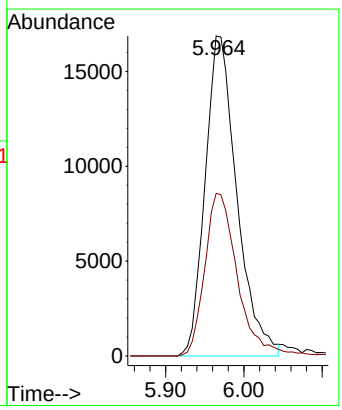


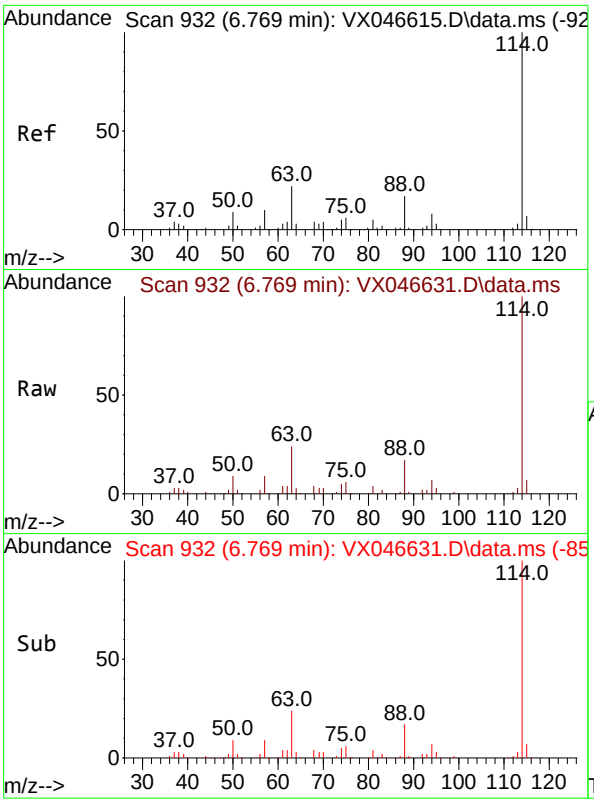


#27
1,2-Dichloroethane-d4
Concen: 30.467 ug/l
RT: 5.964 min Scan# 800
Delta R.T. -0.006 min
Lab File: VX046631.D
Acq: 11 Jun 2025 12:31

Tgt Ion: 65 Resp: 47448

Ion	Ratio	Lower	Upper
65	100		
67	52.3	41.4	62.2



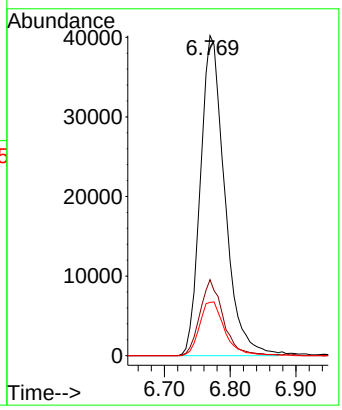


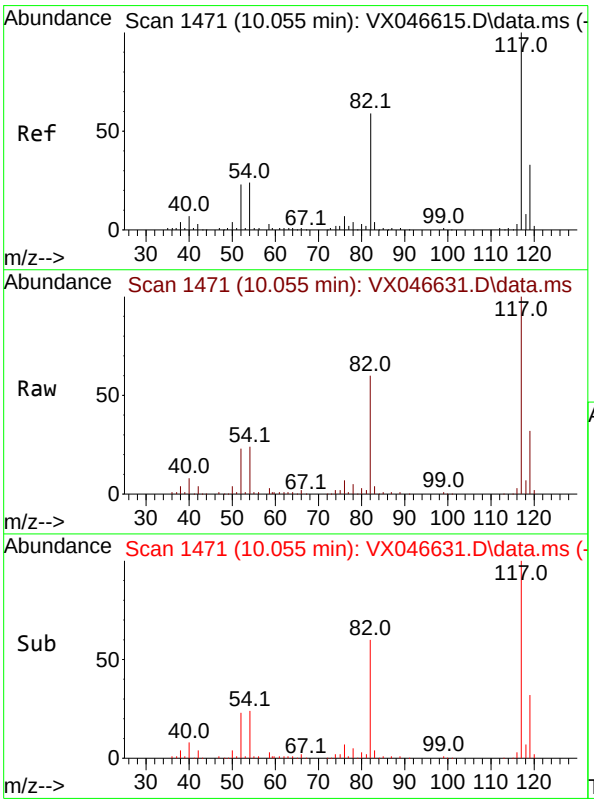
#28
1,4-Difluorobenzene
Concen: 30.000 ug/l
RT: 6.769 min Scan# 9
Delta R.T. 0.000 min
Lab File: VX046631.D
Acq: 11 Jun 2025 12:31

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBL01

Tgt Ion:114 Resp: 103534

Ion	Ratio	Lower	Upper
114	100		
63	22.7	18.1	27.1
88	17.2	14.1	21.1

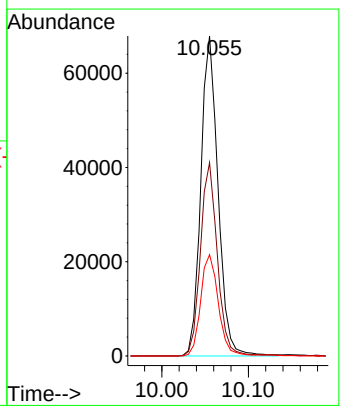


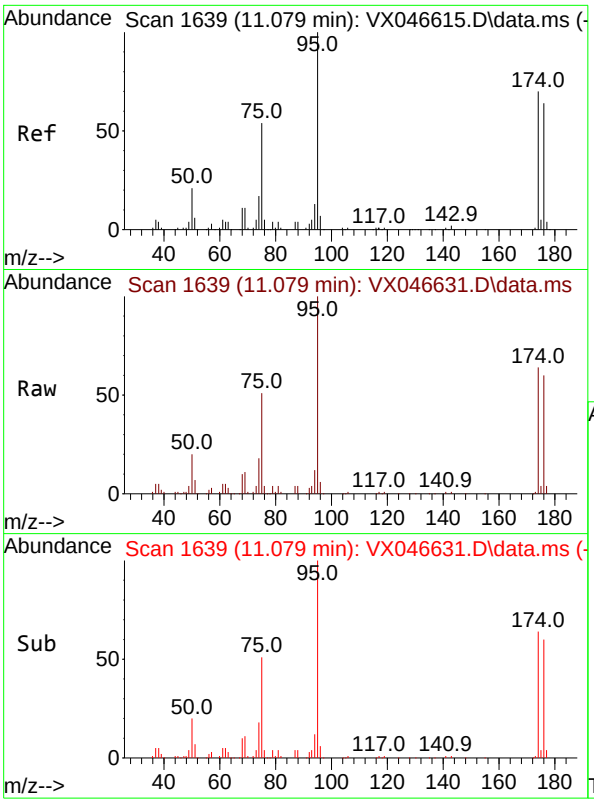


#57
Chlorobenzene-d5
Concen: 30.000 ug/l
RT: 10.055 min Scan# 1471
Delta R.T. 0.000 min
Lab File: VX046631.D
Acq: 11 Jun 2025 12:31

Tgt Ion:117 Resp: 93773

Ion	Ratio	Lower	Upper
117	100		
82	59.4	46.5	69.7
119	32.5	25.8	38.6



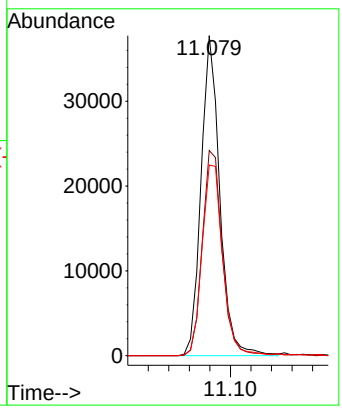


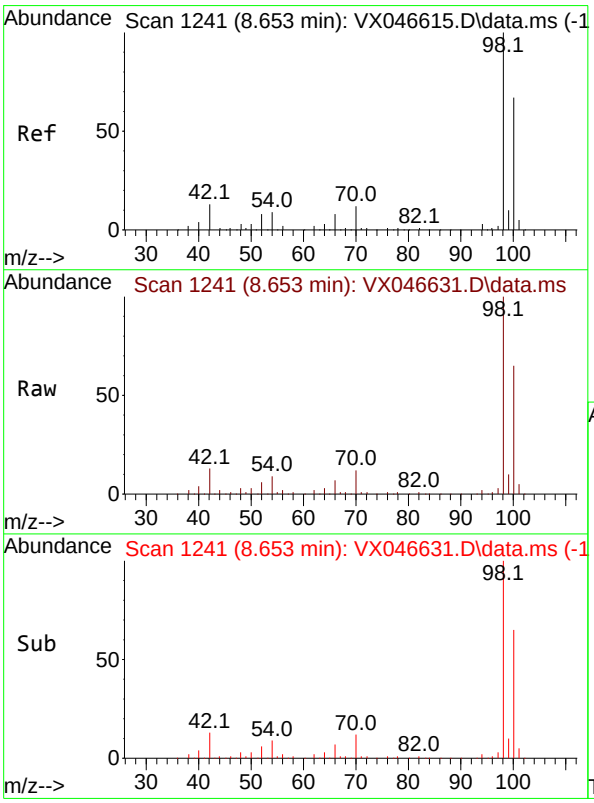
#60
4-Bromofluorobenzene
Concen: 30.320 ug/l
RT: 11.079 min Scan# 1
Delta R.T. 0.000 min
Lab File: VX046631.D
Acq: 11 Jun 2025 12:31

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBL01

Tgt Ion: 95 Resp: 47923

Ion	Ratio	Lower	Upper
95	100		
174	68.0	56.0	84.0
176	65.6	52.2	78.4

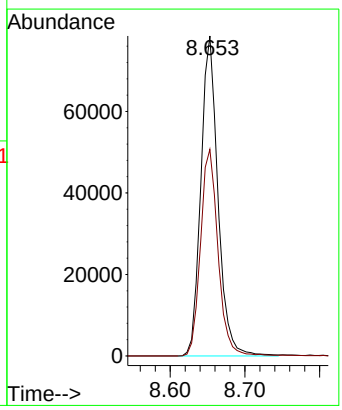




#63
Toluene-d8
Concen: 29.790 ug/l
RT: 8.653 min Scan# 1241
Delta R.T. 0.000 min
Lab File: VX046631.D
Acq: 11 Jun 2025 12:31

Tgt Ion: 98 Resp: 124779

Ion	Ratio	Lower	Upper
98	100		
100	65.9	52.6	79.0



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

Report of Analysis

Client:	Ardmore Chemical	Date Collected:	
Project:	PVSC Monthly 2025	Date Received:	
Client Sample ID:	VX0611WBS01	SDG No.:	Q2264
Lab Sample ID:	VX0611WBS01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-PP
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX046629.D	1		06/11/25 11:43	VX061125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
74-87-3	Chloromethane	17.1		0.64	5.00	ug/L
75-01-4	Vinyl Chloride	17.8		0.83	5.00	ug/L
74-83-9	Bromomethane	13.4		0.80	5.00	ug/L
75-00-3	Chloroethane	19.2		2.30	5.00	ug/L
75-69-4	Trichlorofluoromethane	17.6		0.80	5.00	ug/L
75-35-4	1,1-Dichloroethene	18.0		0.76	5.00	ug/L
107-02-8	Acrolein	92.5		6.60	25.0	ug/L
107-13-1	Acrylonitrile	88.1		2.80	25.0	ug/L
75-09-2	Methylene Chloride	18.9		0.86	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	18.6		0.82	5.00	ug/L
75-34-3	1,1-Dichloroethane	18.4		0.68	5.00	ug/L
56-23-5	Carbon Tetrachloride	19.3		0.74	5.00	ug/L
67-66-3	Chloroform	19.2		0.55	5.00	ug/L
71-55-6	1,1,1-Trichloroethane	19.1		0.63	5.00	ug/L
71-43-2	Benzene	19.1		0.45	5.00	ug/L
107-06-2	1,2-Dichloroethane	19.3		0.50	5.00	ug/L
79-01-6	Trichloroethene	18.5		0.49	5.00	ug/L
78-87-5	1,2-Dichloropropane	18.3		0.46	5.00	ug/L
75-27-4	Bromodichloromethane	18.7		0.64	5.00	ug/L
108-88-3	Toluene	18.7		0.46	5.00	ug/L
10061-02-6	t-1,3-Dichloropropene	18.4		0.72	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	18.9		0.67	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	19.3		0.45	5.00	ug/L
110-75-8	2-Chloroethyl vinyl ether	89.2		4.60	25.0	ug/L
124-48-1	Dibromochloromethane	18.6		0.66	5.00	ug/L
127-18-4	Tetrachloroethene	18.5		0.84	5.00	ug/L
108-90-7	Chlorobenzene	18.8		0.47	5.00	ug/L
100-41-4	Ethyl Benzene	18.6		0.56	5.00	ug/L
179601-23-1	m/p-Xylenes	38.1		1.30	10.0	ug/L
95-47-6	o-Xylene	18.3		0.67	5.00	ug/L

Raw Data: **VX046629.D**

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

Report of Analysis

Client:	Ardmore Chemical	Date Collected:	
Project:	PVSC Monthly 2025	Date Received:	
Client Sample ID:	VX0611WBS01	SDG No.:	Q2264
Lab Sample ID:	VX0611WBS01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-PP
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX046629.D	1		06/11/25 11:43	VX061125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
75-25-2	Bromoform	18.8		0.94	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	18.3		0.44	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	19.1		0.67	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	19.4		0.81	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	19.2		0.67	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	29.9		91 - 110	100%	SPK: 30
2037-26-5	Toluene-d8	29.9		91 - 112	100%	SPK: 30
460-00-4	4-Bromofluorobenzene	30.1		63 - 112	100%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	20400	4.91			
540-36-3	1,4-Difluorobenzene	109000	6.763			
3114-55-4	Chlorobenzene-d5	100000	10.055			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046629.D
Acq On : 11 Jun 2025 11:43
Operator : JC/MD
Sample : VX0611WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 12 01:37:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.910	128	20422	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	109005	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	100408	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.964	65	49478	29.930	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 99.767%			
60) 4-Bromofluorobenzene	11.079	95	51013	30.142	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 100.467%			
63) Toluene-d8	8.647	98	134246	29.932	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 99.767%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.185	85	24661	18.574	ug/l	99
3) Chloromethane	1.307	50	23364	17.080	ug/l	100
4) Vinyl Chloride	1.386	62	23516	17.832	ug/l	99
5) Bromomethane	1.630	94	10543	13.387	ug/l	95
6) Chloroethane	1.703	64	14578m	19.241	ug/l	
7) Trichlorofluoromethane	1.904	101	33338	17.649	ug/l	99
8) Diethyl Ether	2.142	74	10329	15.607	ug/l	96
9) 1,1,2-Trichlorotrifluo...	2.343	101	23234	18.487	ug/l	97
10) 1,1-Dichloroethene	2.337	96	21888	17.954	ug/l	95
11) Methyl Iodide	2.465	142	24759	14.897	ug/l	99
12) Methyl Acetate	2.715	43	22550	14.675	ug/l	99
13) Acrolein	2.252	56	13929	92.503	ug/l	96
14) Acrylonitrile	3.075	53	55658	88.137	ug/l	99
15) Acetone	2.386	58	13724	95.039	ug/l	82
16) Carbon Disulfide	2.526	76	62221	18.396	ug/l	98
17) Allyl chloride	2.678	41	40086	18.123	ug/l	96
18) Methylene Chloride	2.800	84	25450	18.916	ug/l	98
19) trans-1,2-Dichloroethene	3.105	96	23559	18.648	ug/l	94
20) Diisopropyl ether	3.763	45	79820	19.074	ug/l #	74
21) 1,1-Dichloroethane	3.623	63	44145	18.412	ug/l	99
22) cis-1,2-Dichloroethene	4.495	96	27439	18.629	ug/l	94
23) tert-Butyl Alcohol	2.959	59	10975	86.048	ug/l #	100
24) Methyl tert-Butyl Ether	3.123	73	68403	18.367	ug/l	99
25) Chloroform	5.099	83	47440	19.223	ug/l	99
26) Cyclohexane	5.470	56	40664	18.588	ug/l #	100
29) 1,1-Dichloropropene	5.702	75	31870	18.582	ug/l	99
30) 2-Butanone	4.562	43	67190	87.923	ug/l	99
31) 2,2-Dichloropropane	4.483	77	33695	22.131	ug/l #	72
32) 1,1,1-Trichloroethane	5.385	97	40373m	19.051	ug/l	
33) Carbon Tetrachloride	5.684	117	36243	19.271	ug/l	97
34) Benzene	6.044	78	96349	19.121	ug/l	98
35) Methacrylonitrile	4.922	41	16437	17.540	ug/l	98
36) 1,2-Dichloroethane	6.092	62	36848	19.328	ug/l	99
37) Trichloroethene	7.129	130	23450	18.546	ug/l	84
38) Methylcyclohexane	7.379	83	41647	19.131	ug/l	98
39) 1,2-Dichloropropane	7.427	63	22980	18.282	ug/l	99
40) Dibromomethane	7.586	93	17488	18.611	ug/l	99
41) Bromodichloromethane	7.824	83	35745	18.672	ug/l #	99
42) Vinyl Acetate	3.733	43	312533	94.779	ug/l	98

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046629.D
Acq On : 11 Jun 2025 11:43
Operator : JC/MD
Sample : VX0611WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 12 01:37:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.727	43	28784m	17.781 ug/l	
44) Isopropyl Acetate	6.348	43	46270	18.274 ug/l	99
45) 1,4-Dioxane	7.659	88	5325	333.404 ug/l	95
46) Methyl methacrylate	7.696	41	24598	17.792 ug/l	95
47) n-amyl Acetate	10.841	43	42395	18.719 ug/l	99
48) t-1,3-Dichloropropene	8.982	75	31556	18.388 ug/l	99
49) cis-1,3-Dichloropropene	8.366	75	36260	18.925 ug/l	95
50) 1,1,2-Trichloroethane	9.153	97	22867	19.309 ug/l	91
51) Ethyl methacrylate	9.116	69	31684	17.595 ug/l	98
52) 1,3-Dichloropropane	9.305	76	39199	19.003 ug/l	98
53) Dibromochloromethane	9.519	129	25983	18.614 ug/l	98
54) 1,2-Dibromoethane	9.610	107	22948	18.422 ug/l	98
55) 2-Chloroethyl vinyl ether	8.238	63	83845	89.155 ug/l	99
56) Bromoform	10.799	173	16248	18.835 ug/l	99
58) 4-Methyl-2-Pentanone	8.574	43	145927	89.348 ug/l	99
59) 2-Hexanone	9.427	43	99810	86.626 ug/l	98
61) Tetrachloroethene	9.275	164	19469	18.502 ug/l	99
62) Toluene	8.720	91	101985	18.742 ug/l	100
64) Chlorobenzene	10.079	112	65831	18.757 ug/l	99
65) 1,1,1,2-Tetrachloroethane	10.159	131	21528	18.302 ug/l	99
66) Ethyl Benzene	10.195	91	115559	18.599 ug/l	99
67) m/p-Xylenes	10.299	106	87609	38.121 ug/l	98
68) o-Xylene	10.640	106	40534	18.318 ug/l	99
69) Styrene	10.652	104	70877	18.687 ug/l	98
70) Isopropylbenzene	10.957	105	110495	18.607 ug/l	100
71) 1,1,2,2-Tetrachloroethane	11.207	83	31918	18.298 ug/l	97
72) 1,2,3-Trichloropropane	11.238	75	26680m	18.321 ug/l	
73) Bromobenzene	11.195	156	26281	18.881 ug/l	97
74) n-propylbenzene	11.299	91	135508	19.084 ug/l	100
75) 2-Chlorotoluene	11.360	91	81684	19.216 ug/l	100
76) 1,3,5-Trimethylbenzene	11.451	105	92812	18.811 ug/l	99
77) t-1,4-Dichloro-2-butene	11.018	75	9125	18.549 ug/l	96
78) 4-Chlorotoluene	11.451	91	95401	19.398 ug/l	99
79) tert-butylbenzene	11.713	119	93057	18.912 ug/l	98
80) 1,2,4-Trimethylbenzene	11.750	105	91989	18.878 ug/l	100
81) sec-Butylbenzene	11.890	105	119706	19.011 ug/l	100
82) p-Isopropyltoluene	12.006	119	99691	19.290 ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	49426	19.076 ug/l	100
84) 1,4-Dichlorobenzene	12.042	146	50441	19.358 ug/l	99
85) n-Butylbenzene	12.329	91	96674	19.418 ug/l	99
86) Hexachloroethane	12.536	117	16502	18.386 ug/l	98
87) 1,2-Dichlorobenzene	12.335	146	47932	19.229 ug/l	99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	6475	17.994 ug/l	100
89) 1,2,4-Trichlorobenzene	13.585	180	30932	18.822 ug/l	100
90) Hexachlorobutadiene	13.725	225	13500	18.656 ug/l	98
91) Naphthalene	13.774	128	93504	17.934 ug/l	99
92) 1,2,3-Trichlorobenzene	13.957	180	30955	19.190 ug/l	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

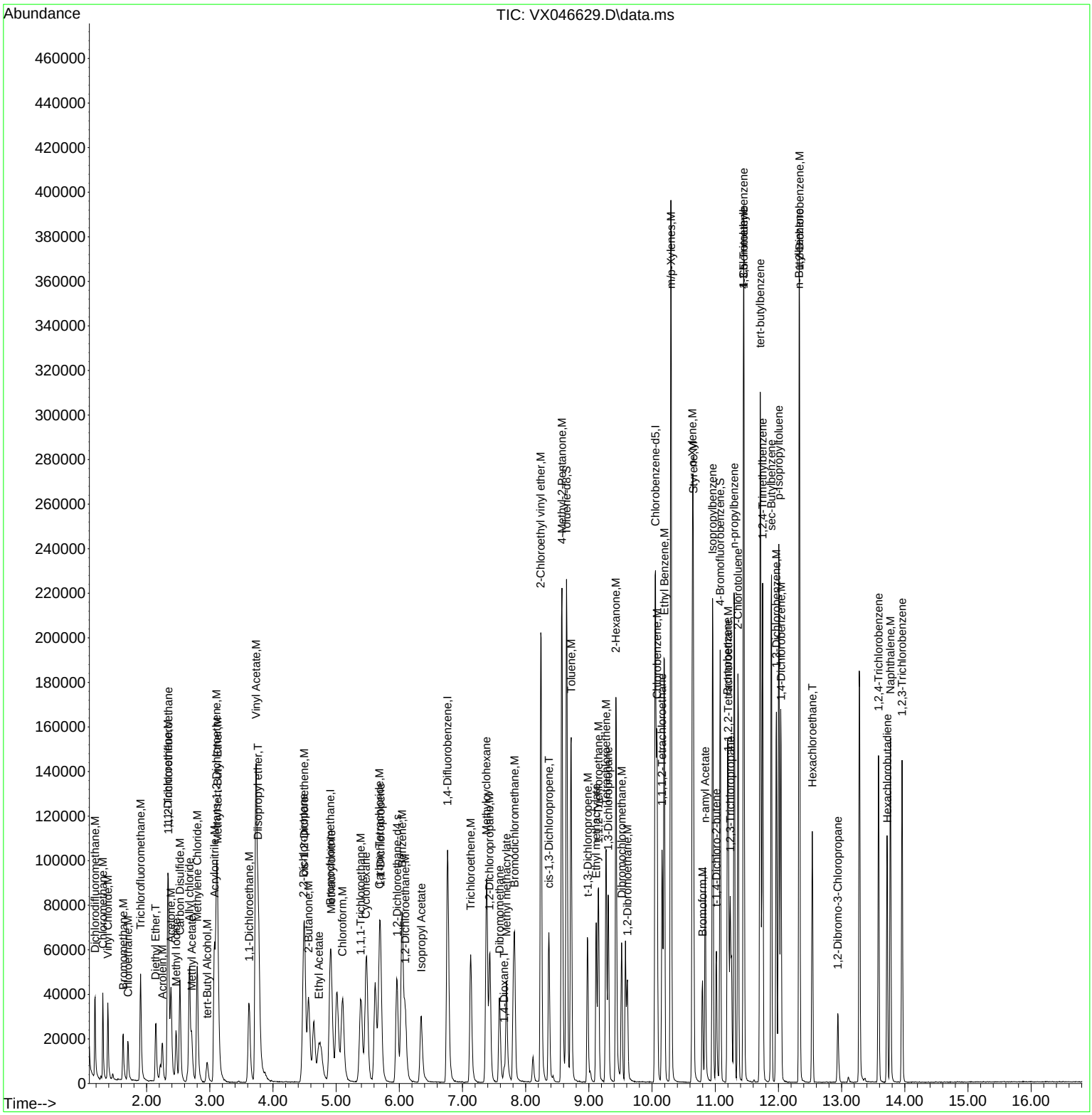
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046629.D
Acq On : 11 Jun 2025 11:43
Operator : JC/MD
Sample : VX0611WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 12 01:37:21 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025



Raw Data: **VX046630.D**

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

Report of Analysis

Client:	Ardmore Chemical	Date Collected:	
Project:	PVSC Monthly 2025	Date Received:	
Client Sample ID:	VX0611WBSD01	SDG No.:	Q2264
Lab Sample ID:	VX0611WBSD01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-PP
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX046630.D	1		06/11/25 12:09	VX061125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
74-87-3	Chloromethane	16.4		0.64	5.00	ug/L
75-01-4	Vinyl Chloride	17.1		0.83	5.00	ug/L
74-83-9	Bromomethane	14.7		0.80	5.00	ug/L
75-00-3	Chloroethane	20.6		2.30	5.00	ug/L
75-69-4	Trichlorofluoromethane	18.0		0.80	5.00	ug/L
75-35-4	1,1-Dichloroethene	17.6		0.76	5.00	ug/L
107-02-8	Acrolein	110		6.60	25.0	ug/L
107-13-1	Acrylonitrile	92.7		2.80	25.0	ug/L
75-09-2	Methylene Chloride	18.6		0.86	5.00	ug/L
156-60-5	trans-1,2-Dichloroethene	17.9		0.82	5.00	ug/L
75-34-3	1,1-Dichloroethane	18.0		0.68	5.00	ug/L
56-23-5	Carbon Tetrachloride	19.0		0.74	5.00	ug/L
67-66-3	Chloroform	18.9		0.55	5.00	ug/L
71-55-6	1,1,1-Trichloroethane	18.8		0.63	5.00	ug/L
71-43-2	Benzene	19.0		0.45	5.00	ug/L
107-06-2	1,2-Dichloroethane	19.5		0.50	5.00	ug/L
79-01-6	Trichloroethene	18.7		0.49	5.00	ug/L
78-87-5	1,2-Dichloropropane	19.1		0.46	5.00	ug/L
75-27-4	Bromodichloromethane	19.5		0.64	5.00	ug/L
108-88-3	Toluene	18.8		0.46	5.00	ug/L
10061-02-6	t-1,3-Dichloropropene	19.3		0.72	5.00	ug/L
10061-01-5	cis-1,3-Dichloropropene	19.3		0.67	5.00	ug/L
79-00-5	1,1,2-Trichloroethane	18.8		0.45	5.00	ug/L
110-75-8	2-Chloroethyl vinyl ether	95.1		4.60	25.0	ug/L
124-48-1	Dibromochloromethane	19.4		0.66	5.00	ug/L
127-18-4	Tetrachloroethene	18.9		0.84	5.00	ug/L
108-90-7	Chlorobenzene	18.6		0.47	5.00	ug/L
100-41-4	Ethyl Benzene	18.6		0.56	5.00	ug/L
179601-23-1	m/p-Xylenes	38.3		1.30	10.0	ug/L
95-47-6	o-Xylene	18.6		0.67	5.00	ug/L

Raw Data: **VX046630.D**

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

Report of Analysis

Client:	Ardmore Chemical		Date Collected:		
Project:	PVSC Monthly 2025		Date Received:		
Client Sample ID:	VX0611WBSD01		SDG No.:	Q2264	
Lab Sample ID:	VX0611WBSD01		Matrix:	Water	
Analytical Method:	E624.1		% Solid:	0	
Sample Wt/Vol:	5 Units: mL		Final Vol:	5000	uL
Soil Aliquot Vol:	uL		Test:	VOC-PP	
GC Column:	DB-624UI ID : 0.18		Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX046630.D	1		06/11/25 12:09	VX061125

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
75-25-2	Bromoform	19.1		0.94	5.00	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	19.4		0.44	5.00	ug/L
541-73-1	1,3-Dichlorobenzene	19.5		0.67	5.00	ug/L
106-46-7	1,4-Dichlorobenzene	19.7		0.81	5.00	ug/L
95-50-1	1,2-Dichlorobenzene	19.5		0.67	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	30.4		91 - 110	101%	SPK: 30
2037-26-5	Toluene-d8	30.0		91 - 112	100%	SPK: 30
460-00-4	4-Bromofluorobenzene	30.5		63 - 112	102%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	19600	4.91			
540-36-3	1,4-Difluorobenzene	102000	6.763			
3114-55-4	Chlorobenzene-d5	94500	10.055			

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements
M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution
() = Laboratory InHouse Limit
A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046630.D
Acq On : 11 Jun 2025 12:09
Operator : JC/MD
Sample : VX0611WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 12 01:38:19 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.910	128	19624	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.763	114	102297	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.055	117	94515	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.958	65	48340	30.431	ug/l	-0.01
Spiked Amount 30.000	Range 91 - 110		Recovery = 101.433%			
60) 4-Bromofluorobenzene	11.079	95	48521	30.457	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 101.533%			
63) Toluene-d8	8.647	98	126474	29.958	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 99.867%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.185	85	23403	18.343	ug/l	97
3) Chloromethane	1.307	50	21600	16.432	ug/l	98
4) Vinyl Chloride	1.386	62	21632	17.070	ug/l	96
5) Bromomethane	1.630	94	11137	14.716	ug/l	99
6) Chloroethane	1.703	64	14996m	20.598	ug/l	
7) Trichlorofluoromethane	1.904	101	32692	18.011	ug/l	98
8) Diethyl Ether	2.148	74	12088	19.007	ug/l	95
9) 1,1,2-Trichlorotrifluo...	2.343	101	21701	17.969	ug/l	98
10) 1,1-Dichloroethene	2.331	96	20614	17.597	ug/l	97
11) Methyl Iodide	2.465	142	24853	15.561	ug/l	99
12) Methyl Acetate	2.715	43	23536	15.939	ug/l	98
13) Acrolein	2.245	56	15353	106.106	ug/l	97
14) Acrylonitrile	3.075	53	56275	92.738	ug/l	98
15) Acetone	2.386	58	13436	96.828	ug/l	87
16) Carbon Disulfide	2.526	76	59563	18.326	ug/l	98
17) Allyl chloride	2.678	41	38759	18.236	ug/l	99
18) Methylene Chloride	2.800	84	24095	18.637	ug/l	96
19) trans-1,2-Dichloroethene	3.105	96	21767	17.930	ug/l	93
20) Diisopropyl ether	3.769	45	75918	18.879	ug/l	88
21) 1,1-Dichloroethane	3.623	63	41397	17.968	ug/l	98
22) cis-1,2-Dichloroethene	4.507	96	26321	18.597	ug/l	97
23) tert-Butyl Alcohol	2.959	59	10496	85.639	ug/l #	100
24) Methyl tert-Butyl Ether	3.123	73	68202	19.058	ug/l	100
25) Chloroform	5.099	83	44801	18.891	ug/l	99
26) Cyclohexane	5.477	56	38282	18.211	ug/l #	99
29) 1,1-Dichloropropene	5.708	75	30376	18.873	ug/l	99
30) 2-Butanone	4.562	43	68191	95.084	ug/l	99
31) 2,2-Dichloropropane	4.483	77	30516	21.357	ug/l	97
32) 1,1,1-Trichloroethane	5.391	97	37471	18.842	ug/l	99
33) Carbon Tetrachloride	5.684	117	33499	18.980	ug/l	98
34) Benzene	6.043	78	89723	18.974	ug/l	99
35) Methacrylonitrile	4.922	41	16976m	19.304	ug/l	
36) 1,2-Dichloroethane	6.098	62	34939	19.529	ug/l	99
37) Trichloroethene	7.129	130	22166	18.680	ug/l	89
38) Methylcyclohexane	7.385	83	38152	18.675	ug/l	99
39) 1,2-Dichloropropane	7.433	63	22487	19.063	ug/l	90
40) Dibromomethane	7.586	93	16649	18.880	ug/l	98
41) Bromodichloromethane	7.824	83	34992	19.477	ug/l #	96
42) Vinyl Acetate	3.733	43	303519	98.081	ug/l	99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046630.D
Acq On : 11 Jun 2025 12:09
Operator : JC/MD
Sample : VX0611WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 12 01:38:19 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.727	43	29747m	19.581 ug/l	
44) Isopropyl Acetate	6.342	43	46272	19.473 ug/l	99
45) 1,4-Dioxane	7.665	88	5363	357.802 ug/l #	89
46) Methyl methacrylate	7.696	41	24324	18.748 ug/l	99
47) n-amyl Acetate	10.841	43	42641	20.062 ug/l	99
48) t-1,3-Dichloropropene	8.982	75	31138	19.334 ug/l	98
49) cis-1,3-Dichloropropene	8.366	75	34737	19.319 ug/l	98
50) 1,1,2-Trichloroethane	9.153	97	20940	18.841 ug/l	96
51) Ethyl methacrylate	9.116	69	31641	18.723 ug/l	96
52) 1,3-Dichloropropane	9.311	76	37466	19.354 ug/l	98
53) Dibromochloromethane	9.518	129	25362	19.361 ug/l	97
54) 1,2-Dibromoethane	9.610	107	22199	18.989 ug/l	99
55) 2-Chloroethyl vinyl ether	8.244	63	83897	95.060 ug/l	99
56) Bromoform	10.799	173	15446	19.080 ug/l	98
58) 4-Methyl-2-Pentanone	8.574	43	143709	93.476 ug/l	99
59) 2-Hexanone	9.427	43	102179	94.211 ug/l	98
61) Tetrachloroethene	9.275	164	18676	18.855 ug/l	96
62) Toluene	8.720	91	96278	18.796 ug/l	100
64) Chlorobenzene	10.079	112	61572	18.637 ug/l	99
65) 1,1,1,2-Tetrachloroethane	10.159	131	21442	19.366 ug/l	99
66) Ethyl Benzene	10.195	91	108605	18.569 ug/l	98
67) m/p-Xylenes	10.299	106	82798	38.274 ug/l	97
68) o-Xylene	10.640	106	38744	18.601 ug/l	99
69) Styrene	10.652	104	67413	18.882 ug/l	99
70) Isopropylbenzene	10.963	105	105719	18.913 ug/l	99
71) 1,1,2,2-Tetrachloroethane	11.213	83	31809	19.372 ug/l	99
72) 1,2,3-Trichloropropane	11.238	75	26074m	19.021 ug/l	
73) Bromobenzene	11.195	156	24748	18.888 ug/l	98
74) n-propylbenzene	11.305	91	128938	19.291 ug/l	100
75) 2-Chlorotoluene	11.360	91	77797	19.442 ug/l	100
76) 1,3,5-Trimethylbenzene	11.451	105	88316	19.016 ug/l	100
77) t-1,4-Dichloro-2-butene	11.018	75	8774	18.947 ug/l	94
78) 4-Chlorotoluene	11.451	91	90457	19.539 ug/l	99
79) tert-butylbenzene	11.713	119	87456	18.882 ug/l	100
80) 1,2,4-Trimethylbenzene	11.750	105	89122	19.430 ug/l	96
81) sec-Butylbenzene	11.890	105	113075	19.078 ug/l	99
82) p-Isopropyltoluene	12.006	119	93711	19.264 ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	47485	19.469 ug/l	97
84) 1,4-Dichlorobenzene	12.042	146	48232	19.665 ug/l	99
85) n-Butylbenzene	12.329	91	90861	19.388 ug/l	99
86) Hexachloroethane	12.536	117	15835	18.743 ug/l	98
87) 1,2-Dichlorobenzene	12.335	146	45735	19.491 ug/l	99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	6241	18.425 ug/l	95
89) 1,2,4-Trichlorobenzene	13.585	180	30405	19.655 ug/l	99
90) Hexachlorobutadiene	13.725	225	12898	18.935 ug/l	99
91) Naphthalene	13.774	128	91927	18.731 ug/l	100
92) 1,2,3-Trichlorobenzene	13.957	180	29171	19.211 ug/l	100

(#) = qualifier out of range (m) = manual integration (+) = signals summed

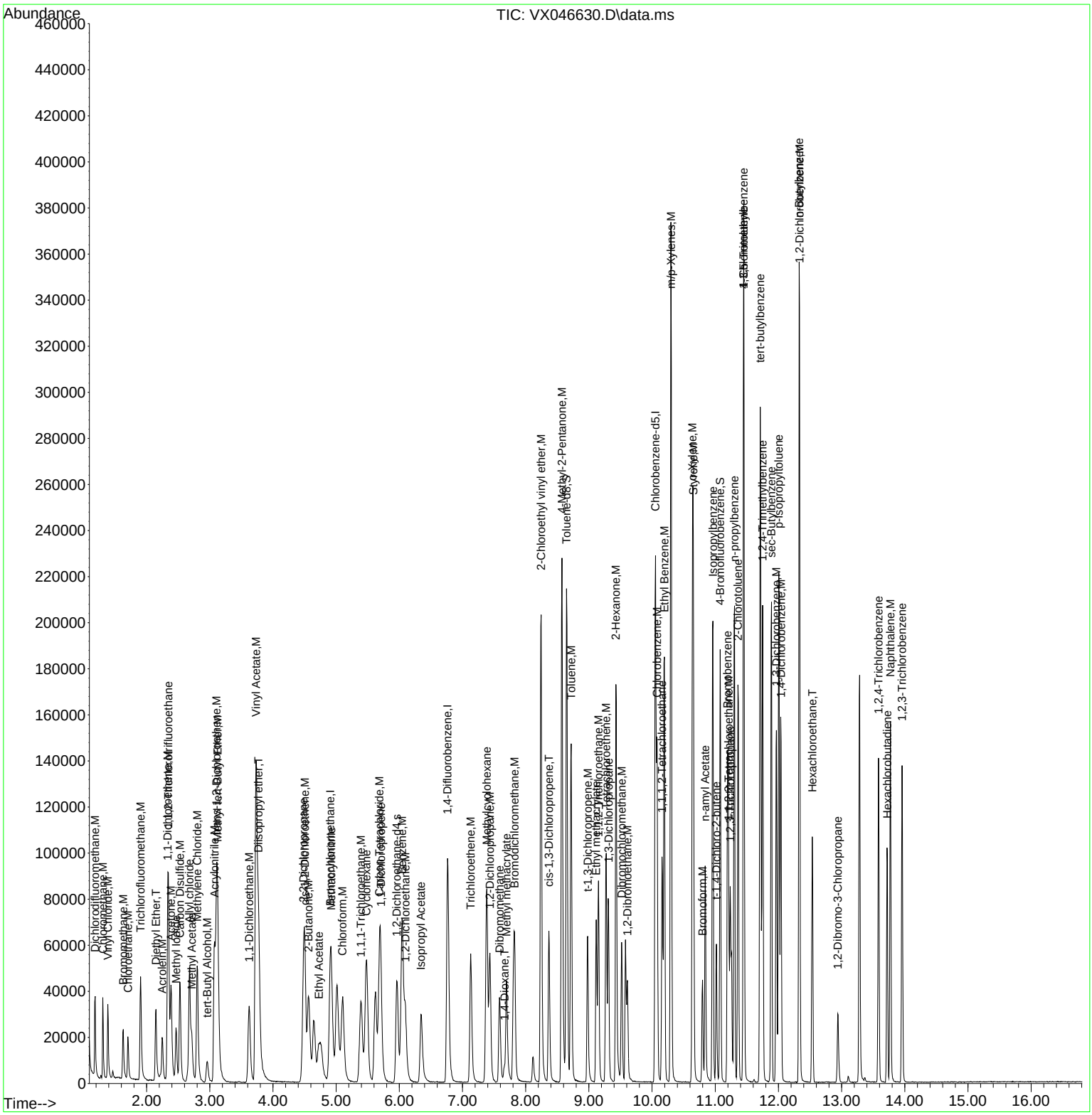
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX061125\
Data File : VX046630.D
Acq On : 11 Jun 2025 12:09
Operator : JC/MD
Sample : VX0611WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 12 01:38:19 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X061025W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Wed Jun 11 06:20:28 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0611WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 06/12/2025
Supervised By :Mahesh Dadoda 06/12/2025



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

Manual Integration Report

Sequence:	vx061025	Instrument	MSVOA_x

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC050	VX046586.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:01:36 AM	MMDadoda	6/11/2025 11:13:23 AM	Peak Integrated by Software
VSTDCCC050	VX046612.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:02:50 AM	MMDadoda	6/11/2025 11:13:46 AM	Peak Integrated by Software
VSTDICC005	VX046614.D	1,1,1-Trichloroethane	JOHN	6/11/2025 10:02:54 AM	MMDadoda	6/11/2025 11:13:49 AM	Peak Integrated by Software
VSTDICC005	VX046614.D	1,1-Dichloropropene	JOHN	6/11/2025 10:02:54 AM	MMDadoda	6/11/2025 11:13:49 AM	Peak Integrated by Software
VSTDICC005	VX046614.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:02:54 AM	MMDadoda	6/11/2025 11:13:49 AM	Peak Integrated by Software
VSTDICC005	VX046614.D	1,2-Dibromoethane	JOHN	6/11/2025 10:02:54 AM	MMDadoda	6/11/2025 11:13:49 AM	Peak Integrated by Software
VSTDICC005	VX046614.D	1,2-Dichloropropane	JOHN	6/11/2025 10:02:54 AM	MMDadoda	6/11/2025 11:13:49 AM	Peak Integrated by Software
VSTDICC005	VX046614.D	Acrolein	JOHN	6/11/2025 10:02:54 AM	MMDadoda	6/11/2025 11:13:49 AM	Peak Integrated by Software
VSTDICC005	VX046614.D	Diethyl Ether	JOHN	6/11/2025 10:02:54 AM	MMDadoda	6/11/2025 11:13:49 AM	Peak Integrated by Software
VSTDICC005	VX046614.D	Methyl methacrylate	JOHN	6/11/2025 10:02:54 AM	MMDadoda	6/11/2025 11:13:49 AM	Peak Integrated by Software
VSTDICCC020	VX046615.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:02:58 AM	MMDadoda	6/11/2025 11:13:51 AM	Peak Integrated by Software
VSTDICCC020	VX046615.D	Ethyl Acetate	JOHN	6/11/2025 10:02:58 AM	MMDadoda	6/11/2025 11:13:51 AM	Peak Integrated by Software
VSTDICC050	VX046616.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:03:09 AM	MMDadoda	6/11/2025 11:13:53 AM	Peak Integrated by Software

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Manual Integration Report

Sequence:	vx061025	Instrument	MSVOA_x

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDICC100	VX046617.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:03:14 AM	MMDadoda	6/11/2025 11:13:55 AM	Peak Integrated by Software
VSTDICC100	VX046617.D	Ethyl Acetate	JOHN	6/11/2025 10:03:14 AM	MMDadoda	6/11/2025 11:13:55 AM	Peak Integrated by Software
VSTDICC150	VX046618.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:03:18 AM	MMDadoda	6/11/2025 11:13:57 AM	Peak Integrated by Software
VSTDICC150	VX046618.D	Ethyl Acetate	JOHN	6/11/2025 10:03:18 AM	MMDadoda	6/11/2025 11:13:57 AM	Peak Integrated by Software
VSTDICV020	VX046620.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:03:22 AM	MMDadoda	6/11/2025 11:13:59 AM	Peak Integrated by Software
VSTDICV020	VX046620.D	tert-Butyl Alcohol	JOHN	6/11/2025 10:03:22 AM	MMDadoda	6/11/2025 11:13:59 AM	Peak Integrated by Software
VSTDCCC020	VX046626.D	1,2,3-Trichloropropane	JOHN	6/11/2025 10:03:50 AM	MMDadoda	6/11/2025 11:14:07 AM	Peak Integrated by Software
VSTDCCC020	VX046626.D	Ethyl Acetate	JOHN	6/11/2025 10:03:50 AM	MMDadoda	6/11/2025 11:14:07 AM	Peak Integrated by Software

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Manual Integration Report

Sequence:	VX061125	Instrument	MSVOA_x

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC020	VX046628.D	1,2,3-Trichloropropane	JOHN	6/12/2025 9:58:34 AM	MMDadoda	6/12/2025 3:52:37 PM	Peak Integrated by Software
VSTDCCC020	VX046628.D	2,2-Dichloropropane	JOHN	6/12/2025 9:58:34 AM	MMDadoda	6/12/2025 3:52:37 PM	Peak Integrated by Software
VSTDCCC020	VX046628.D	Ethyl Acetate	JOHN	6/12/2025 9:58:34 AM	MMDadoda	6/12/2025 3:52:37 PM	Peak Integrated by Software
VX0611WBS01	VX046629.D	1,1,1-Trichloroethane	JOHN	6/12/2025 9:58:38 AM	MMDadoda	6/12/2025 3:52:39 PM	Peak Integrated by Software
VX0611WBS01	VX046629.D	1,2,3-Trichloropropane	JOHN	6/12/2025 9:58:38 AM	MMDadoda	6/12/2025 3:52:39 PM	Peak Integrated by Software
VX0611WBS01	VX046629.D	Chloroethane	JOHN	6/12/2025 9:58:38 AM	MMDadoda	6/12/2025 3:52:39 PM	Peak Integrated by Software
VX0611WBS01	VX046629.D	Ethyl Acetate	JOHN	6/12/2025 9:58:38 AM	MMDadoda	6/12/2025 3:52:39 PM	Peak Integrated by Software
VX0611WBSD01	VX046630.D	1,2,3-Trichloropropane	JOHN	6/12/2025 9:58:42 AM	MMDadoda	6/12/2025 3:52:42 PM	Peak Integrated by Software
VX0611WBSD01	VX046630.D	Chloroethane	JOHN	6/12/2025 9:58:42 AM	MMDadoda	6/12/2025 3:52:42 PM	Peak Integrated by Software
VX0611WBSD01	VX046630.D	Ethyl Acetate	JOHN	6/12/2025 9:58:42 AM	MMDadoda	6/12/2025 3:52:42 PM	Peak Integrated by Software
VX0611WBSD01	VX046630.D	Methacrylonitrile	JOHN	6/12/2025 9:58:42 AM	MMDadoda	6/12/2025 3:52:42 PM	Peak Integrated by Software
Q2264-01	VX046634.D	2-Butanone	JOHN	6/12/2025 9:58:46 AM	MMDadoda	6/12/2025 3:52:50 PM	Peak Integrated by Software
Q2264-01	VX046634.D	Diisopropyl ether	JOHN	6/12/2025 9:58:46 AM	MMDadoda	6/12/2025 3:52:50 PM	Peak Integrated by Software

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Manual Integration Report

Sequence:	VX061125	Instrument	MSVOA_x

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC050	VX046636.D	1,2,3-Trichloropropane	JOHN	6/12/2025 9:58:51 AM	MMDadoda	6/12/2025 3:52:52 PM	Peak Integrated by Software
VSTDCCC050	VX046636.D	Chloroethane	JOHN	6/12/2025 9:58:51 AM	MMDadoda	6/12/2025 3:52:52 PM	Peak Integrated by Software
VSTDCCC050	VX046655.D	1,2,3-Trichloropropane	JOHN	6/12/2025 10:00:06 AM	MMDadoda	6/12/2025 3:53:28 PM	Peak Integrated by Software

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061025

Review By	John Carlone	Review On	6/11/2025 10:17:47 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/11/2025 11:14:33 AM		
SubDirectory	VX061025	HP Acquire Method		HP Processing Method	82X060625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134200
Initial Calibration Stds	
CCC	VP134201,VP134202
Internal Standard/PEM	
ICV/I.BLK	
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VX046585.D	10 Jun 2025 08:36	JC/MD	Ok
2	VSTDCCC050	VX046586.D	10 Jun 2025 09:07	JC/MD	Ok,M
3	VX0610MBL01	VX046587.D	10 Jun 2025 09:36	JC/MD	Ok
4	VX0610WBL01	VX046588.D	10 Jun 2025 09:57	JC/MD	Ok
5	VX0610WBS01	VX046589.D	10 Jun 2025 10:18	JC/MD	Ok,M
6	VX0610WBSD01	VX046590.D	10 Jun 2025 10:44	JC/MD	Ok,M
7	Q2262-02	VX046591.D	10 Jun 2025 11:05	JC/MD	Ok
8	Q2262-04	VX046592.D	10 Jun 2025 11:27	JC/MD	Ok
9	IBLK	VX046593.D	10 Jun 2025 11:48	JC/MD	Ok
10	Q2230-01	VX046594.D	10 Jun 2025 12:09	JC/MD	Ok
11	Q2230-06	VX046595.D	10 Jun 2025 12:30	JC/MD	Ok
12	Q2233-01DL	VX046596.D	10 Jun 2025 12:51	JC/MD	Ok
13	Q2233-03DL	VX046597.D	10 Jun 2025 13:13	JC/MD	Ok
14	Q2233-04DL	VX046598.D	10 Jun 2025 13:34	JC/MD	Ok
15	Q2234-01DL	VX046599.D	10 Jun 2025 13:55	JC/MD	Ok
16	IBLK	VX046600.D	10 Jun 2025 14:16	JC/MD	Ok
17	Q2230-05	VX046601.D	10 Jun 2025 14:38	JC/MD	Ok,M
18	Q2230-02	VX046602.D	10 Jun 2025 14:59	JC/MD	Ok,M
19	Q2230-03MS	VX046603.D	10 Jun 2025 15:20	JC/MD	Not Ok
20	Q2230-04MSD	VX046604.D	10 Jun 2025 15:42	JC/MD	Not Ok
21	IBLK	VX046605.D	10 Jun 2025 16:03	JC/MD	Ok

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061025

Review By	John Carlone	Review On	6/11/2025 10:17:47 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/11/2025 11:14:33 AM		
SubDirectory	VX061025	HP Acquire Method		HP Processing Method	82X060625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134200
Initial Calibration Stds	
CCC	VP134201,VP134202
Internal Standard/PEM	
ICV/I.BLK	
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

22	Q2249-01	VX046606.D	10 Jun 2025 16:24	JC/MD	Not Ok
23	IBLK	VX046607.D	10 Jun 2025 16:46	JC/MD	Ok
24	Q2233-01	VX046608.D	10 Jun 2025 17:07	JC/MD	Dilution
25	Q2233-03	VX046609.D	10 Jun 2025 17:28	JC/MD	Dilution
26	Q2233-04	VX046610.D	10 Jun 2025 17:50	JC/MD	Dilution
27	Q2234-01	VX046611.D	10 Jun 2025 18:11	JC/MD	Dilution
28	VSTDCCC050	VX046612.D	10 Jun 2025 18:53	JC/MD	Ok,M
29	BFB	VX046613.D	10 Jun 2025 19:57	JC/MD	Ok
30	VSTDICC005	VX046614.D	10 Jun 2025 20:19	JC/MD	Ok,M
31	VSTDICCC020	VX046615.D	10 Jun 2025 20:40	JC/MD	Ok,M
32	VSTDICC050	VX046616.D	10 Jun 2025 21:01	JC/MD	Ok,M
33	VSTDICC100	VX046617.D	10 Jun 2025 21:22	JC/MD	Ok,M
34	VSTDICC150	VX046618.D	10 Jun 2025 21:44	JC/MD	Ok,M
35	IBLK	VX046619.D	10 Jun 2025 22:05	JC/MD	Ok
36	VSTDICV020	VX046620.D	10 Jun 2025 22:26	JC/MD	Ok,M
37	VX0610WBS02	VX046621.D	10 Jun 2025 23:09	JC/MD	Ok,M
38	VX0610WBSD02	VX046622.D	10 Jun 2025 23:30	JC/MD	Ok,M
39	VX0610WBL02	VX046623.D	11 Jun 2025 00:12	JC/MD	Ok
40	Q2203-01	VX046624.D	11 Jun 2025 00:33	JC/MD	Dilution
41	Q2203-04	VX046625.D	11 Jun 2025 00:54	JC/MD	Dilution
42	VSTDCCC020	VX046626.D	11 Jun 2025 01:16	JC/MD	Ok,M

M : Manual Integration

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

Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061125

Review By	John Carlone	Review On	6/12/2025 10:06:05 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/12/2025 3:53:50 PM		
SubDirectory	VX061125	HP Acquire Method		HP Processing Method	624X061025W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134259,VP134275
Initial Calibration Stds	VP134316,VP134317,VP134318,VP134319,VP134320
CCC	VP134260,VP134261,VP134276,VP134277
Internal Standard/PEM	
ICV/I.BLK	VP134321
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VX046627.D	11 Jun 2025 10:45	JC/MD	Ok
2	VSTDCCC020	VX046628.D	11 Jun 2025 11:12	JC/MD	Ok,M
3	VX0611WBS01	VX046629.D	11 Jun 2025 11:43	JC/MD	Ok,M
4	VX0611WBSD01	VX046630.D	11 Jun 2025 12:09	JC/MD	Ok,M
5	VX0611WBL01	VX046631.D	11 Jun 2025 12:31	JC/MD	Ok
6	Q2203-01DL	VX046632.D	11 Jun 2025 12:57	JC/MD	Ok,M
7	Q2203-04DL	VX046633.D	11 Jun 2025 13:18	JC/MD	Ok,M
8	Q2264-01	VX046634.D	11 Jun 2025 13:40	JC/MD	Ok,M
9	BFB	VX046635.D	11 Jun 2025 14:01	JC/MD	Ok
10	VSTDCCC050	VX046636.D	11 Jun 2025 14:46	JC/MD	Ok,M
11	VX0611WBL02	VX046637.D	11 Jun 2025 15:14	JC/MD	Ok
12	VX0611MBL01	VX046638.D	11 Jun 2025 15:36	JC/MD	Ok
13	VX0611WBS02	VX046639.D	11 Jun 2025 15:58	JC/MD	Ok,M
14	VX0611WBSD02	VX046640.D	11 Jun 2025 16:25	JC/MD	Ok,M
15	Q2230-03MS	VX046641.D	11 Jun 2025 16:47	JC/MD	Not Ok
16	Q2230-04MSD	VX046642.D	11 Jun 2025 17:09	JC/MD	Ok,M
17	IBLK	VX046643.D	11 Jun 2025 17:31	JC/MD	Ok
18	Q2249-01	VX046644.D	11 Jun 2025 17:53	JC/MD	ReRun
19	Q2271-04	VX046645.D	11 Jun 2025 18:15	JC/MD	ReRun
20	Q2272-04	VX046646.D	11 Jun 2025 18:37	JC/MD	ReRun
21	Q2273-04	VX046647.D	11 Jun 2025 18:59	JC/MD	ReRun

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061125

Review By	John Carlone	Review On	6/12/2025 10:06:05 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/12/2025 3:53:50 PM		
SubDirectory	VX061125	HP Acquire Method		HP Processing Method	624X061025W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134259,VP134275
Initial Calibration Stds	VP134316,VP134317,VP134318,VP134319,VP134320
CCC	VP134260,VP134261,VP134276,VP134277
Internal Standard/PEM	
ICV/I.BLK	VP134321
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

22	Q2273-08	VX046648.D	11 Jun 2025 19:21	JC/MD	ReRun
23	Q2274-04	VX046649.D	11 Jun 2025 19:43	JC/MD	ReRun
24	Q2278-04	VX046650.D	11 Jun 2025 20:04	JC/MD	ReRun
25	Q2280-02	VX046651.D	11 Jun 2025 20:26	JC/MD	ReRun
26	Q2280-04	VX046652.D	11 Jun 2025 20:48	JC/MD	ReRun
27	Q2285-05	VX046653.D	11 Jun 2025 21:10	JC/MD	ReRun
28	PB168370TB	VX046654.D	11 Jun 2025 21:32	JC/MD	Ok,M
29	VSTDCCC050	VX046655.D	11 Jun 2025 21:53	JC/MD	Ok,M

M : Manual Integration

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Fax : 908 789 8922

Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061025

Review By	John Carlone	Review On	6/11/2025 10:17:47 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/11/2025 11:14:33 AM		
SubDirectory	VX061025	HP Acquire Method		HP Processing Method	82X060625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134200
Initial Calibration Stds	
CCC	VP134201,VP134202
Internal Standard/PEM	
ICV/I.BLK	
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VX046585.D	10 Jun 2025 08:36		JC/MD	Ok
2	VSTDCCC050	VSTDCCC050	VX046586.D	10 Jun 2025 09:07	pH#Lot#V12668	JC/MD	Ok,M
3	VX0610MBL01	VX0610MBL01	VX046587.D	10 Jun 2025 09:36		JC/MD	Ok
4	VX0610WBL01	VX0610WBL01	VX046588.D	10 Jun 2025 09:57		JC/MD	Ok
5	VX0610WBS01	VX0610WBS01	VX046589.D	10 Jun 2025 10:18		JC/MD	Ok,M
6	VX0610WBSD01	VX0610WBSD01	VX046590.D	10 Jun 2025 10:44		JC/MD	Ok,M
7	Q2262-02	ARS20-0032	VX046591.D	10 Jun 2025 11:05	vial B pH#5.0	JC/MD	Ok
8	Q2262-04	ARS20-0001	VX046592.D	10 Jun 2025 11:27	vial B pH#5.0	JC/MD	Ok
9	IBLK	IBLK	VX046593.D	10 Jun 2025 11:48		JC/MD	Ok
10	Q2230-01	FB-060425	VX046594.D	10 Jun 2025 12:09	vial A pH<2 FB	JC/MD	Ok
11	Q2230-06	TB060425	VX046595.D	10 Jun 2025 12:30	vial A pH<2 TB	JC/MD	Ok
12	Q2233-01DL	MW-18B-56-060425DL	VX046596.D	10 Jun 2025 12:51	vial B pH<2	JC/MD	Ok
13	Q2233-03DL	MW-18B-56-060425-FD	VX046597.D	10 Jun 2025 13:13	vial B pH<2	JC/MD	Ok
14	Q2233-04DL	MW-19B-72-060425DL	VX046598.D	10 Jun 2025 13:34	vial B pH<2	JC/MD	Ok
15	Q2234-01DL	MW-17B-55-060425DL	VX046599.D	10 Jun 2025 13:55	vial B pH<2	JC/MD	Ok
16	IBLK	IBLK	VX046600.D	10 Jun 2025 14:16		JC/MD	Ok
17	Q2230-05	GW-MW901-060425	VX046601.D	10 Jun 2025 14:38	vial A pH<2	JC/MD	Ok,M
18	Q2230-02	GW-MW01-060425	VX046602.D	10 Jun 2025 14:59	vial A pH<2	JC/MD	Ok,M

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061025

Review By	John Carlone	Review On	6/11/2025 10:17:47 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/11/2025 11:14:33 AM		
SubDirectory	VX061025	HP Acquire Method		HP Processing Method	82X060625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134200
Initial Calibration Stds	
CCC	VP134201,VP134202
Internal Standard/PEM	
ICV/I.BLK	
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

19	Q2230-03MS	GW-MW01-060425MS	VX046603.D	10 Jun 2025 15:20	Internal Standard Fail; Surrogate Fail;Spike not added	JC/MD	Not Ok
20	Q2230-04MSD	GW-MW01-060425MSI	VX046604.D	10 Jun 2025 15:42	Internal Standard Fail; Surrogate Fail;Spike not added	JC/MD	Not Ok
21	IBLK	IBLK	VX046605.D	10 Jun 2025 16:03		JC/MD	Ok
22	Q2249-01	MW-06-6.5-060525	VX046606.D	10 Jun 2025 16:24	Run @ lower dilution	JC/MD	Not Ok
23	IBLK	IBLK	VX046607.D	10 Jun 2025 16:46		JC/MD	Ok
24	Q2233-01	MW-18B-56-060425	VX046608.D	10 Jun 2025 17:07	vial A pH<2 Need 10X	JC/MD	Dilution
25	Q2233-03	MW-18B-56-060425-FD	VX046609.D	10 Jun 2025 17:28	vial A pH<2 Need 10X	JC/MD	Dilution
26	Q2233-04	MW-19B-72-060425	VX046610.D	10 Jun 2025 17:50	vial A pH<2 Need 100X	JC/MD	Dilution
27	Q2234-01	MW-17B-55-060425	VX046611.D	10 Jun 2025 18:11	vial A pH<2 Need 100X	JC/MD	Dilution
28	VSTDCCC050	VSTDCCC050EC	VX046612.D	10 Jun 2025 18:53		JC/MD	Ok,M
29	BFB	BFB	VX046613.D	10 Jun 2025 19:57		JC/MD	Ok
30	VSTDICC005	VSTDICC005	VX046614.D	10 Jun 2025 20:19		JC/MD	Ok,M
31	VSTDICCC020	VSTDICCC020	VX046615.D	10 Jun 2025 20:40		JC/MD	Ok,M
32	VSTDICC050	VSTDICC050	VX046616.D	10 Jun 2025 21:01		JC/MD	Ok,M
33	VSTDICC100	VSTDICC100	VX046617.D	10 Jun 2025 21:22		JC/MD	Ok,M
34	VSTDICC150	VSTDICC150	VX046618.D	10 Jun 2025 21:44		JC/MD	Ok,M
35	IBLK	IBLK	VX046619.D	10 Jun 2025 22:05		JC/MD	Ok
36	VSTDICV020	ICVVX061025	VX046620.D	10 Jun 2025 22:26		JC/MD	Ok,M
37	VX0610WBS02	VX0610WBS02	VX046621.D	10 Jun 2025 23:09		JC/MD	Ok,M

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061025

Review By	John Carlone	Review On	6/11/2025 10:17:47 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/11/2025 11:14:33 AM		
SubDirectory	VX061025	HP Acquire Method		HP Processing Method	82X060625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134200
Initial Calibration Stds	
CCC	VP134201,VP134202
Internal Standard/PEM	
ICV/I.BLK	
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

38	VX0610WBSD02	VX0610WBSD02	VX046622.D	10 Jun 2025 23:30		JC/MD	Ok,M
39	VX0610WBL02	VX0610WBL02	VX046623.D	11 Jun 2025 00:12		JC/MD	Ok
40	Q2203-01	001-WILLETS-PT-BLVD	VX046624.D	11 Jun 2025 00:33	vial A pH<2 Need 5X	JC/MD	Dilution
41	Q2203-04	002-35TH-AVE(JUNE)	VX046625.D	11 Jun 2025 00:54	vial A pH<2 Need 5X	JC/MD	Dilution
42	VSTDCCC020	VSTDCCC020EC	VX046626.D	11 Jun 2025 01:16		JC/MD	Ok,M

M : Manual Integration

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061125

Review By	John Carlone	Review On	6/12/2025 10:06:05 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/12/2025 3:53:50 PM		
SubDirectory	VX061125	HP Acquire Method		HP Processing Method	624X061025W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134259,VP134275
Initial Calibration Stds	VP134316,VP134317,VP134318,VP134319,VP134320
CCC	VP134260,VP134261,VP134276,VP134277
Internal Standard/PEM	
ICV/I.BLK	VP134321
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VX046627.D	11 Jun 2025 10:45		JC/MD	Ok
2	VSTDCCC020	VSTDCCC020	VX046628.D	11 Jun 2025 11:12	pH#Lot#V12668	JC/MD	Ok,M
3	VX0611WBS01	VX0611WBS01	VX046629.D	11 Jun 2025 11:43		JC/MD	Ok,M
4	VX0611WBSD01	VX0611WBSD01	VX046630.D	11 Jun 2025 12:09		JC/MD	Ok,M
5	VX0611WBL01	VX0611WBL01	VX046631.D	11 Jun 2025 12:31		JC/MD	Ok
6	Q2203-01DL	001-WILLETS-PT-BLVD	VX046632.D	11 Jun 2025 12:57	vial B pH<2	JC/MD	Ok,M
7	Q2203-04DL	002-35TH-AVE(JUNE)D	VX046633.D	11 Jun 2025 13:18	vial B pH<2	JC/MD	Ok,M
8	Q2264-01	EFF-WW	VX046634.D	11 Jun 2025 13:40	vial A pH<2 foamy sample	JC/MD	Ok,M
9	BFB	BFB	VX046635.D	11 Jun 2025 14:01		JC/MD	Ok
10	VSTDCCC050	VSTDCCC050	VX046636.D	11 Jun 2025 14:46		JC/MD	Ok,M
11	VX0611WBL02	VX0611WBL02	VX046637.D	11 Jun 2025 15:14		JC/MD	Ok
12	VX0611MBL01	VX0611MBL01	VX046638.D	11 Jun 2025 15:36		JC/MD	Ok
13	VX0611WBS02	VX0611WBS02	VX046639.D	11 Jun 2025 15:58		JC/MD	Ok,M
14	VX0611WBSD02	VX0611WBSD02	VX046640.D	11 Jun 2025 16:25		JC/MD	Ok,M
15	Q2230-03MS	GW-MW01-060425MS	VX046641.D	11 Jun 2025 16:47	Recovery failed above 50% compound of client ask parameter	JC/MD	Not Ok
16	Q2230-04MSD	GW-MW01-060425MSD	VX046642.D	11 Jun 2025 17:09		JC/MD	Ok,M
17	IBLK	IBLK	VX046643.D	11 Jun 2025 17:31		JC/MD	Ok

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX061125

Review By	John Carlone	Review On	6/12/2025 10:06:05 AM		
Supervise By	Mahesh Dadoda	Supervise On	6/12/2025 3:53:50 PM		
SubDirectory	VX061125	HP Acquire Method		HP Processing Method	624X061025W.M

STD. NAME	STD REF.#
Tune/Reschk	VP134259,VP134275
Initial Calibration Stds	VP134316,VP134317,VP134318,VP134319,VP134320
CCC	VP134260,VP134261,VP134276,VP134277
Internal Standard/PEM	
ICV/I.BLK	VP134321
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

18	Q2249-01	MW-06-6.5-060525	VX046644.D	11 Jun 2025 17:53	Internal Standard Fail	JC/MD	ReRun
19	Q2271-04	TP12-MHK-WC	VX046645.D	11 Jun 2025 18:15	Internal Standard Fail	JC/MD	ReRun
20	Q2272-04	TP-6	VX046646.D	11 Jun 2025 18:37	Internal Standard Fail ;Surrogate fail	JC/MD	ReRun
21	Q2273-04	WC-4	VX046647.D	11 Jun 2025 18:59	Internal Standard Fail	JC/MD	ReRun
22	Q2273-08	WC-6	VX046648.D	11 Jun 2025 19:21	Internal Standard Fail ;Surrogate fail	JC/MD	ReRun
23	Q2274-04	TP-13-MHP-WC	VX046649.D	11 Jun 2025 19:43	Internal Standard Fail; Surrogate fail	JC/MD	ReRun
24	Q2278-04	TP-2	VX046650.D	11 Jun 2025 20:04	Surrogate Fail	JC/MD	ReRun
25	Q2280-02	VNJ-210	VX046651.D	11 Jun 2025 20:26	Internal Standard Fail	JC/MD	ReRun
26	Q2280-04	RT-4643	VX046652.D	11 Jun 2025 20:48	Internal Standard Fail	JC/MD	ReRun
27	Q2285-05	HAM-CONCRETE	VX046653.D	11 Jun 2025 21:10	Internal Standard Fail	JC/MD	ReRun
28	PB168370TB	PB168370TB	VX046654.D	11 Jun 2025 21:32		JC/MD	Ok,M
29	VSTDCCC050	VSTDCCC050EC	VX046655.D	11 Jun 2025 21:53		JC/MD	Ok,M

M : Manual Integration

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Prep Standard - Chemical Standard Summary

Order ID : Q2264

Test : VOC-PP

Prepbatch ID :

Sequence ID/Qc Batch ID: VX061125,

Standard ID :
VP133174,VP133251,VP133887,VP133889,VP133935,VP133953,VP133978,VP133991,VP133996,VP133998,VP134142,VP134149,VP134151,VP134259,VP134260,VP134261,VP134263,VP134275,VP134276,VP134277,VP134316,VP134317,VP134318,VP134319,VP134320,VP134321,

Chemical ID :
V13391,V13450,V13583,V13584,V13706,V13822,V13920,V14127,V14180,V14290,V14427,V14432,V14435,V14503,V14504,V14525,V14526,V14580,V14613,V14620,V14624,V14626,V14636,V14637,V14638,V14639,V14668,V14671,V14673,V14675,V14711,V14717,V14718,V14721,V14749,V14750,V14793,V14811,V14812,V14843,V14885,V14921,V14929,V14944,V14945,V14946,V14947,V14949,V14950,W3112,

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
617	8260 Surrogate, 400PPM	VP133174	02/27/2025	08/27/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 03/04/2025

FROM 0.40000ml of V13706 + 24.60000ml of V14613 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
466	624 Internal Standard and Surrogate Mix, 150PPM	VP133251	03/12/2025	07/02/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 03/21/2025

FROM 0.15000ml of V14580 + 0.15000ml of V14885 + 24.75000ml of V14624 = Final Quantity: 25.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
257	8260 Calibration Working STD Mix-First source, 160PPM	VP133887	05/12/2025	06/23/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 05/14/2025

FROM 0.40000ml of V14843 + 1.00000ml of V14432 + 1.00000ml of V14435 + 1.00000ml of V14503 + 1.00000ml of V14504 + 1.00000ml of V14525 + 1.00000ml of V14526 + 1.00000ml of V14711 + 1.00000ml of V14717 + 1.00000ml of V14718 + 1.00000ml of V14721 + 1.00000ml of V14749 + 1.00000ml of V14750 + 1.00000ml of V14811 + 1.00000ml of V14812 + 10.60000ml of V14921 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
245	8260 Calibration Working STD Mix-First source, 20PPM	VP133889	05/12/2025	06/22/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 05/14/2025

FROM 17.50000ml of V14921 + 2.50000ml of VP133887 = Final Quantity: 20.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
247	8260 Internal Standard, 250PPM	VP133935	05/16/2025	11/12/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 05/21/2025

FROM 0.25000ml of V14290 + 24.75000ml of V14921 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
218	BFB, 25PPM	VP133953	05/19/2025	11/09/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 05/21/2025

FROM 0.25000ml of V13391 + 24.75000ml of V14626 = Final Quantity: 25.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
259	8260 Calibration Working STD Mix-Second source, 160PPM	VP133978	05/15/2025	06/30/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 05/27/2025

FROM 0.16000ml of V13450 + 0.80000ml of V13822 + 0.80000ml of V14127 + 0.80000ml of V14180 + 0.80000ml of V14427 + 0.80000ml of V14793 + 1.60000ml of V13920 + 4.24000ml of V14620 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
51	8260 Working STD (Acrolein) -first source, 800PPM	VP133991	05/22/2025	06/19/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 05/24/2025

FROM 1.00000ml of V14944 + 1.00000ml of V14945 + 1.00000ml of V14946 + 1.00000ml of V14947 + 21.00000ml of V14620 = Final Quantity: 25.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
180	8260 Working STD (Acrolein)-First source, 100PPM	VP133996	05/22/2025	06/19/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 05/24/2025

FROM 17.50000ml of V14620 + 2.50000ml of VP133991 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
263	8260 Working STD (Acrolein)-Second source, 800PPM	VP133998	05/22/2025	06/17/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 05/24/2025

FROM 0.60000ml of V14950 + 1.00000ml of V14949 + 8.40000ml of V14620 = Final Quantity: 10.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
719	8260 Working STD (BCM)-First source, 400PPM	VP134142	06/06/2025	12/06/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 06/10/2025

FROM 1.00000ml of V14668 + 1.00000ml of V14671 + 1.00000ml of V14673 + 1.00000ml of V14675 + 16.00000ml of V14929 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1810	8260 Working Std(2-CVE)-800ppm	VP134149	06/06/2025	12/06/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 06/10/2025

FROM 1.00000ml of V14636 + 1.00000ml of V14637 + 1.00000ml of V14638 + 1.00000ml of V14639 + 46.00000ml of V14929 = Final Quantity: 50.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1812	8260 Working Std(2-CVE)-100ppm	VP134151	06/06/2025	12/06/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 06/10/2025

FROM 0.25000ml of V14639 + 24.75000ml of V14929 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
589	BFB TUNE CHECK	VP134259	06/11/2025	06/12/2025	John Carlone	None	None	Mahesh Dadoda 06/12/2025

FROM 39.98400ml of W3112 + 0.01600ml of VP133953 = Final Quantity: 40.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
645	20 PPB CCC, 624	VP134260	06/11/2025	06/12/2025	John Carlone	None	None	Mahesh Dadoda 06/12/2025

FROM 39.97000ml of W3112 + 0.00500ml of VP133887 + 0.00500ml of VP133991 + 0.00500ml of VP134149 + 0.00800ml of VP133251 = Final Quantity: 40.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
645	20 PPB CCC, 624	VP134261	06/11/2025	06/12/2025	John Carlone	None	None	Mahesh Dadoda 06/12/2025

FROM 39.97000ml of W3112 + 0.00500ml of VP133887 + 0.00500ml of VP133991 + 0.00500ml of VP134149 + 0.00800ml of VP133251 = Final Quantity: 40.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1817	8260 Working Std(2-CVE)-SS, 800ppm	VP134263	06/11/2025	11/12/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 06/12/2025

FROM 0.60000ml of V13584 + 1.00000ml of V13583 + 18.40000ml of V14921 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
589	BFB TUNE CHECK	VP134275	06/11/2025	06/12/2025	John Carlone	None	None	Mahesh Dadoda 06/12/2025

FROM 39.98400ml of W3112 + 0.01600ml of VP133953 = Final Quantity: 40.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
620	50 PPB CCC, 8260-Water	VP134276	06/11/2025	06/12/2025	John Carlone	None	None	Mahesh Dadoda 06/12/2025

FROM 39.94450ml of W3112 + 0.00500ml of VP133174 + 0.00500ml of VP134142 + 0.00800ml of VP133935 + 0.01250ml of VP133887 + 0.01250ml of VP133991 + 0.01250ml of VP134149 = Final Quantity: 40.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
620	50 PPB CCC, 8260-Water	VP134277	06/11/2025	06/12/2025	John Carlone	None	None	Mahesh Dadoda 06/12/2025

FROM 39.94450ml of W3112 + 0.00500ml of VP133174 + 0.00500ml of VP134142 + 0.00800ml of VP133935 + 0.01250ml of VP133887 + 0.01250ml of VP133991 + 0.01250ml of VP134149 = Final Quantity: 40.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
637	5 PPB ICC, 624	VP134316	06/10/2025	06/11/2025	John Carlone	None	None	Amit Patel 06/13/2025

FROM 39.96200ml of W3112 + 0.00800ml of VP133251 + 0.01000ml of VP133889 + 0.01000ml of VP133996 + 0.01000ml of VP134151 = Final Quantity: 40.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
639	20 PPB ICC, 624	VP134317	06/10/2025	06/11/2025	John Carlone	None	None	Amit Patel 06/13/2025

FROM 39.97000ml of W3112 + 0.00500ml of VP133887 + 0.00500ml of VP133991 + 0.00500ml of VP134149 + 0.00800ml of VP133251 = Final Quantity: 40.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
640	50 PPB ICC, 624	VP134318	06/10/2025	06/11/2025	John Carlone	None	None	Amit Patel 06/13/2025

FROM 39.95450ml of W3112 + 0.00800ml of VP133251 + 0.01250ml of VP133887 + 0.01250ml of VP133991 + 0.01250ml of VP134149 = Final Quantity: 40.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
642	100 PPB ICC, 624	VP134319	06/10/2025	06/11/2025	John Carlone	None	None	Amit Patel 06/13/2025

FROM 39.91700ml of W3112 + 0.00800ml of VP133251 + 0.02500ml of VP133887 + 0.02500ml of VP133991 + 0.02500ml of VP134149 = Final Quantity: 40.000 ml

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
643	150 PPB ICC, 624	VP134320	06/10/2025	06/11/2025	John Carlone	None	None	Amit Patel 06/13/2025

FROM 39.87950ml of W3112 + 0.00800ml of VP133251 + 0.03750ml of VP133887 + 0.03750ml of VP133991 + 0.03750ml of VP134149 = Final Quantity: 40.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
644	20 PPB ICV, 624	VP134321	06/10/2025	06/11/2025	John Carlone	None	None	Amit Patel 06/13/2025

FROM 39.97000ml of W3112 + 0.00500ml of VP133978 + 0.00500ml of VP133998 + 0.00500ml of VP134263 + 0.00800ml of VP133251 = Final Quantity: 40.000 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 #
Restek	30067 / BFB tuneing solution	A0191805	11/22/2025	11/22/2024 / SAM	01/13/2023 / SAM	V13391

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30470 / VOA Stock Solution, tert-butanol std, 1mL, P&TM	A0191703	11/15/2025	05/15/2025 / SAM	01/23/2023 / SAM	V13450

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95318 / 2-Chloroethyl Vinyl Ether (Min = 5)	111722	11/17/2025	06/11/2025 / SAM	01/30/2023 / SAM	V13583

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95318 / 2-Chloroethyl Vinyl Ether (Min = 5)	111722	11/17/2025	06/11/2025 / SAM	01/30/2023 / SAM	V13584

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555582 / Custom Mixture, 8260 A/B Surrogate Mix [CS 5179-2]	A0196865	02/27/2026	02/27/2025 / SAM	04/12/2023 / SAM	V13706

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30042 / VOA Mix,500 series method 502.2 Calibration Std #1 gases, 2000uq/ml, PTM, 1ml	A0197644	09/30/2025	03/31/2025 / SAM	05/31/2023 / SAM	V13822

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Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A0193887	11/15/2025	05/15/2025 / SAM	07/24/2023 / SAM	V13920

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95319 / Revised Additions Mix (Min = 5)	011624	09/30/2025	03/31/2025 / SAM	01/17/2024 / SAM	V14127

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95317 / Universal VOA Mega Mix (Min order = 5)	021524	09/30/2025	03/31/2025 / SAM	02/20/2024 / SAM	V14180

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555581 / Custom Standard, 8260 Internal Std [CS 5179-1]	A0210184	12/12/2025	12/12/2024 / SAM	04/15/2024 / SAM	V14290

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30489 / VOA Mix, 8260B Acetates Mix, P&TM, 1mL	A0205013	06/30/2025	05/15/2025 / SAM	08/15/2024 / SAM	V14427

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30489 / VOA Mix, 8260B Acetates Mix, P&TM, 1mL	A0209618	09/30/2025	05/12/2025 / SAM	08/15/2024 / SAM	V14432

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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	30489 / VOA Mix, 8260B Acetates Mix, P&TM, 1mL	A0209618	09/20/2025	03/20/2025 / SAM	08/15/2024 / SAM	V14435

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95317 / Universal VOA Mega Mix (Min order = 5)	021624	11/12/2025	05/12/2025 / SAM	09/17/2024 / SAM	V14503

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95317 / Universal VOA Mega Mix (Min order = 5)	021624	11/12/2025	05/12/2025 / SAM	09/17/2024 / SAM	V14504

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95319 / Revised Additions Mix (Min = 5)	091724	11/12/2025	05/12/2025 / SAM	09/18/2024 / SAM	V14525

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95319 / Revised Additions Mix (Min = 5)	091724	11/12/2025	05/12/2025 / SAM	09/18/2024 / SAM	V14526

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555584 / Custom Standard, CLP VOA SurrogateStd [CS 5179-4]	A0219012	01/02/2026	01/02/2025 / SAM	11/18/2024 / SAM	V14580

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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	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	22L0562016	08/27/2025	02/27/2025 / SAM	11/26/2024 / SAM	V14613

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	10/25/2025	05/09/2025 / SAM	11/26/2024 / SAM	V14620

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)	23I0762004	07/13/2025	01/13/2025 / SAM	11/26/2024 / SAM	V14624

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)	23I0762004	11/09/2025	05/09/2025 / SAM	11/26/2024 / SAM	V14626

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	12/06/2025	06/06/2025 / SAM	12/06/2024 / SAM	V14636

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	12/06/2025	06/06/2025 / SAM	12/06/2024 / SAM	V14637

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	12/06/2025	06/06/2025 / SAM	12/06/2024 / SAM	V14638

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	12/06/2025	06/06/2025 / SAM	12/06/2024 / SAM	V14639

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30225 / VOA Mix, bromochloromethane, 2000ug/mL, P&TM, 1mL/ampul	A0214960	12/06/2025	06/06/2025 / SAM	12/09/2024 / SAM	V14668

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30225 / VOA Mix, bromochloromethane, 2000ug/mL, P&TM, 1mL/ampul	A0214960	12/06/2025	06/06/2025 / SAM	12/09/2024 / SAM	V14671

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30225 / VOA Mix, bromochloromethane, 2000ug/mL, P&TM, 1mL/ampul	A0214960	12/06/2025	06/06/2025 / SAM	12/09/2024 / SAM	V14673

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30225 / VOA Mix, bromochloromethane, 2000ug/mL, P&TM, 1mL/ampul	A0214960	12/06/2025	06/06/2025 / SAM	12/09/2024 / SAM	V14675

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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	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A02110618	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14711

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A02110618	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14717

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A02110618	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14718

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30006 / VOA Mix, CLP method Calibration Std #1 ketones 5000uq/ml, PTM, 1ml	A02110618	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14721

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30042 / VOA Mix,500 series method 502.2 Calibration Std #1 gases, 2000uq/ml, PTM, 1ml	A0216826	11/13/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14749

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30042 / VOA Mix,500 series method 502.2 Calibration Std #1 gases, 2000uq/ml, PTM, 1ml	A0216826	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14750

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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	555408 / Custom Standard, Vinyl Acetate Standard w/ Grav [CS 5066-6] TWO SEPARATE LOTS	A0220563	06/30/2026	05/15/2025 / SAM	01/08/2025 / SAM	V14793

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555408 / Custom Standard, Vinyl Acetate Standard w/ Grav [CS 5066-6] TWO SEPARATE LOTS	A0220471	11/12/2025	05/12/2025 / SAM	01/08/2025 / SAM	V14811

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555408 / Custom Standard, Vinyl Acetate Standard w/ Grav [CS 5066-6] TWO SEPARATE LOTS	A0220471	06/30/2026	05/12/2025 / SAM	01/08/2025 / SAM	V14812

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30470 / VOA Stock Solution, tert-butanol std, 1mL, P&TM	A0217535	11/12/2025	05/12/2025 / SAM	01/21/2025 / SAM	V14843

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555583 / Custom Standard, CLP VOA Internal Std [CS 5179-3]	A0223136	03/12/2026	03/12/2025 / SAM	03/12/2025 / SAM	V14885

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)	24G0262002	11/12/2025	05/12/2025 / SAM	05/09/2025 / SAM	V14921

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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	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	24G0262002	12/06/2025	06/06/2025 / SAM	05/09/2025 / SAM	V14929

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	051925	06/19/2025	05/22/2025 / SAM	05/21/2025 / SAM	V14944

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	051925	06/19/2025	05/22/2025 / SAM	05/21/2025 / SAM	V14945

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	051925	06/19/2025	05/22/2025 / SAM	05/21/2025 / SAM	V14946

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	051925	06/19/2025	05/22/2025 / SAM	05/21/2025 / SAM	V14947

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	051725	06/17/2025	05/22/2025 / SAM	05/21/2025 / SAM	V14949

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	051725	06/17/2025	05/22/2025 / SAM	05/21/2025 / SAM	V14950

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 / Iwona	07/03/2024 / Iwona	W3112

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

avantor™ | J.T.Baker®

Material No.: 9077-02
Batch No.: 2310762004
Manufactured Date: 2023-08-11
Expiration Date: 2026-08-10
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	0.5 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.2
Titrable Base (µeq/g)	≤ 0.10	0.01
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

Ken Koehnlein
Sr. Manager, Quality Assurance

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

avantor™ | J.T.Baker®

Material No.: 9077-02
Batch No.: 2310762004
Manufactured Date: 2023-08-11
Expiration Date: 2026-08-10
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	0.5 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.2
Titrable Base (µeq/g)	≤ 0.10	0.01
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

Ken Koehnlein
Sr. Manager, Quality Assurance

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

12 Bottles

avantor™ | J.T.Baker®

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_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	0.2
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 Ethier

Jamie Ethier
Vice President Global Quality

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

12 Bottles

avantor™ | J.T.Baker®

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_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	0.2
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 Ethier

Jamie Ethier
Vice President Global Quality

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

12

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

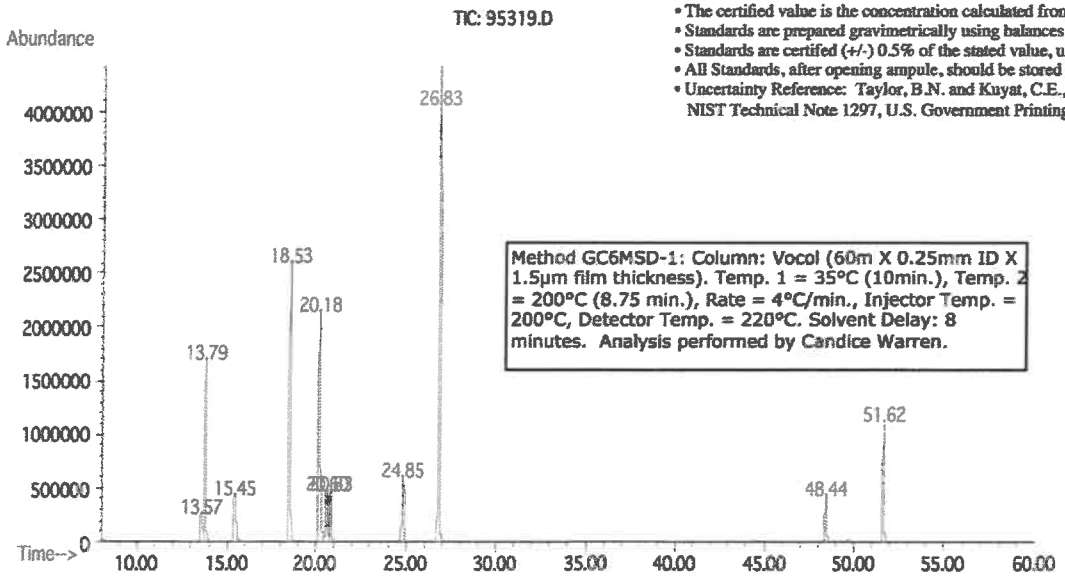
Part Number: 95319
Lot Number: 011624
Description: Revised Additions Mix
11 components
Expiration Date: 011627
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): Varied
NIST Test ID#: 6UTB

Solvent(s): Methanol **Lot#** EH471-US

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.021 Flask Uncertainty

Formulated By: Prashant Chauhan	011624 DATE
Reviewed By: Pedro L. Rentas	011624 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acrylonitrile	7	4718CK	10000	99	0.2	1.01035	1.01080	10004.4	40.6	107-13-1	N/A	ori-rat 78 mg/kg
2. 1-Chlorobutane	1072	MKCM5711	2000	99.99	0.2	0.20007	0.20035	2002.8	8.1	109-69-3	N/A	ori-rat 2670mg/kg
3. Cyclohexane	1023	28930	2000	99	0.2	0.20207	0.20222	2001.5	8.2	110-82-7	300 ppm (1050mg/m3/8H)	ori-rat 12705mg/kg
4. Di-isopropyl ether (DIPE)	987	00412MX	2000	99	0.2	0.20207	0.20227	2002.0	8.2	108-20-3	500 ppm (2100mg/m3/8H)	ori-rat 8470mg/kg
5. 1,4-Dioxane	373	03853KE	40000	99	0.2	4.04142	4.04213	40007.0	162.5	123-91-1	25 ppm (90mg/m3/8H)(skin)	ori-mus 5700mg/kg
6. Hexachloroethane	199	12604HBV	2000	99	0.2	0.20207	0.20221	2001.4	8.2	67-72-1	1 ppm (10mg/m3/8H)(skin)	ori-gpg 4970mg/kg
7. Methylcyclohexane	1627	SHBG0199V	2000	99	0.2	0.20207	0.20230	2002.3	8.2	108-87-2	N/A	ori-mus 2250mg/kg
8. Methyl tert-butyl ether (MTBE)	209	21880	2000	99	0.2	0.20207	0.20227	2002.0	8.2	1634-04-4	N/A	ori-rat 4g/kg
9. Propionitrile	349	1395468	20000	99	0.2	2.02071	2.02150	20007.8	81.3	107-12-0	N/A	ori-rat 39mg/kg
10. Tetrahydrofuran	380	SHBH8330	10000	99.9	0.2	1.00125	1.00200	10007.5	40.3	109-99-9	20 ppm (590mg/m3/8H)	ori-rat 1650mg/kg
11. 1,2,3,4-Tetramethylbenzene	491	AP01	2000	93	0.2	0.21511	0.21522	2001.0	8.7	488-23-3	N/A	ori-rat 6408mg/kg



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Method GC6MSD-1: Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness). Temp. 1 = 35°C (10min.), Temp. 2 = 200°C (8.75 min.), Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. Solvent Delay: 8 minutes. Analysis performed by Candice Warren.

Name	MSD RT (min.)
Methyl tert-butyl ether (MTBE)	13.56
Acrylonitrile	13.79
Di-isopropyl ether	15.44
Propionitrile	18.53
Tetrahydrofuran	20.17
Cyclohexane	20.58
1-Chlorobutane	20.83
Methylcyclohexane	24.84
1,4-Dioxane	26.84
Hexachloroethane	48.44
1,2,3,4-Tetramethylbenzene	51.62

CERTIFIED WEIGHT REPORT

Part Number: 95317
Lot Number: 021524
Description: Universal VOA Megamix
69 components
Expiration Date: 021527
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 8UTB

Solvent(s): Lot#
Methanol EG359-USQ12

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.021 Flask Uncertainty

Formulated By: Mario Luis 021524 DATE

Reviewed By: Pedro L. Rentas 021524 DATE

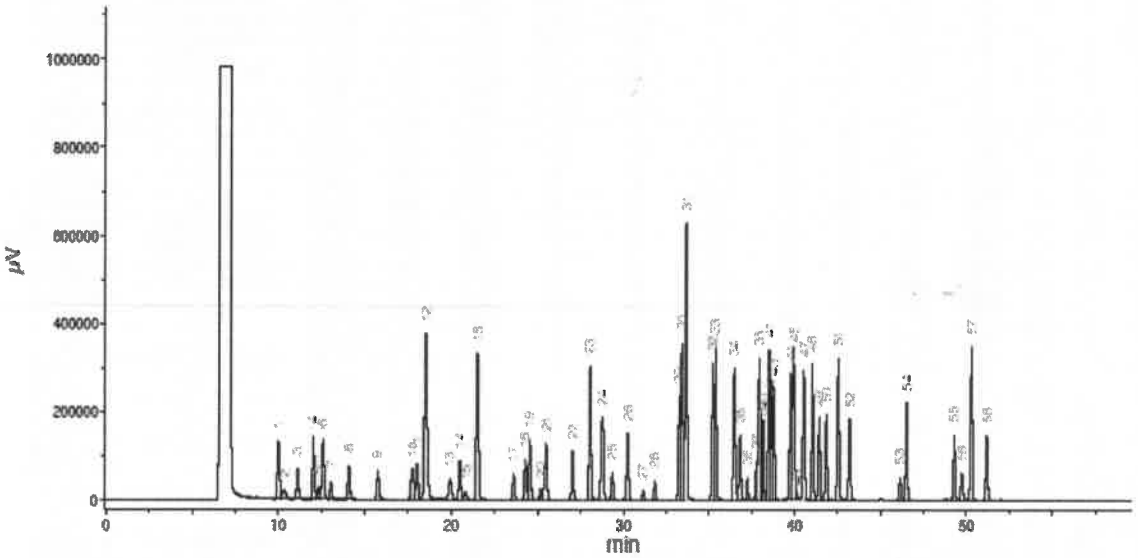
Compound	(RM#) Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Initial Conc.(ug/mL)	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty	Uncertainty Pipette (mL)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expended Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acetonitrile	(0324)	021644	NA	NA	NA	2000	99.99	0.2	NA	0.20007	0.20022	2001.5	8.1	75-05-8	40 ppm (70mg/m3/8H)	orl-rat 2460mg/kg
2. Allyl chloride (3-Chloropropene)	(0325)	102396	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20222	2001.5	8.2	107-05-1	1 ppm (3mg/m3/8H)	orl-rat 700mg/kg
3. Carbon disulphide	(0060)	MKCR8561	NA	NA	NA	2000	99.99	0.2	NA	0.20007	0.20020	2001.3	8.1	75-15-0	4 ppm (12mg/m3) (skin)	orl-rat 1200mg/kg
4. cis-1,4-Dichloro-2-butene	(1196)	14718EF	NA	NA	NA	2000	95	0.2	NA	0.21058	0.21060	2000.2	8.5	1476-11-5	N/A	N/A
5. trans-1,4-Dichloro-2-butene	(0486)	MKBP6041V	NA	NA	NA	2000	96.5	0.2	NA	0.20731	0.20734	2000.3	8.4	110-57-6	N/A	N/A
6. Diethyl ether	(0153)	IK18CAS000(	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20042	2001.7	8.1	60-29-7	N/A	N/A
7. Ethyl methacrylate	(0381)	06126PX	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20231	2002.4	8.2	97-63-2	N/A	orl-rat 14800mg/kg
8. Iodomethane	(0489)	SHBF8718V	NA	NA	NA	2000	99.5	0.2	NA	0.20106	0.20118	2001.2	8.1	74-88-4	5 ppm(28mg/m3/8H)(skin)	orl-rat 76mg/kg
9. 2-Methyl-1-propanol	(0445)	15241EB	NA	NA	NA	2000	99.5	0.2	NA	0.20106	0.20120	2001.4	8.1	78-83-1	50 ppm (150mg/m3/8H)	orl-rat 2460mg/kg
10. Methacrylonitrile	(0442)	00427ET	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20209	2000.2	8.2	126-98-7	1 ppm (3mg/m3/8H)(skin)	orl-rat 120mg/kg
11. Methyl acrylate	(1075)	SHBK0679	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20042	2001.7	8.1	96-33-3	10 ppm(35mg/m3/8H)(skin)	orl-rat 277mg/kg
12. Methyl methacrylate	(0404)	MKBW5137V	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20030	2000.5	8.1	80-62-6	100 ppm (410mg/m3/8H)	orl-rat 7872mg/kg
13. Nitrobenzene	(0228)	01213TV	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20230	2002.3	8.2	98-95-3	1 ppm (5mg/m3/8H)(skin)	orl-rat 780mg/kg
14. 2-Nitropropane	(0461)	14002JX	NA	NA	NA	2000	97.3	0.2	NA	0.20560	0.20570	2001.0	8.3	79-46-9	10 ppm (35mg/m3/8H)	orl-rat 720mg/kg
15. Pentachloroethane	(0450)	HGA01	NA	NA	NA	2000	98	0.2	NA	0.20413	0.20415	2000.2	8.3	76-01-7	N/A	N/A
16. 1,1,2-Trichlorotrifluoroethane	(0474)	18930	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20210	2000.3	8.2	76-13-1	1000 ppm (7600mg/m3/8H)	orl-rat 43g/kg
17. Bromodichloromethane	35171	101623	0.05	5.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	22.9	75-27-4	N/A	orl-rat 916mg/kg
18. Dibromochloromethane	35171	101623	0.05	5.00	40002.1	2000	NA	NA	0.017	NA	NA	1999.6	23.0	124-48-1	N/A	orl-rat 848mg/kg
19. cis-1,2-Dichloroethene	35171	101623	0.05	5.00	40003.1	2000	NA	NA	0.017	NA	NA	1999.7	22.9	156-59-2	N/A	N/A
20. trans-1,2-Dichloroethene	35171	101623	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.6	23.0	156-60-5	N/A	orl-rat 1235mg/kg
21. Methylene chloride	35171	101623	0.05	5.00	40002.8	2000	NA	NA	0.017	NA	NA	1999.6	22.9	75-09-2	500 ppm	orl-rat 820mg/kg
22. 1,1-Dichloroethene	32251	102023	0.10	10.00	20001.6	2000	NA	NA	0.042	NA	NA	1999.7	20.4	75-35-4	1 ppm (4mg/m3/8H)	orl-rat 200mg/kg
23. Bromoform	95321	020724	0.10	10.00	20003.2	2000	NA	NA	0.042	NA	NA	1999.8	20.5	75-25-2	0.5 ppm (5mg/m3) (skin)	orl-rat 933mg/kg
24. Carbon tetrachloride	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.4	56-23-5	2 ppm (12.6mg/m3/8H)	orl-rat 2350mg/kg
25. Chloroform	95321	020724	0.10	10.00	20024.0	2000	NA	NA	0.042	NA	NA	2001.9	20.5	67-66-3	50 ppm (240mg/m3) (CL)	orl-rat 908mg/kg
26. Dibromomethane	95321	020724	0.10	10.00	20002.9	2000	NA	NA	0.042	NA	NA	1999.8	20.5	74-95-3	N/A	orl-rat 108mg/kg
27. 1,1-Dichloroethane	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.5	75-34-3	100 ppm	orl-rat 725mg/kg
28. 2,2-Dichloropropane	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.4	594-20-7	N/A	N/A
29. Tetrachloroethene	95321	020724	0.10	10.00	20201.1	2000	NA	NA	0.042	NA	NA	2019.6	20.6	127-18-4	25 ppm (170mg/m3/8H)(final)	orl-rat 2629mg/kg
30. 1,1,1-Trichloroethane	95321	020724	0.10	10.00	20003.0	2000	NA	NA	0.042	NA	NA	1999.8	20.5	71-55-6	350 ppm (1900mg/m3/8H)	orl-rat 10300mg/kg
31. 1,2-Dibromo-3-chloropropane	35161	112322	0.05	5.00	40016.5	2000	NA	NA	0.017	NA	NA	2000.3	22.9	96-12-8	0.001 ppm	orl-rat 170mg/kg
32. 1,2-Dibromoethane	35161	112322	0.05	5.00	40024.8	2000	NA	NA	0.017	NA	NA	2000.7	22.9	106-93-4	20 ppm (8H)	orl-rat 108mg/kg
33. 1,2-Dichloroethane	35161	112322	0.05	5.00	40018.0	2000	NA	NA	0.017	NA	NA	2000.4	22.9	107-06-2	50 ppm (8H)	orl-rat 670mg/kg
34. 1,2-Dichloropropane	35161	112322	0.05	5.00	40051.0	2000	NA	NA	0.017	NA	NA	2002.0	22.9	78-87-5	75 ppm (350mg/m3/8H)	orl-rat 1947mg/kg
35. 1,3-Dichloropropane	35161	112322	0.05	5.00	40005.9	2000	NA	NA	0.017	NA	NA	1999.8	22.9	142-28-9	N/A	unr-mus 3600mg/kg
36. 1,1-Dichloropropene	35161	112322	0.05	5.00	40012.1	2000	NA	NA	0.017	NA	NA	2000.1	29.7	563-58-6	N/A	N/A
37. cis-1,3-Dichloropropene	35161	112322	0.05	5.00	40010.0	2000	NA	NA	0.017	NA	NA	2000.0	23.0	10061-01-5	N/A	N/A
38. trans-1,3-Dichloropropene	35161	112322	0.05	5.00	40017.6	2000	NA	NA	0.017	NA	NA	2000.4	23.0	10061-02-6	N/A	N/A
39. Hexachloro-1,3-butadiene	35161	112322	0.05	5.00	40021.9	2000	NA	NA	0.017	NA	NA	2000.6	29.7	87-68-3	0.02 ppm (0.24mg/m3/8H)	orl-rat 82mg/kg
40. 1,1,1,2-Tetrachloroethane	35161	112322	0.05	5.00	40011.9	2000	NA	NA	0.017	NA	NA	2000.1	22.9	630-20-6	N/A	orl-rat 670mg/kg
41. 1,1,2,2-Tetrachloroethane	35161	112322	0.05	5.00	40007.5	2000	NA	NA	0.017	NA	NA	1999.9	22.9	79-34-5	5 ppm (35mg/m3/8H)(skin)	orl-rat 800mg/kg
42. 1,1,2-Trichloroethane	35161	112322	0.05	5.00	40006.6	2000	NA	NA	0.017	NA	NA	1999.8	23.0	79-00-5	10 ppm (45mg/m3/8H)(skin)	orl-rat 836mg/kg
43. Trichloroethene	35161	112322	0.05	5.00	40029.0	2000	NA	NA	0.017	NA	NA	2000.9	22.9	79-01-6	50 ppm (270mg/m3/8H)	orl-mus 2402mg/kg
44. 1,2,3-Trichloropropane	35161	112322	0.05	5.00	40007.5	2000	NA	NA	0.017	NA	NA	1999.9	22.9	96-18-4	10 ppm (60mg/m3/8H)	orl-rat 149.6mg/kg
45. Benzene	35162	050823	0.05	5.00	40005.0	2000	NA	NA	0.017	NA	NA	1999.7	22.9	71-43-2	1 ppm	orl-rat 4894mg/kg
46. Bromobenzene	35162	050823	0.05	5.00	40006.9	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-86-1	N/A	orl-rat 2699mg/kg
47. n-Butyl benzene	35162	050823	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	104-51-8	N/A	N/A
48. Ethyl benzene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	100-41-4	100 ppm (435mg/m3/8H)	orl-rat >2000mg/kg
49. p-Isopropyl toluene	35162	050823	0.05	5.00	40005.6	2000	NA	NA	0.017	NA	NA	1999.8	22.9	99-87-6	N/A	orl-rat 4750mg/kg
50. Naphthalene	35162	050823	0.05	5.00	40006.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	91-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
51. Styrene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	100-42-5	100 ppm	orl-rat 5000mg/kg
52. Toluene	35162	050823	0.05	5.00	40006.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-88-3	200 ppm	orl-rat 5000mg/kg
53. 1,2,3-Trichlorobenzene	35162	050823	0.05	5.00	40003.1	2000	NA	NA	0.017	NA	NA	1999.7	22.9	87-61-6	N/A	ipr-mus 1260mg/kg
54. 1,2,4-Trichlorobenzene	35162	050823	0.05	5.00	40006.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	120-82-1	5 ppm (CL) (40mg/m3)	orl-rat 756mg/kg
55. 1,2,4-Trimethylbenzene	35162	050823	0.05	5.00	40001.6	2000	NA	NA	0.017	NA	NA	1999.6	23.0	95-63-6	N/A	orl-rat 5g/kg
56. 1,3,5-Trimethylbenzene	35162	050823	0.05	5.00	40006.7	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-67-8	N/A	orl-rat 5000mg/kg
57. m-Xylene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-38-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
58. tert-Butyl benzene	35163	101923	0.05	5.00	40001.2	2000	NA	NA	0.017	NA	NA	1999.6	22.9	98-06-6	N/A	N/A
59. sec-Butyl benzene	35163	101923	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.6	22.9	135-98-8	N/A	orl-rat 2240mg/kg
60. Chlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-90-7	75 ppm (350mg/m3/8H)	orl-rat 2290mg/kg
61. 2-Chlorotoluene	35163	101923	0.05	5.00	40000.3	2000	NA	NA	0.017	NA	NA	1999.5	22.9	95-49-8	50 ppm (250mg/m3/8H)	orl-rat 3900mg/kg
62. 4-Chlorotoluene	35163	101923	0.05	5.00	40003.3	2000	NA	NA	0.017	NA	NA	1999.7	22.9	106-43-4	N/A	orl-rat 2100mg/kg
63. 1,2-Dichlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	95-50-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg
64. 1,3-Dichlorobenzene	35163	101923	0.05	5.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	23.0	541-73-1	N/A	ipr-mus 1062mg/kg
65. 1,4-Dichlorobenzene	35163	101923	0.05	5.00	40001.8	2000	NA	NA	0.017	NA	NA	1999.6	22.9	106-46-7	75 ppm (450mg/m3/8H)	orl-rat 500mg/kg
66. Isopropylbenzene	35163	101923	0.05	5.00	40000.8	2000	NA	NA	0.017	NA	NA	1999.5	22.9	98-82-8	50 ppm (245mg/m3/8H)	orl-rat 1400mg/kg
67. n-Propylbenzene	35163	101923	0.05	5.00	40003.4	2000	NA	NA	0.017	NA	NA	1999.7	23.0	103-65-1	N/A	orl-rat 6040mg/kg
68. o-Xylene	35163	101923	0.05	5.00	40040.8	2000	NA	NA	0.017	NA	NA	2001.5	23.0	95-47-6	100 ppm (435mg/m3/8H)	ipr-mus 1364mg/kg
69. p-Xylene	35163	101923	0.05	5.00	40000.6	2000	NA	NA	0.017	NA	NA	1999.5	22.9	106-42-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty References: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Run 17, "P95317 L021524 [2000µg/mL in MeOH]"

Run Length: 60.00 min, 35998 points at 10 points/second.
Created: Sat, Feb 17, 2024 at 10:04:27 AM.
Sampled: Sequence "021624-GC5M1", Method "GC5-M1".
Analyzed using Method "GC5-M1".

Comments
GC5-M1 Analysis by Candice Warren
Column ID SPB-Vocol 105 meter X 0.53mm X 3.0µm film thickness
Flow rates: Total flow=290mL/min., Helium (carrier)=10mL/min.,
Helium(make-up)=10mL/min., Hydrogen(make-up)=40mL/min., Air(make-up)=230mL/min.
Oven Profile: Temp. 1=35°C (Time 1=10 min.), Temp 2=200°C (Time 2=6.75 min.),
Rate = 4°C/min., Total run time=60 min. Injector temp.=200°C, FID Temp.=200°C.
FID Signal = Edaq Channel 1
Standard injection = 0.5µL, Range=3



Peak #	Name	FID RT (min.)
1	Ether	9.97
2	1,1,2-Trichloro-1,2,2-trifluoroethane	10.33
3	1,1-Dichloroethene	11.10
4	Acetonitrile	12.00
5	Iodomethane	12.31
6	Allyl chloride	12.56
7	Carbon disulfide/Methylene chloride	13.04
8	trans-1,2-Dichloroethene	14.07
9	1,1-Dichloroethane	15.74
10	2,2-Dichloropropane	17.74
11	cis-1,2-Dichloroethene	18.00
12	Methacrylonitrile/Methyl acrylate/Chloroform	18.49
13	Isobutanol/1,1,1-Trichloroethane	19.91
14	1,1-Dichloropropene	20.46
15	Carbon tetrachloride	20.79
16	Benzene/1,2-Dichloroethane	21.48
17	Trichloroethene	23.58
18	1,2-Dichloropropane	24.26
19	Methyl methacrylate	24.52
20	Bromodichloromethane	25.13
21	Dibromomethane/2-Nitropropane	25.46
22	cis-1,3-Dichloropropene	27.02
23	Toluene	28.05
24	Ethyl methacrylate/trans-1,3-Dichloropropene	28.73
25	1,1,2-Trichloroethane	29.34
26	Tetrachloroethene/1,3-Dichloropropane	30.24
27	Dibromochloromethane	31.16
28	1,2-Dibromoethane	31.84
29	Chlorobenzene	33.26
30	Ethylbenzene/1,1,1,2-Tetrachloroethane	33.40
31	m-Xylene/p-Xylene	33.66
32	o-Xylene	35.22
33	Styrene	35.39
34	Isopropylbenzene/Bromoform	36.48
35	cis-1,4-Dichloro-2-butene	36.80
36	1,1,2,2-Tetrachloroethane	37.23
37	1,2,3-Trichloropropane	37.77
38	n-Propylbenzene	37.92
39	trans-1,4-Dichloro-2-butene	38.05
40	Bromobenzene	38.14
41	1,3,5-Trimethylbenzene	38.50
42	2-Chlorotoluene	38.62
43	4-Chlorotoluene	38.77
44	tert-Butylbenzene	39.76
45	1,2,4-Trimethylbenzene	39.91
46	Pentachloroethane	40.17
47	sec-Butylbenzene	40.52
48	p-Isopropyltoluene	41.02
49	1,3-Dichlorobenzene	41.42
50	1,4-Dichlorobenzene	41.83
51	n-Butylbenzene	42.52
52	1,2-Dichlorobenzene	43.10
53	1,2-Dibromo-3-chloropropane	46.12
54	Nitrobenzene	46.48
55	1,2,4-Trichlorobenzene	48.26
56	Hexachlorobutadiene	49.22
57	Naphthalene	50.26
58	1,2,3-Trichlorobenzene	51.16

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Certified Reference Material CRM

Rec 09/17/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

Part Number: 95317
Lot Number: 021624
Description: Universal VOA Megamix
69 components
Expiration Date: 021627
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 6UTB

Solvent(s): Lot#
Methanol EG359-USQ12

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.021 Flask Uncertainty

Formulated By: Prashant Chauhan 021624 DATE

Reviewed By: Pedro L. Rentas 021624 DATE

Compound	(RM#) Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Initial Conc.(ug/mL)	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty	Uncertainty Pipette (mL)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acetonitrile	(0324)	021644	NA	NA	NA	2000	99.99	0.2	NA	0.20007	0.20020	2001.3	8.1	75-05-8	40 ppm (70mg/m3/8H)	orl-rat 2460mg/kg
2. Allyl chloride (3-Chloropropene)	(0325)	102396	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20221	2001.4	8.2	107-05-1	1 ppm (3mg/m3/8H)	orl-rat 700mg/kg
3. Carbon disulphide	(0060)	MKCR8561	NA	NA	NA	2000	99.99	0.2	NA	0.20007	0.20023	2001.6	8.1	75-15-0	4 ppm (12mg/m3) (skin)	orl-rat 1200mg/kg
4. cis-1,4-Dichloro-2-butene	(1196)	14718EF	NA	NA	NA	2000	95	0.2	NA	0.21058	0.21069	2001.1	8.5	1476-11-5	N/A	N/A
5. trans-1,4-Dichloro-2-butene	(0466)	MKBP6041V	NA	NA	NA	2000	96.5	0.2	NA	0.20731	0.20748	2001.7	8.4	110-57-6	N/A	N/A
6. Diethyl ether	(0153)	IK18CAS0000	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20040	2001.5	8.1	60-29-7	N/A	N/A
7. Ethyl methacrylate	(0381)	06128PX	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20230	2002.3	8.2	97-63-2	N/A	orl-rat 14800mg/kg
8. Iodomethane	(0489)	SHBF8718V	NA	NA	NA	2000	99.5	0.2	NA	0.20106	0.20121	2001.5	8.2	74-88-4	5 ppm(28mg/m3/8H)(skin)	orl-rat 76mg/kg
9. 2-Methyl-1-propanol	(0445)	15241EB	NA	NA	NA	2000	99.5	0.2	NA	0.20106	0.20120	2001.4	8.1	78-83-1	50 ppm (150mg/m3/8H)	orl-rat 2460mg/kg
10. Methacrylonitrile	(0442)	00427ET	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20221	2001.4	8.2	126-98-7	1 ppm (3mg/m3/8H)(skin)	orl-rat 120mg/kg
11. Methyl acrylate	(1075)	SHBK0679	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20040	2001.5	8.1	96-33-3	10 ppm(35mg/m3/8H)(skin)	orl-rat 277mg/kg
12. Methyl methacrylate	(0404)	MKBW5137V	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20041	2001.6	8.1	80-62-6	100 ppm (410mg/m3/8H)	orl-rat 7872mg/kg
13. Nitrobenzene	(0228)	01213TV	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20220	2001.3	8.2	98-95-3	1 ppm (5mg/m3/8H)(skin)	orl-rat 780mg/kg
14. 2-Nitropropane	(0461)	14002JX	NA	NA	NA	2000	97.3	0.2	NA	0.20560	0.20577	2001.6	8.3	79-46-9	10 ppm (35mg/m3/8H)	orl-rat 720mg/kg
15. Pentachloroethane	(0450)	HGA01	NA	NA	NA	2000	98	0.2	NA	0.20413	0.20430	2001.6	8.3	76-01-7	N/A	N/A
16. 1,1,2-Trichlorotrifluoroethane	(0474)	18930	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20225	2001.8	8.2	76-13-1	1000 ppm (7600mg/m3/8H)	orl-rat 43g/kg
17. Bromodichloromethane	35171	101623	0.05	5.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	22.9	75-27-4	N/A	orl-rat 916mg/kg
18. Dibromochloromethane	35171	101623	0.05	5.00	40002.1	2000	NA	NA	0.017	NA	NA	1999.6	23.0	124-48-1	N/A	orl-rat 846mg/kg
19. cis-1,2-Dichloroethene	35171	101623	0.05	5.00	40003.1	2000	NA	NA	0.017	NA	NA	1999.7	22.9	156-59-2	N/A	N/A
20. trans-1,2-Dichloroethene	35171	101623	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.6	23.0	156-60-5	N/A	orl-rat 1235mg/kg
21. Methylene chloride	35171	101623	0.05	5.00	40002.8	2000	NA	NA	0.017	NA	NA	1999.6	22.9	75-09-2	500 ppm	orl-rat 820mg/kg
22. 1,1-Dichloroethene	32251	102023	0.10	10.00	20001.6	2000	NA	NA	0.042	NA	NA	1999.7	20.4	75-35-4	1 ppm (4mg/m3/8H)	orl-rat 200mg/kg
23. Bromoform	95321	020724	0.10	10.00	20003.2	2000	NA	NA	0.042	NA	NA	1999.8	20.5	75-25-2	0.5 ppm (5mg/m3) (skin)	orl-rat 933mg/kg
24. Carbon tetrachloride	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.4	56-23-5	2 ppm (12.6mg/m3/8H)	orl-rat 2350mg/kg
25. Chloroform	95321	020724	0.10	10.00	20024.0	2000	NA	NA	0.042	NA	NA	2001.9	20.5	67-66-3	50 ppm (240mg/m3) (CL)	orl-rat 908mg/kg
26. Dibromomethane	95321	020724	0.10	10.00	20002.9	2000	NA	NA	0.042	NA	NA	1999.8	20.5	74-95-3	N/A	orl-rat 108mg/kg
27. 1,1-Dichloroethane	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.5	75-34-3	100 ppm	orl-rat 725mg/kg
28. 2,2-Dichloropropane	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.4	594-20-7	N/A	N/A
29. Tetrachloroethene	95321	020724	0.10	10.00	20201.1	2000	NA	NA	0.042	NA	NA	2019.6	20.6	127-18-4	25 ppm (170mg/m3/8H)(final)	orl-rat 2629mg/kg
30. 1,1,1-Trichloroethane	95321	020724	0.10	10.00	20003.0	2000	NA	NA	0.042	NA	NA	1999.8	20.5	71-55-6	350 ppm (1900mg/m3/8H)	orl-rat 10300mg/kg
31. 1,2-Dibromo-3-chloropropane	35161	112322	0.05	5.00	40016.5	2000	NA	NA	0.017	NA	NA	2000.3	22.9	96-12-8	0.001 ppm	orl-rat 170mg/kg
32. 1,2-Dibromoethane	35161	112322	0.05	5.00	40024.8	2000	NA	NA	0.017	NA	NA	2000.7	22.9	106-93-4	20 ppm (8H)	orl-rat 108mg/kg
33. 1,2-Dichloroethane	35161	112322	0.05	5.00	40018.0	2000	NA	NA	0.017	NA	NA	2000.4	22.9	107-06-2	50 ppm (8H)	orl-rat 670mg/kg
34. 1,2-Dichloropropane	35161	112322	0.05	5.00	40051.0	2000	NA	NA	0.017	NA	NA	2002.0	22.9	78-87-5	75 ppm (350mg/m3/8H)	orl-rat 1947mg/kg
35. 1,3-Dichloropropane	35161	112322	0.05	5.00	40005.9	2000	NA	NA	0.017	NA	NA	1999.8	22.9	142-28-9	N/A	unr-mus 3600mg/kg
36. 1,1-Dichloropropene	35161	112322	0.05	5.00	40012.1	2000	NA	NA	0.017	NA	NA	2000.1	29.7	563-58-6	N/A	N/A
37. cis-1,3-Dichloropropene	35161	112322	0.05	5.00	40010.0	2000	NA	NA	0.017	NA	NA	2000.0	23.0	10061-01-5	N/A	N/A
38. trans-1,3-Dichloropropene	35161	112322	0.05	5.00	40017.6	2000	NA	NA	0.017	NA	NA	2000.4	23.0	10061-02-6	N/A	N/A
39. Hexachloro-1,3-butadiene	35161	112322	0.05	5.00	40021.9	2000	NA	NA	0.017	NA	NA	2000.6	29.7	87-68-3	0.02 ppm (0.24mg/m3/8H)	orl-rat 82mg/kg
40. 1,1,1,2-Tetrachloroethane	35161	112322	0.05	5.00	40011.9	2000	NA	NA	0.017	NA	NA	2000.1	22.9	630-20-6	N/A	orl-rat 670mg/kg
41. 1,1,2,2-Tetrachloroethane	35161	112322	0.05	5.00	40007.5	2000	NA	NA	0.017	NA	NA	1999.9	22.9	79-34-5	5 ppm (35mg/m3/8H)(skin)	orl-rat 800mg/kg
42. 1,1,2-Trichloroethane	35161	112322	0.05	5.00	40006.6	2000	NA	NA	0.017	NA	NA	1999.8	23.0	79-00-5	10 ppm (45mg/m3/8H)(skin)	orl-rat 836mg/kg
43. Trichloroethene	35161	112322	0.05	5.00	40029.0	2000	NA	NA	0.017	NA	NA	2000.9	22.9	79-01-6	50 ppm (270mg/m3/8H)	orl-mus 2402mg/kg
44. 1,2,3-Trichloropropane	35161	112322	0.05	5.00	40007.5	2000	NA	NA	0.017	NA	NA	1999.9	22.9	96-18-4	10 ppm (60mg/m3/8H)	orl-rat 149.6mg/kg
45. Benzene	35162	050823	0.05	5.00	40005.0	2000	NA	NA	0.017	NA	NA	1999.7	22.9	71-43-2	1 ppm	orl-rat 4894mg/kg
46. Bromobenzene	35162	050823	0.05	5.00	40006.9	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-86-1	N/A	orl-rat 2699mg/kg
47. n-Butyl benzene	35162	050823	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	104-51-8	N/A	N/A
48. Ethyl benzene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	100-41-4	100 ppm (435mg/m3/8H)	orl-rat >2000mg/kg
49. p-Isopropyl toluene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	99-87-6	N/A	orl-rat 4750mg/kg
50. Naphthalene	35162	050823	0.05	5.00	40006.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	91-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
51. Styrene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	100-42-5	100 ppm	orl-rat 5000mg/kg
52. Toluene	35162	050823	0.05	5.00	40006.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-88-3	200 ppm	orl-rat 5000mg/kg
53. 1,2,3-Trichlorobenzene	35162	050823	0.05	5.00	40003.1	2000	NA	NA	0.017	NA	NA	1999.7	22.9	87-61-6	N/A	ipr-mus 1390mg/kg
54. 1,2,4-Trichlorobenzene	35162	050823	0.05	5.00	40006.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	120-82-1	5 ppm (CL) (40mg/m3)	orl-rat 756mg/kg
55. 1,2,4-Trimethylbenzene	35162	050823	0.05	5.00	40001.6	2000	NA	NA	0.017	NA	NA	1999.6	23.0	95-63-6	N/A	orl-rat 5g/kg
56. 1,3,5-Trimethylbenzene	35162	050823	0.05	5.00	40006.7	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-67-8	N/A	orl-rat 5000mg/kg
57. m-Xylene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-38-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
58. tert-Butyl benzene	35163	101923	0.05	5.00	40001.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	98-06-6	N/A	N/A
59. sec-Butyl benzene	35163	101923	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.8	22.9	135-98-8	N/A	orl-rat 2240mg/kg
60. Chlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-90-7	75 ppm (350mg/m3/8H)	orl-rat 2290mg/kg
61. 2-Chlorotoluene	35163	101923	0.05	5.00	40000.3	2000	NA	NA	0.017	NA	NA	1999.5	22.9	95-49-8	50 ppm (250mg/m3/8H)	orl-rat 3900mg/kg
62. 4-Chlorotoluene	35163	101923	0.05	5.00	40003.3	2000	NA	NA	0.017	NA	NA	1999.7	22.9	106-43-4	N/A	orl-rat 2100mg/kg
63. 1,2-Dichlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	95-50-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg
64. 1,3-Dichlorobenzene	35163	101923	0.05	5.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	23.0	541-73-1	N/A	ipr-mus 1062mg/kg
65. 1,4-Dichlorobenzene	35163	101923	0.05	5.00	40001.8	2000	NA	NA	0.017	NA	NA	1999.6	22.9	106-46-7	75 ppm (450mg/m3/8H)	orl-rat 500mg/kg
66. Isopropylbenzene	35163	101923	0.05	5.00	40000.8	2000	NA	NA	0.017	NA	NA	1999.5	22.9	98-82-8	50 ppm (245mg/m3/8H)	orl-rat 1400mg/kg
67. n-Propylbenzene	35163	101923	0.05	5.00	40003.4	2000	NA	NA	0.017	NA	NA	1999.7	23.0	103-65-1	N/A	orl-rat 8040mg/kg
68. o-Xylene	35163	101923	0.05	5.00	40040.8	2000	NA	NA	0.017	NA	NA	2001.5	23.0	95-47-6	100 ppm (435mg/m3/8H)	ipr-mus 1364mg/kg
69. p-Xylene	35163	101923	0.05	5.00	40000.6	2000	NA	NA	0.017	NA	NA	1999.5	22.9	106-42-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg

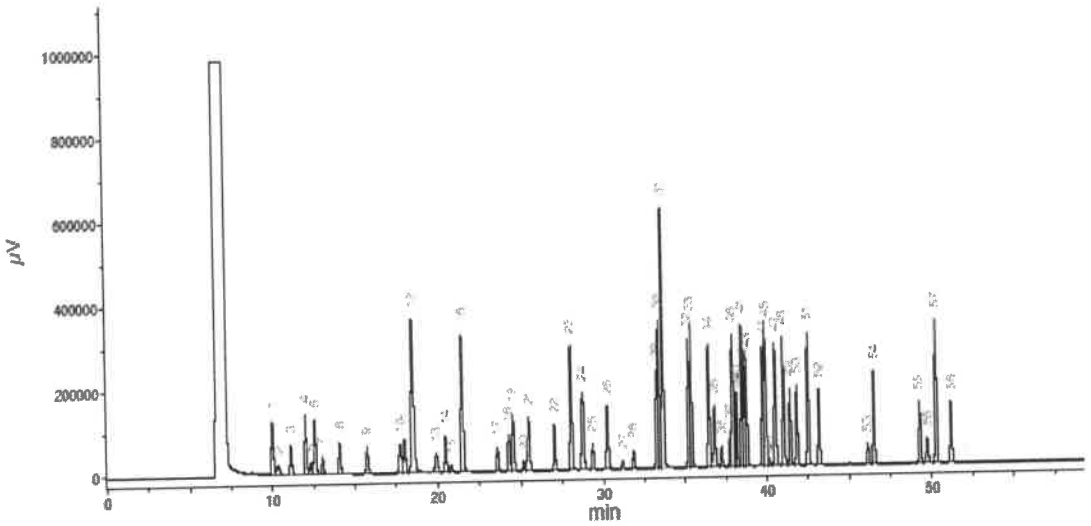
- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Run 16, "P95317 L021624 (2000µg/mL in MeOH)"

Run Length: 60.00 min, 35998 points at 10 points/second.
Created: Sat, Feb 17, 2024 at 8:56:46 AM.
Sampled: Sequence "021624-GC5M1", Method "GC5-M1".
Analyzed using Method "GC5-M1".

Comments

GC5-M1 Analysis by Candice Warren
Column ID SPB-Vocol 105 meter X 0.53mm X 3.0µm film thickness
Flow rates: Total flow=290mL/min., Helium (carrier)=10mL/min.,
Helium(make-up)=10mL/min., Hydogen(make-up)=40mL/min., Air(make-up)=230mL/min.
Oven Profile: Temp. 1=35°C (Time 1=10 min.), Temp 2=200°C (Time 2=8.75 min.),
Rate = 4°C/min., Total run time=60 min. Injector temp.=200°C, FID Temp.=200°C.
FID Signal = Edaq Channel 1
Standard injection = 0.5µL, Range=3



Peak #	Name	FID RT (min.)
1	Ether	9.97
2	1,1,2-Trichloro-1,2,3-trifluoroethane	10.33
3	1,1-Dichloroethene	11.10
4	Acetonitrile	12.00
5	Iodomethane	12.31
6	Allyl chloride	12.56
7	Carbon disulfide/Methylene chloride	13.04
8	trans-1,2-Dichloroethene	14.07
9	1,1-Dichloroethane	15.74
10	2,2-Dichloropropane	17.74
11	cis-1,2-Dichloroethene	18.00
12	Methacrylonitrile/Methyl acrylate/Chloroform	18.49
13	Isobutanol/1,1,1-Trichloroethane	18.91
14	1,1-Dichloropropene	19.46
15	Carbon tetrachloride	20.79
16	Benzene/1,2-Dichloroethane	21.48
17	Trichloroethene	23.86
18	1,2-Dichloropropane	24.26
19	Methyl methacrylate	24.62
20	Bromodichloromethane	25.13
21	Dibromomethane/2-Nitropropane	25.46
22	cis-1,3-Dichloropropene	27.07
23	Toluene	28.09
24	Ethyl methacrylate/trans-1,3-Dichloropropene	28.73
25	1,1,2-Trichloroethane	29.34
26	Tetrachloroethene/1,3-Dichloropropane	30.34
27	Dibromochloromethane	31.16
28	1,2-Dibromoethane	31.84
29	Chlorobenzene	33.26
30	Ethylbenzene/1,1,1,2-Tetrachloroethane	33.40
31	m-Xylene/p-Xylene	33.85
32	o-Xylene	35.33
33	Styrene	35.50
34	Isopropylbenzene/Bromoform	35.48
35	cis-1,4-Dichloro-2-butene	36.80
36	1,1,2,2-Tetrachloroethane	37.23
37	1,2,3-Trichloropropane	37.77
38	n-Propylbenzene	37.92
39	trans-1,4-Dichloro-2-butene	38.05
40	Bromobenzene	38.14
41	1,3,5-Trimethylbenzene	38.50
42	2-Chlorotoluene	38.62
43	4-Chlorotoluene	38.77
44	tert-Butylbenzene	39.76
45	1,2,4-Trimethylbenzene	39.91
46	Pentachloroethane	40.17
47	sec-Butylbenzene	40.52
48	p-Isopropyltoluene	41.02
49	1,3-Dichlorobenzene	41.12
50	1,4-Dichlorobenzene	41.63
51	n-Butylbenzene	42.52
52	1,2-Dichlorobenzene	42.18
53	1,2-Dibromo-3-chloropropane	46.12
54	Nitrobenzene	46.58
55	1,2,4-Trichlorobenzene	49.26
56	Hexachlorobutadiene	49.72
57	Naphthalene	50.46
58	1,2,3-Trichlorobenzene	51.16

Absolute Standards Inc.

PO Box 5585
Hamden, CT 06518-0585

Phone: 203-281-2917
FAX: 203-281-2922

Safety Data Sheet (SDS) GHS/OSHA Compliant

Section I Product and Company Identification

IDENTITY **ANALYTICAL STANDARD DISSOLVED IN METHANOL**

Manufacturer's Name	ABSOLUTE STANDARDS INC	Emergency Telephone USA & CANADA	**1-800-535-5053**
Address	44 Rossotto Dr. Hamden CT, 06514	Emergency Telephone International	**1-352-323-3500**
		Date Prepared/Revised	January 1, 2024

Section II - Hazards Identification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H225	**Highly Flammable Liquid and Vapor**	**H301, 311, 331**	**Toxic if swallowed, skin contact, inhaled**
H370	**Cause damage to organs**	**H351**	**Suspected of causing cancer**
P271	**Use in ventilated area**	**P280**	**Use gloves, eye protection/face sheild**
P302,332	**If on skin, wash with soap and water**	**P305,351,338**	**If in eyes, remove contacts, rinse with water**

Signal Word: DANGER

Section III - Composition

Components (Specific Chemical Identity; Common Name(s))			% (optional)
Methanol	METHYL ALCOHOL	CAS#: 67-56-1	> 97

See Certified Weight Report For Other Analytes Present At Trace Quantities.

INTENDED USE: REFERENCE MATERIAL

Section IV. FIRST AID MEASURES

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.Move to safe area.
If inhaled	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash with soap and water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Rinse mouth with water. Consult a physician.

Section V. FIREFIGHTING MEASURES

Flammability	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Protective equipment for fire	Wear self contained breathing apparatus for fire fighting if necessary.

Section VI. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Vapours accumulate to form explosive concentrations.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Clean up	Contain spillage, and then collect and place in container for disposal according to local regulations (see section 13).

Section VII. HANDLING AND STORAGE

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use ventilation Keep away from sources of ignition. No smoking. Prevent the build up of electrostatic charge.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Methanol 67-56-1 TWA 200 ppm
Skin notation TWA 200 ppm
Potential for skin absorption , ingestion and inhalation.
Personal protective equipment Respiratory protection Handle with gloves. Gloves must be inspected prior to use. Eye protection.
Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product.

Section IX - Physical/Chemical Characteristics

Boiling Point	65°C	Specific Gravity (H2O = 1)	0.79
Vapor Pressure (mm Hg)	96	Melting Point	-98°C
Vapor Density (AIR = 1)	1.11	Evaporation rate (Butyl Acetate = 1)	4.6

Solubility in Water COMPLETE

Appearance and Odor CLEAR, COLORLESS LIQUID WITH CHARACTERISTIC PUNGENT ODOR.

Section X. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions Vapours may form explosive mixture with air.
Conditions to avoid Heat, flames, sparks, extreme temperature and sunlight.
Materials to avoid Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
Hazardous decomposition products formed under fire conditions. - Carbon oxides

Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - rat - 5,628 mg/kg
LC50 Inhalation - rat - 4 h - 64000 ppm
LD50 Dermal - rabbit - 15,800 mg/kg
Toxic if absorbed through skin. Causes skin irritation.
Eye damage/eye irritation
Toxic if inhaled. Causes respiratory tract irritation.
Toxic if swallowed.

Section XII. ECOLOGICAL INFORMATION FOR REPORTABLE QUANTITY OF 5000 lbs.

LC50	15,400 mg/l - 96 h
EC50	24,500.00 mg/l - 48 h
EC100	10,000.00 mg/l - 24 h

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory Solvent Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

IATA
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

Section XV. REGULATORY INFORMATION

OSHA Hazards Flammable liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section XVI. Misc. INFORMATION

The information in this Material Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and Global Harmonized System (GHS). This document is intended only as a guide to the appropriate precautionary handling of the material by trained personnel, or supervised by a person trained in chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, ABSOLUTE STANDARDS INC. cannot warn of all the potential dangers of use or interaction with other chemicals or substances. ABSOLUTE STANDARDS INC. warrants that the chemical meets the specifications set forth on the label. ABSOLUTE STANDARDS INC DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR APPLICATION. The user should recognize that this product can cause severe injury or death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Absolute Standards Inc. will periodically revise this Safety Data Sheet. If you have any questions, please call Technical Service at 1-203-281-2917 for assistance.

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

Rec 09/17/24

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

Part Number: 95317
Lot Number: 021624
Description: Universal VOA Megamix
69 components
Expiration Date: 021627
Recommended Storage: Freezer (0 °C)
Nominal Concentration (µg/mL): 2000
NIST Test ID#: 6UTB

Solvent(s): Lot#
Methanol EG359-USQ12

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.021 Flask Uncertainty

Formulated By: Prashant Chauhan 021624 DATE

Reviewed By: Pedro L. Rentas 021624 DATE

Compound	(RM#) Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Initial Conc.(ug/mL)	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty	Uncertainty Pipette (mL)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acetonitrile	(0324)	021644	NA	NA	NA	2000	99.99	0.2	NA	0.20007	0.20020	2001.3	8.1	75-05-8	40 ppm (70mg/m3/8H)	orl-rat 2460mg/kg
2. Allyl chloride (3-Chloropropene)	(0325)	102396	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20221	2001.4	8.2	107-05-1	1 ppm (3mg/m3/8H)	orl-rat 700mg/kg
3. Carbon disulphide	(0060)	MKCR8561	NA	NA	NA	2000	99.99	0.2	NA	0.20007	0.20023	2001.6	8.1	75-15-0	4 ppm (12mg/m3) (skin)	orl-rat 1200mg/kg
4. cis-1,4-Dichloro-2-butene	(1196)	14718EF	NA	NA	NA	2000	95	0.2	NA	0.21058	0.21069	2001.1	8.5	1476-11-5	N/A	N/A
5. trans-1,4-Dichloro-2-butene	(0466)	MKBP6041V	NA	NA	NA	2000	96.5	0.2	NA	0.20731	0.20748	2001.7	8.4	110-57-6	N/A	N/A
6. Diethyl ether	(0153)	IK18CAS0000	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20040	2001.5	8.1	60-29-7	N/A	N/A
7. Ethyl methacrylate	(0381)	06128PX	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20230	2002.3	8.2	97-63-2	N/A	orl-rat 14800mg/kg
8. Iodomethane	(0489)	SHBF8718V	NA	NA	NA	2000	99.5	0.2	NA	0.20106	0.20121	2001.5	8.2	74-88-4	5 ppm(28mg/m3/8H)(skin)	orl-rat 76mg/kg
9. 2-Methyl-1-propanol	(0445)	15241EB	NA	NA	NA	2000	99.5	0.2	NA	0.20106	0.20120	2001.4	8.1	78-83-1	50 ppm (150mg/m3/8H)	orl-rat 2460mg/kg
10. Methacrylonitrile	(0442)	00427ET	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20221	2001.4	8.2	126-98-7	1 ppm (3mg/m3/8H)(skin)	orl-rat 120mg/kg
11. Methyl acrylate	(1075)	SHBK0679	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20040	2001.5	8.1	96-33-3	10 ppm(35mg/m3/8H)(skin)	orl-rat 277mg/kg
12. Methyl methacrylate	(0404)	MKBW5137V	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20041	2001.6	8.1	80-62-6	100 ppm (410mg/m3/8H)	orl-rat 7872mg/kg
13. Nitrobenzene	(0228)	01213TV	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20220	2001.3	8.2	98-95-3	1 ppm (5mg/m3/8H)(skin)	orl-rat 780mg/kg
14. 2-Nitropropane	(0461)	14002JX	NA	NA	NA	2000	97.3	0.2	NA	0.20560	0.20577	2001.6	8.3	79-46-9	10 ppm (35mg/m3/8H)	orl-rat 720mg/kg
15. Pentachloroethane	(0450)	HGA01	NA	NA	NA	2000	98	0.2	NA	0.20413	0.20430	2001.6	8.3	76-01-7	N/A	N/A
16. 1,1,2-Trichlorotrifluoroethane	(0474)	18930	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20225	2001.8	8.2	76-13-1	1000 ppm (7600mg/m3/8H)	orl-rat 43g/kg
17. Bromodichloromethane	35171	101623	0.05	5.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	22.9	75-27-4	N/A	orl-rat 916mg/kg
18. Dibromochloromethane	35171	101623	0.05	5.00	40002.1	2000	NA	NA	0.017	NA	NA	1999.6	23.0	124-48-1	N/A	orl-rat 846mg/kg
19. cis-1,2-Dichloroethene	35171	101623	0.05	5.00	40003.1	2000	NA	NA	0.017	NA	NA	1999.7	22.9	156-59-2	N/A	N/A
20. trans-1,2-Dichloroethene	35171	101623	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.6	23.0	156-60-5	N/A	orl-rat 1235mg/kg
21. Methylene chloride	35171	101623	0.05	5.00	40002.8	2000	NA	NA	0.017	NA	NA	1999.6	22.9	75-09-2	500 ppm	orl-rat 820mg/kg
22. 1,1-Dichloroethene	32251	102023	0.10	10.00	20001.6	2000	NA	NA	0.042	NA	NA	1999.7	20.4	75-35-4	1 ppm (4mg/m3/8H)	orl-rat 200mg/kg
23. Bromoform	95321	020724	0.10	10.00	20003.2	2000	NA	NA	0.042	NA	NA	1999.8	20.5	75-25-2	0.5 ppm (5mg/m3) (skin)	orl-rat 933mg/kg
24. Carbon tetrachloride	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.4	56-23-5	2 ppm (12.6mg/m3/8H)	orl-rat 2350mg/kg
25. Chloroform	95321	020724	0.10	10.00	20024.0	2000	NA	NA	0.042	NA	NA	2001.9	20.5	67-66-3	50 ppm (240mg/m3) (CL)	orl-rat 908mg/kg
26. Dibromomethane	95321	020724	0.10	10.00	20002.9	2000	NA	NA	0.042	NA	NA	1999.8	20.5	74-95-3	N/A	orl-rat 108mg/kg
27. 1,1-Dichloroethane	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.5	75-34-3	100 ppm	orl-rat 725mg/kg
28. 2,2-Dichloropropane	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1999.8	20.4	594-20-7	N/A	N/A
29. Tetrachloroethene	95321	020724	0.10	10.00	20201.1	2000	NA	NA	0.042	NA	NA	2019.6	20.6	127-18-4	25 ppm (170mg/m3/8H)(final)	orl-rat 2629mg/kg
30. 1,1,1-Trichloroethane	95321	020724	0.10	10.00	20003.0	2000	NA	NA	0.042	NA	NA	1999.8	20.5	71-55-6	350 ppm (1900mg/m3/8H)	orl-rat 10300mg/kg
31. 1,2-Dibromo-3-chloropropane	35161	112322	0.05	5.00	40016.5	2000	NA	NA	0.017	NA	NA	2000.3	22.9	96-12-8	0.001 ppm	orl-rat 170mg/kg
32. 1,2-Dibromoethane	35161	112322	0.05	5.00	40024.8	2000	NA	NA	0.017	NA	NA	2000.7	22.9	106-93-4	20 ppm (8H)	orl-rat 108mg/kg
33. 1,2-Dichloroethane	35161	112322	0.05	5.00	40018.0	2000	NA	NA	0.017	NA	NA	2000.4	22.9	107-06-2	50 ppm (8H)	orl-rat 670mg/kg
34. 1,2-Dichloropropane	35161	112322	0.05	5.00	40051.0	2000	NA	NA	0.017	NA	NA	2002.0	22.9	78-87-5	75 ppm (350mg/m3/8H)	orl-rat 1947mg/kg
35. 1,3-Dichloropropane	35161	112322	0.05	5.00	40005.9	2000	NA	NA	0.017	NA	NA	1999.8	22.9	142-28-9	N/A	unr-mus 3600mg/kg
36. 1,1-Dichloropropene	35161	112322	0.05	5.00	40012.1	2000	NA	NA	0.017	NA	NA	2000.1	29.7	563-58-6	N/A	N/A
37. cis-1,3-Dichloropropene	35161	112322	0.05	5.00	40010.0	2000	NA	NA	0.017	NA	NA	2000.0	23.0	10061-01-5	N/A	N/A
38. trans-1,3-Dichloropropene	35161	112322	0.05	5.00	40017.6	2000	NA	NA	0.017	NA	NA	2000.4	23.0	10061-02-6	N/A	N/A
39. Hexachloro-1,3-butadiene	35161	112322	0.05	5.00	40021.9	2000	NA	NA	0.017	NA	NA	2000.6	29.7	87-68-3	0.02 ppm (0.24mg/m3/8H)	orl-rat 82mg/kg
40. 1,1,1,2-Tetrachloroethane	35161	112322	0.05	5.00	40011.9	2000	NA	NA	0.017	NA	NA	2000.1	22.9	630-20-6	N/A	orl-rat 670mg/kg
41. 1,1,2,2-Tetrachloroethane	35161	112322	0.05	5.00	40007.5	2000	NA	NA	0.017	NA	NA	1999.9	22.9	79-34-5	5 ppm (35mg/m3/8H)(skin)	orl-rat 800mg/kg
42. 1,1,2-Trichloroethane	35161	112322	0.05	5.00	40006.6	2000	NA	NA	0.017	NA	NA	1999.8	23.0	79-00-5	10 ppm (45mg/m3/8H)(skin)	orl-rat 836mg/kg
43. Trichloroethene	35161	112322	0.05	5.00	40029.0	2000	NA	NA	0.017	NA	NA	2000.9	22.9	79-01-6	50 ppm (270mg/m3/8H)	orl-mus 2402mg/kg
44. 1,2,3-Trichloropropane	35161	112322	0.05	5.00	40007.5	2000	NA	NA	0.017	NA	NA	1999.9	22.9	96-18-4	10 ppm (60mg/m3/8H)	orl-rat 149.6mg/kg
45. Benzene	35162	050823	0.05	5.00	40005.0	2000	NA	NA	0.017	NA	NA	1999.7	22.9	71-43-2	1 ppm	orl-rat 4894mg/kg
46. Bromobenzene	35162	050823	0.05	5.00	40006.9	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-86-1	N/A	orl-rat 2699mg/kg
47. n-Butyl benzene	35162	050823	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	104-51-8	N/A	N/A
48. Ethyl benzene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	100-41-4	100 ppm (435mg/m3/8H)	orl-rat >2000mg/kg
49. p-Isopropyl toluene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	99-87-6	N/A	orl-rat 4750mg/kg
50. Naphthalene	35162	050823	0.05	5.00	40006.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	91-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
51. Styrene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	100-42-5	100 ppm	orl-rat 5000mg/kg
52. Toluene	35162	050823	0.05	5.00	40006.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-88-3	200 ppm	orl-rat 5000mg/kg
53. 1,2,3-Trichlorobenzene	35162	050823	0.05	5.00	40003.1	2000	NA	NA	0.017	NA	NA	1999.7	22.9	87-61-6	N/A	ipr-mus 1390mg/kg
54. 1,2,4-Trichlorobenzene	35162	050823	0.05	5.00	40006.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	120-82-1	5 ppm (CL) (40mg/m3)	orl-rat 756mg/kg
55. 1,2,4-Trimethylbenzene	35162	050823	0.05	5.00	40001.6	2000	NA	NA	0.017	NA	NA	1999.6	23.0	95-63-6	N/A	orl-rat 5g/kg
56. 1,3,5-Trimethylbenzene	35162	050823	0.05	5.00	40006.7	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-67-8	N/A	orl-rat 5000mg/kg
57. m-Xylene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-38-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg
58. tert-Butyl benzene	35163	101923	0.05	5.00	40001.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	98-06-6	N/A	N/A
59. sec-Butyl benzene	35163	101923	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.8	22.9	135-98-8	N/A	orl-rat 2240mg/kg
60. Chlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-90-7	75 ppm (350mg/m3/8H)	orl-rat 2290mg/kg
61. 2-Chlorotoluene	35163	101923	0.05	5.00	40000.3	2000	NA	NA	0.017	NA	NA	1999.5	22.9	95-49-8	50 ppm (250mg/m3/8H)	orl-rat 3900mg/kg
62. 4-Chlorotoluene	35163	101923	0.05	5.00	40003.3	2000	NA	NA	0.017	NA	NA	1999.7	22.9	106-43-4	N/A	orl-rat 2100mg/kg
63. 1,2-Dichlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	95-50-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg
64. 1,3-Dichlorobenzene	35163	101923	0.05	5.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	23.0	541-73-1	N/A	ipr-mus 1062mg/kg
65. 1,4-Dichlorobenzene	35163	101923	0.05	5.00	40001.8	2000	NA	NA	0.017	NA	NA	1999.6	22.9	106-46-7	75 ppm (450mg/m3/8H)	orl-rat 500mg/kg
66. Isopropylbenzene	35163	101923	0.05	5.00	40000.8	2000	NA	NA	0.017	NA	NA	1999.5	22.9	98-82-8	50 ppm (245mg/m3/8H)	orl-rat 1400mg/kg
67. n-Propylbenzene	35163	101923	0.05	5.00	40003.4	2000	NA	NA	0.017	NA	NA	1999.7	23.0	103-65-1	N/A	orl-rat 8040mg/kg
68. o-Xylene	35163	101923	0.05	5.00	40040.8	2000	NA	NA	0.017	NA	NA	2001.5	23.0	95-47-6	100 ppm (435mg/m3/8H)	ipr-mus 1364mg/kg
69. p-Xylene	35163	101923	0.05	5.00	40000.6	2000	NA	NA	0.017	NA	NA	1999.5	22.9	106-42-3	100 ppm (435mg/m3/8H)	orl-rat 5g/kg

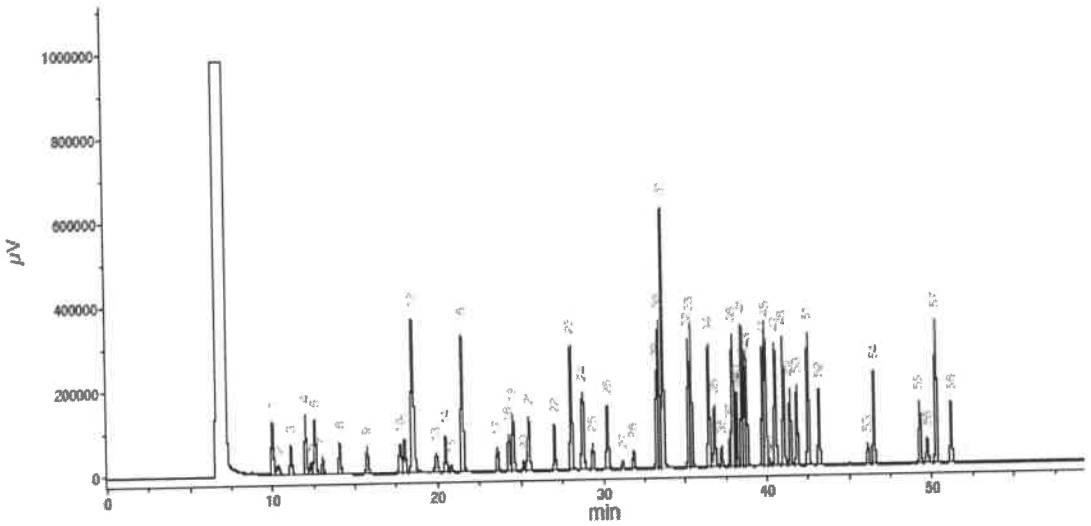
- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Run 16, "P95317 L021624 (2000µg/mL in MeOH)"

Run Length: 60.00 min, 35998 points at 10 points/second.
Created: Sat, Feb 17, 2024 at 8:56:46 AM.
Sampled: Sequence "021624-GC5M1", Method "GC5-M1".
Analyzed using Method "GC5-M1".

Comments

GC5-M1 Analysis by Candice Warren
Column ID SPB-Vocol 105 meter X 0.53mm X 3.0µm film thickness
Flow rates: Total flow=290mL/min., Helium (carrier)=10mL/min.,
Helium(make-up)=10mL/min., Hydogen(make-up)=40mL/min., Air(make-up)=230mL/min.
Oven Profile: Temp. 1=35°C (Time 1=10 min.), Temp 2=200°C (Time 2=8.75 min.),
Rate = 4°C/min., Total run time=60 min. Injector temp.=200°C, FID Temp.=200°C.
FID Signal = Edaq Channel 1
Standard injection = 0.5µL, Range=3



Peak #	Name	FID RT (min.)
1	Ether	9.97
2	1,1,2-Trichloro-1,2,3-trifluoroethane	10.33
3	1,1-Dichloroethene	11.10
4	Acetonitrile	12.00
5	Iodomethane	12.31
6	Allyl chloride	12.56
7	Carbon disulfide/Methylene chloride	13.04
8	trans-1,2-Dichloroethene	14.07
9	1,1-Dichloroethane	15.74
10	2,2-Dichloropropane	17.74
11	cis-1,2-Dichloroethene	18.00
12	Methacrylonitrile/Methyl acrylate/Chloroform	18.49
13	Isobutanol/1,1,1-Trichloroethane	18.91
14	1,1-Dichloropropene	19.46
15	Carbon tetrachloride	20.79
16	Benzene/1,2-Dichloroethane	21.48
17	Trichloroethene	23.86
18	1,2-Dichloropropane	24.26
19	Methyl methacrylate	24.62
20	Bromodichloromethane	25.13
21	Dibromomethane/2-Nitropropane	25.46
22	cis-1,3-Dichloropropene	27.07
23	Toluene	28.09
24	Ethyl methacrylate/trans-1,3-Dichloropropene	28.73
25	1,1,2-Trichloroethane	29.34
26	Tetrachloroethene/1,3-Dichloropropane	30.34
27	Dibromochloromethane	31.16
28	1,2-Dibromoethane	31.84
29	Chlorobenzene	33.26
30	Ethylbenzene/1,1,1,2-Tetrachloroethane	33.40
31	m-Xylene/p-Xylene	33.85
32	o-Xylene	35.33
33	Styrene	35.50
34	Isopropylbenzene/Bromoform	35.48
35	cis-1,4-Dichloro-2-butene	36.80
36	1,1,2,2-Tetrachloroethane	37.23
37	1,2,3-Trichloropropane	37.77
38	n-Propylbenzene	37.92
39	trans-1,4-Dichloro-2-butene	38.05
40	Bromobenzene	38.14
41	1,3,5-Trimethylbenzene	38.50
42	2-Chlorotoluene	38.62
43	4-Chlorotoluene	38.77
44	tert-Butylbenzene	39.76
45	1,2,4-Trimethylbenzene	39.91
46	Pentachloroethane	40.17
47	sec-Butylbenzene	40.52
48	p-Isopropyltoluene	41.02
49	1,3-Dichlorobenzene	41.12
50	1,4-Dichlorobenzene	41.63
51	n-Butylbenzene	42.52
52	1,2-Dichlorobenzene	42.18
53	1,2-Dibromo-3-chloropropane	46.12
54	Nitrobenzene	46.58
55	1,2,4-Trichlorobenzene	49.26
56	Hexachlorobutadiene	49.72
57	Naphthalene	50.46
58	1,2,3-Trichlorobenzene	51.16

Absolute Standards Inc.

PO Box 5585
Hamden, CT 06518-0585

Phone: 203-281-2917
FAX: 203-281-2922

Safety Data Sheet (SDS) GHS/OSHA Compliant

Section I Product and Company Identification

IDENTITY **ANALYTICAL STANDARD DISSOLVED IN METHANOL**

Manufacturer's Name	ABSOLUTE STANDARDS INC	Emergency Telephone USA & CANADA	**1-800-535-5053**
Address	44 Rossotto Dr. Hamden CT, 06514	Emergency Telephone International	**1-352-323-3500**
		Date Prepared/Revised	January 1, 2024

Section II - Hazards Identification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H225	**Highly Flammable Liquid and Vapor**	**H301, 311, 331**	**Toxic if swallowed, skin contact, inhaled**
H370	**Cause damage to organs**	**H351**	**Suspected of causing cancer**
P271	**Use in ventilated area**	**P280**	**Use gloves, eye protection/face sheild**
P302,332	**If on skin, wash with soap and water**	**P305,351,338**	**If in eyes, remove contacts, rinse with water**

Signal Word: DANGER

Section III - Composition

Components (Specific Chemical Identity; Common Name(s))			% (optional)
Methanol	METHYL ALCOHOL	CAS#: 67-56-1	> 97

See Certified Weight Report For Other Analytes Present At Trace Quantities.

INTENDED USE: REFERENCE MATERIAL

Section IV. FIRST AID MEASURES

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.Move to safe area.
If inhaled	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash with soap and water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Rinse mouth with water. Consult a physician.

Section V. FIREFIGHTING MEASURES

Flammability	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Protective equipment for fire	Wear self contained breathing apparatus for fire fighting if necessary.

Section VI. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Vapours accumulate to form explosive concentrations.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Clean up	Contain spillage, and then collect and place in container for disposal according to local regulations (see section 13).

Section VII. HANDLING AND STORAGE

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use ventilation Keep away from sources of ignition. No smoking. Prevent the build up of electrostatic charge.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Methanol 67-56-1 TWA 200 ppm
Skin notation TWA 200 ppm
Potential for skin absorption , ingestion and inhalation.
Personal protective equipment Respiratory protection Handle with gloves. Gloves must be inspected prior to use. Eye protection.
Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product.

Section IX - Physical/Chemical Characteristics

Boiling Point	65°C	Specific Gravity (H2O = 1)	0.79
Vapor Pressure (mm Hg)	96	Melting Point	-98°C
Vapor Density (AIR = 1)	1.11	Evaporation rate (Butyl Acetate = 1)	4.6

Solubility in Water COMPLETE

Appearance and Odor CLEAR, COLORLESS LIQUID WITH CHARACTERISTIC PUNGENT ODOR.

Section X. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions Vapours may form explosive mixture with air.
Conditions to avoid Heat, flames, sparks, extreme temperature and sunlight.
Materials to avoid Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
Hazardous decomposition products formed under fire conditions. - Carbon oxides

Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - rat - 5,628 mg/kg
LC50 Inhalation - rat - 4 h - 64000 ppm
LD50 Dermal - rabbit - 15,800 mg/kg
Toxic if absorbed through skin. Causes skin irritation.
Eye damage/eye irritation
Toxic if inhaled. Causes respiratory tract irritation.
Toxic if swallowed.

Section XII. ECOLOGICAL INFORMATION FOR REPORTABLE QUANTITY OF 5000 lbs.

LC50	15,400 mg/l - 96 h
EC50	24,500.00 mg/l - 48 h
EC100	10,000.00 mg/l - 24 h

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory Solvent Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

IATA
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

Section XV. REGULATORY INFORMATION

OSHA Hazards Flammable liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section XVI. Misc. INFORMATION

The information in this Material Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and Global Harmonized System (GHS). This document is intended only as a guide to the appropriate precautionary handling of the material by trained personnel, or supervised by a person trained in chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, ABSOLUTE STANDARDS INC. cannot warn of all the potential dangers of use or interaction with other chemicals or substances. ABSOLUTE STANDARDS INC. warrants that the chemical meets the specifications set forth on the label. ABSOLUTE STANDARDS INC DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR APPLICATION. The user should recognize that this product can cause severe injury or death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Absolute Standards Inc. will periodically revise this Safety Data Sheet. If you have any questions, please call Technical Service at 1-203-281-2917 for assistance.

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Certified Reference Material CRM

Rec 09/16/24 2 Vials

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CERTIFIED WEIGHT REPORT

Part Number: 91980
Lot Number: 091424
Description: Acrolein

Expiration Date: 101424
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 5000
NIST Test ID#: 6UTB

Solvent(s): **Lot#**
Water 072324Q

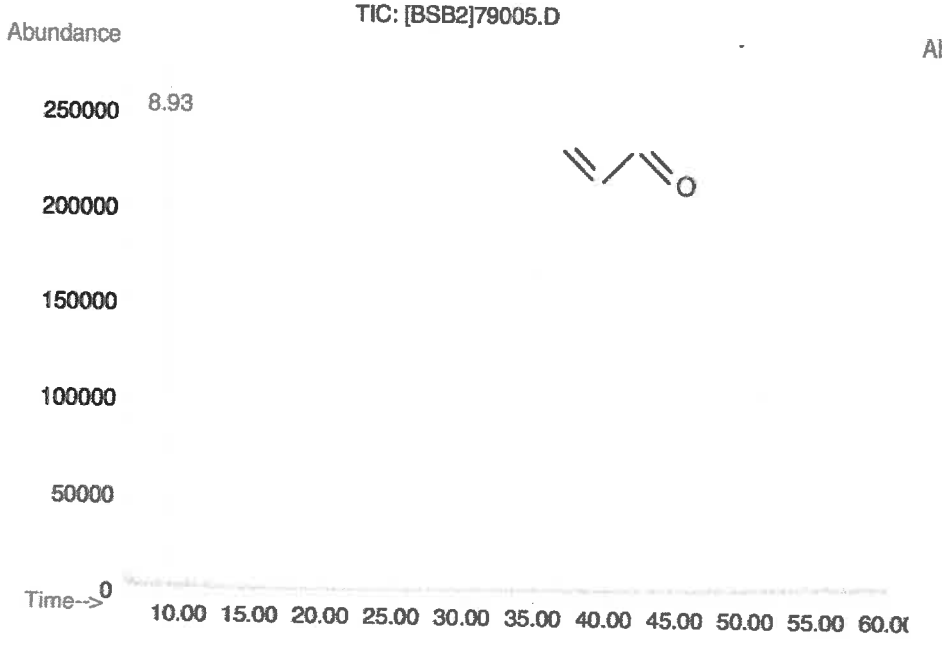
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

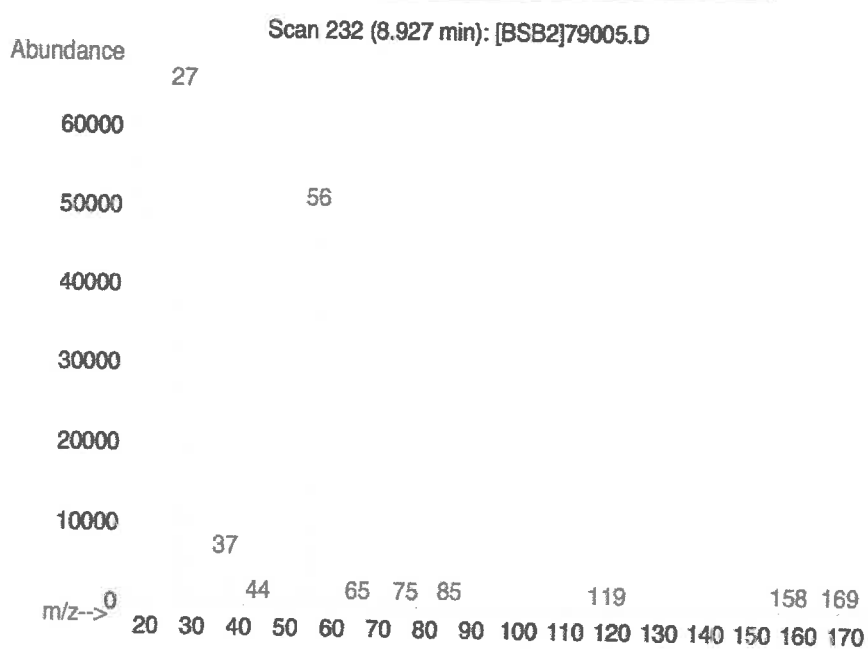
Formulated By: Justin Dippold 091424 DATE

Reviewed By: Pedro L. Rentas 091424 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05175	5008.9	52.5	107-02-8	0.1 ppm	orl-rat 46mg/kg

Method: GC6MSD-1. **Detector:** Mass Selective Detector (Scan mode). **Column:** Vocol (60m X 0.25mm ID X 1.5µm film thickness). **Oven Profile:** Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2=200°C (Time 2 = 8.75 min.). Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. **Analyst:** Pedro Rentas. **NOTE:** Due to the instability of acrolein in solution, all solutions of acrolein, and any dilutions thereof, should be used immediately Long term storage is not recommended. Please contact our technical department if further information is required.





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- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
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Rec 09/16/24 2 Vials

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CERTIFIED WEIGHT REPORT

Part Number: 91980
Lot Number: 091424
Description: Acrolein

Expiration Date: 101424
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 5000
NIST Test ID#: 6UTB

Solvent(s): **Lot#**
Water 072324Q

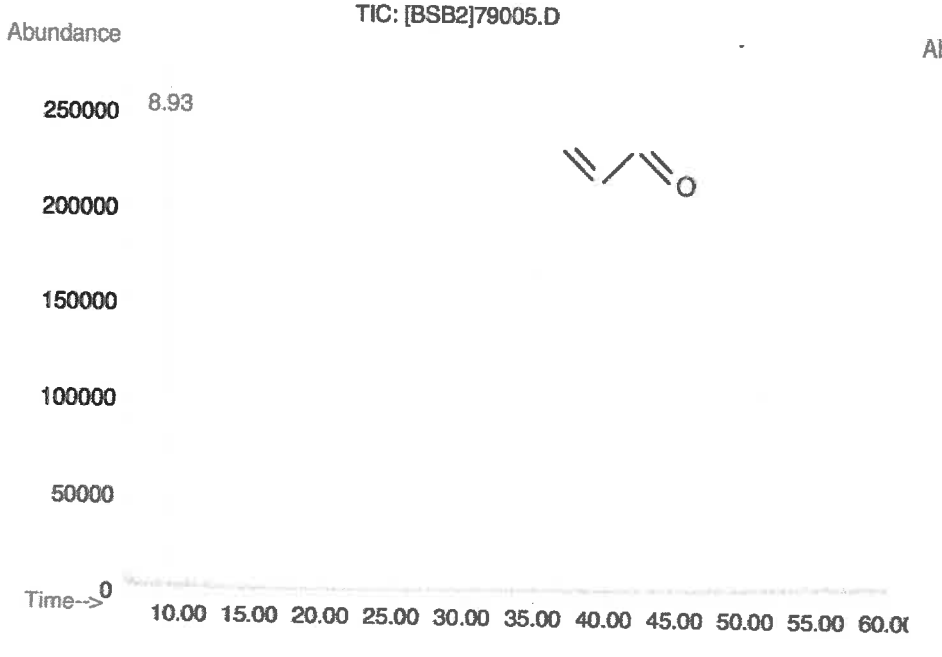
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

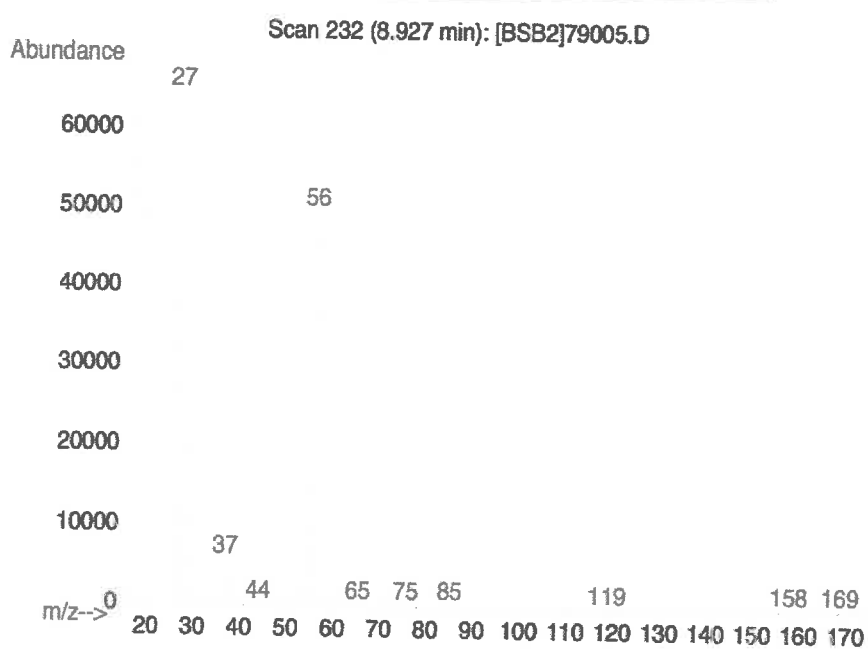
Formulated By: Justin Dippold 091424 DATE

Reviewed By: Pedro L. Rentas 091424 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05175	5008.9	52.5	107-02-8	0.1 ppm	orl-rat 46mg/kg

Method: GC6MSD-1. **Detector:** Mass Selective Detector (Scan mode). **Column:** Vocol (60m X 0.25mm ID X 1.5µm film thickness). **Oven Profile:** Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2=200°C (Time 2 = 8.75 min.). Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. **Analyst:** Pedro Rentas. **NOTE:** Due to the instability of acrolein in solution, all solutions of acrolein, and any dilutions thereof, should be used immediately Long term storage is not recommended. Please contact our technical department if further information is required.





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CERTIFIED WEIGHT REPORT

Part Number: 95318
Lot Number: 111722
Description: 2-Chloroethyl vinyl ether

Solvent(s): Methanol **Lot#** EB679-US

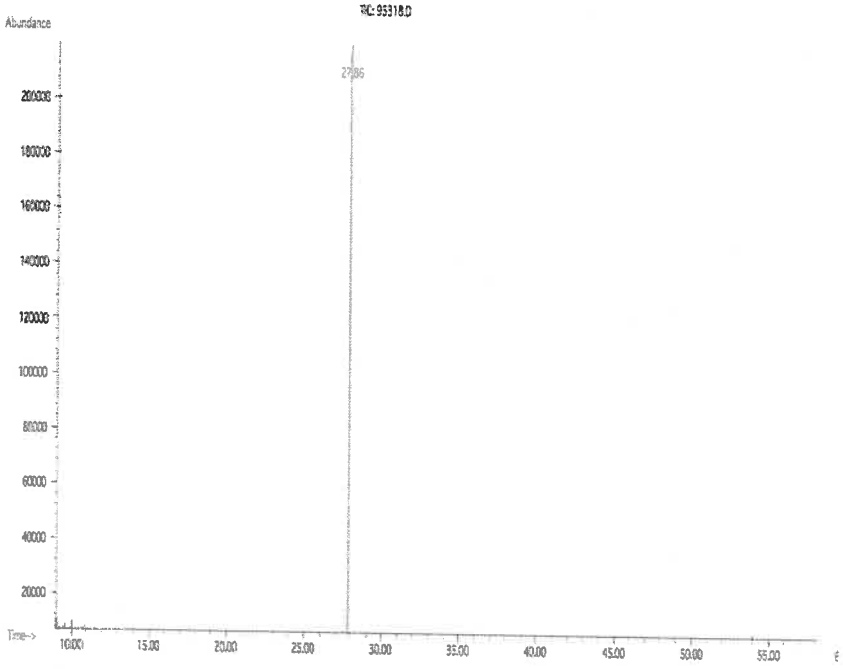
Expiration Date: 111725
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 10000
NIST Test ID#: 6UTB

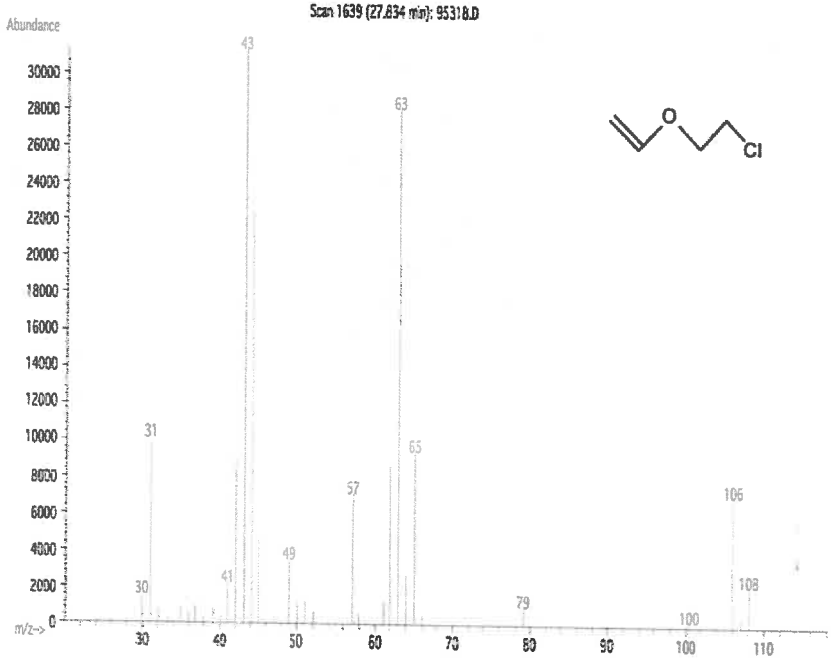
Weight(s) shown below were combined and diluted to (mL): 50.0 | 5E-05 Balance Uncertainty | 0.001 Flask Uncertainty

Formulated By:	Eli Aliaga	111722 DATE
Reviewed By:	Pedro L. Rentas	111722 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50541	0.50551	10001.9	40.5	110-75-8	N/A	orl-rat 250mg/kg

Method: GC6MSD-1.M. **Detector:** MSD. **Column:** (60m X 0.25mm X 1.5 µm). **Oven Profile:** Temp 1 = 35°C (Time 1=10min.), Temp 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector B Temp.= 200°C, Detector B Temp. = 220°C. **Analyst:** Candice Warren.





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CERTIFIED WEIGHT REPORT

Part Number: 95318
Lot Number: 111722
Description: 2-Chloroethyl vinyl ether

Solvent(s): Methanol **Lot#** EB679-US

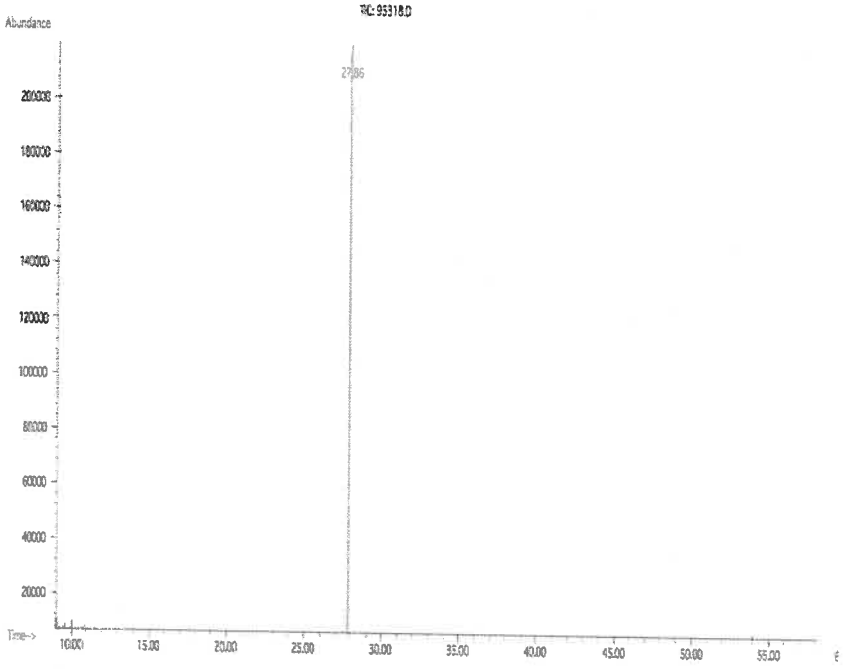
Expiration Date: 111725
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 10000
NIST Test ID#: 6UTB

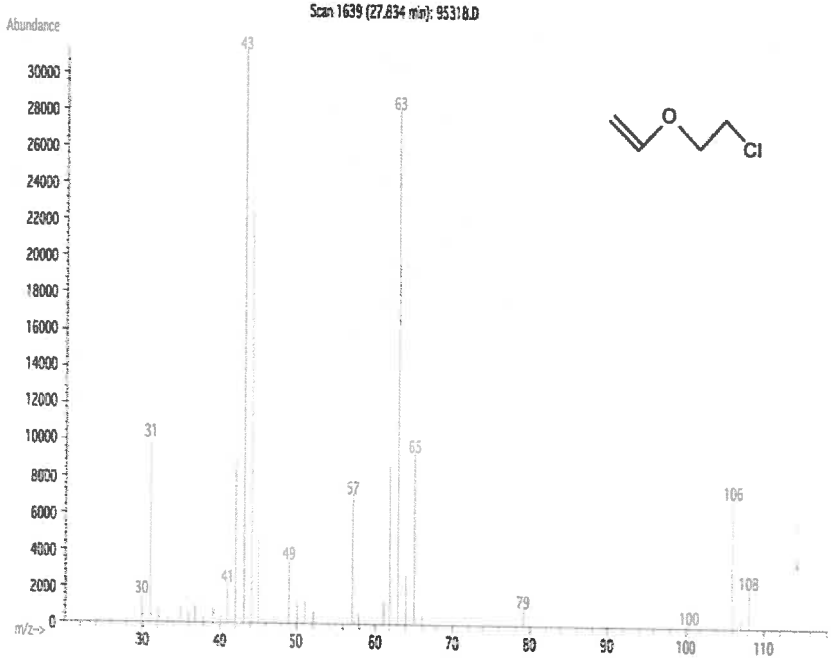
Weight(s) shown below were combined and diluted to (mL): 50.0 | 5E-05 Balance Uncertainty | 0.001 Flask Uncertainty

Formulated By:	Eli Aliaga	111722 DATE
Reviewed By:	Pedro L. Rentas	111722 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50541	0.50551	10001.9	40.5	110-75-8	N/A	orl-rat 250mg/kg

Method: GC6MSD-1.M. **Detector:** MSD. **Column:** (60m X 0.25mm X 1.5 µm). **Oven Profile:** Temp 1 = 35°C (Time 1=10min.), Temp 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector B Temp.= 200°C, Detector B Temp. = 220°C. **Analyst:** Candice Warren.





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20 vial

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CERTIFIED WEIGHT REPORT

Part Number: 95318
Lot Number: 120524
Description: 2-Chloroethyl vinyl ether

Expiration Date: 120527
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 10000
NIST Test ID#: 6UTB

Solvent(s): Methanol **Lot#** EJ143-US

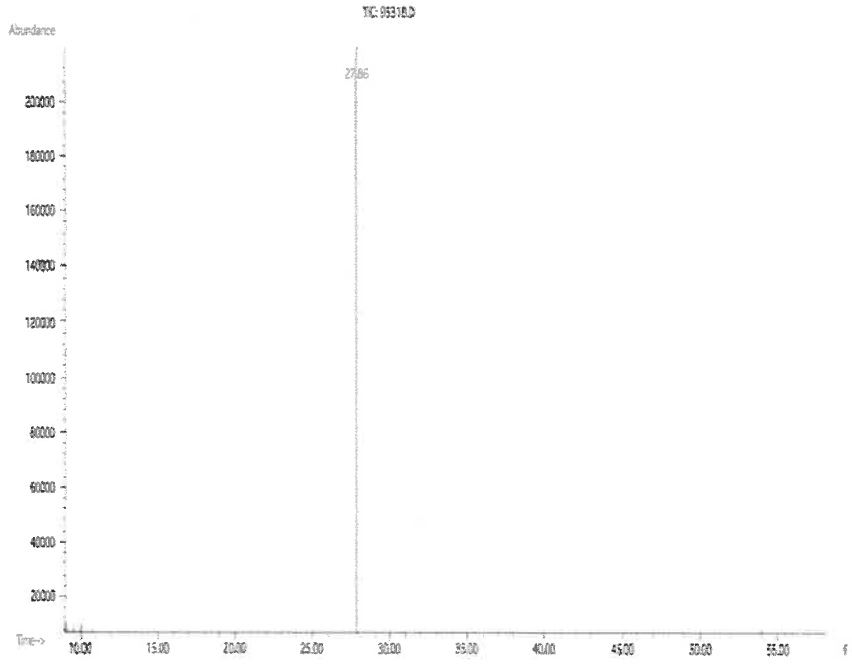
V14630 to V14649

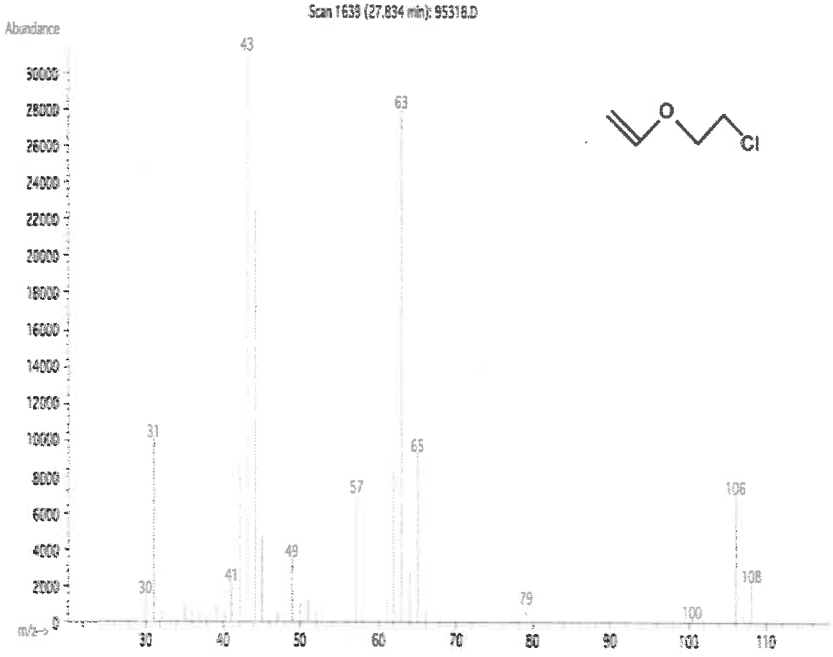
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 50.0 0.001 Flask Uncertainty

Prashant Chauhan	120524
Formulated By: Prashant Chauhan	DATE
Pedro L. Rentas	120524
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50536	0.50550	10002.9	40.5	110-75-8	N/A	ori-rat 250mg/kg

Method: GC6MSD-1.M. **Detector:** MSD. **Column:** (60m X 0.25mm X 1.5 µm). **Oven Profile:** Temp 1 = 35°C (Time 1=10min.), Temp 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector B Temp.= 200°C, Detector B Temp. = 220°C. **Analyst:** Candice Warren.





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Absolute Standards Inc.
PO Box 5585
Hamden, CT 06518-0585
Phone: 203-281-2917
FAX: 203-281-2922

Safety Data Sheet (SDS) GHS/OSHA Compliant

Section I Product and Company Identification

IDENTITY **ANALYTICAL STANDARD DISSOLVED IN METHANOL**

Manufacturer's Name	ABSOLUTE STANDARDS INC	Emergency Telephone USA & CANADA	**1-800-535-5053**
Address	44 Rossotto Dr. Hamden CT, 06514	Emergency Telephone International Date Prepared/Revised	**1-352-323-3500** January 1, 2024

Section II - Hazards Identification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H225	**Highly Flammable Liquid and Vapor**	**H301, 311, 331**	**Toxic if swallowed, skin contact, inhaled**
H370	**Cause damage to organs**	**H351**	**Suspected of causing cancer**
P271	**Use in ventilated area**	**P280**	**Use gloves, eye protection/face sheild**
P302,332	**If on skin, wash with soap and water**	**P305,351,338**	**If in eyes, remove contacts, rinse with water**

Signal Word: DANGER

Section III - Composition

Components (Specific Chemical Identity; Common Name(s))			% (optional)
Methanol	METHYL ALCOHOL	CAS#: 67-56-1	> 97

See Certified Weight Report For Other Analytes Present At Trace Quantities.

INTENDED USE: REFERENCE MATERIAL

Section IV. FIRST AID MEASURES

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.Move to safe area.
If inhaled	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash with soap and water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Rinse mouth with water. Consult a physician.

Section V. FIREFIGHTING MEASURES

Flammability	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Protective equipment for fire	Wear self contained breathing apparatus for fire fighting if necessary.

Section VI. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Vapours accumulate to form explosive concentrations.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Clean up	Contain spillage, and then collect and place in container for disposal according to local regulations (see section 13).

Section VII. HANDLING AND STORAGE

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use ventilation Keep away from sources of ignition. No smoking. Prevent the build up of electrostatic charge.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Methanol 67-56-1 TWA 200 ppm
Skin notation TWA 200 ppm
Potential for skin absorption , ingestion and inhalation.
Personal protective equipment Respiratory protection Handle with gloves. Gloves must be inspected prior to use. Eye protection.
Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product.

Section IX - Physical/Chemical Characteristics

Boiling Point	65°C	Specific Gravity (H2O = 1)	0.79
Vapor Pressure (mm Hg)	96	Melting Point	-98°C
Vapor Density (AIR = 1)	1.11	Evaporation rate (Butyl Acetate = 1)	4.6

Solubility in Water COMPLETE

Appearance and Odor CLEAR, COLORLESS LIQUID WITH CHARACTERISTIC PUNGENT ODOR.

Section X. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions Vapours may form explosive mixture with air.
Conditions to avoid Heat, flames, sparks, extreme temperature and sunlight.
Materials to avoid Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
Hazardous decomposition products formed under fire conditions. - Carbon oxides

Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - rat - 5,628 mg/kg
LC50 Inhalation - rat - 4 h - 64000 ppm
LD50 Dermal - rabbit - 15,800 mg/kg
Toxic if absorbed through skin. Causes skin irritation.
Eye damage/eye irritation
Toxic if inhaled. Causes respiratory tract irritation.
Toxic if swallowed.

Section XII. ECOLOGICAL INFORMATION FOR REPORTABLE QUANTITY OF 5000 lbs.

LC50	15,400 mg/l - 96 h
EC50	24,500.00 mg/l - 48 h
EC100	10,000.00 mg/l - 24 h

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory Solvent Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

IATA
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

Section XV. REGULATORY INFORMATION

OSHA Hazards Flammable liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section XVI. Misc. INFORMATION

The information in this Material Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and Global Harmonized System (GHS). This document is intended only as a guide to the appropriate precautionary handling of the material by trained personnel, or supervised by a person trained in chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, ABSOLUTE STANDARDS INC. cannot warn of all the potential dangers of use or interaction with other chemicals or substances. ABSOLUTE STANDARDS INC. warrants that the chemical meets the specifications set forth on the label. ABSOLUTE STANDARDS INC DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR APPLICATION. The user should recognize that this product can cause severe injury or death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Absolute Standards Inc. will periodically revise this Safety Data Sheet. If you have any questions, please call Technical Service at 1-203-281-2917 for assistance.

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Rec 12/6/24
20 vial

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AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

Part Number: 95318
Lot Number: 120524
Description: 2-Chloroethyl vinyl ether

Expiration Date: 120527
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 10000
NIST Test ID#: 6UTB

Solvent(s): Methanol **Lot#** EJ143-US

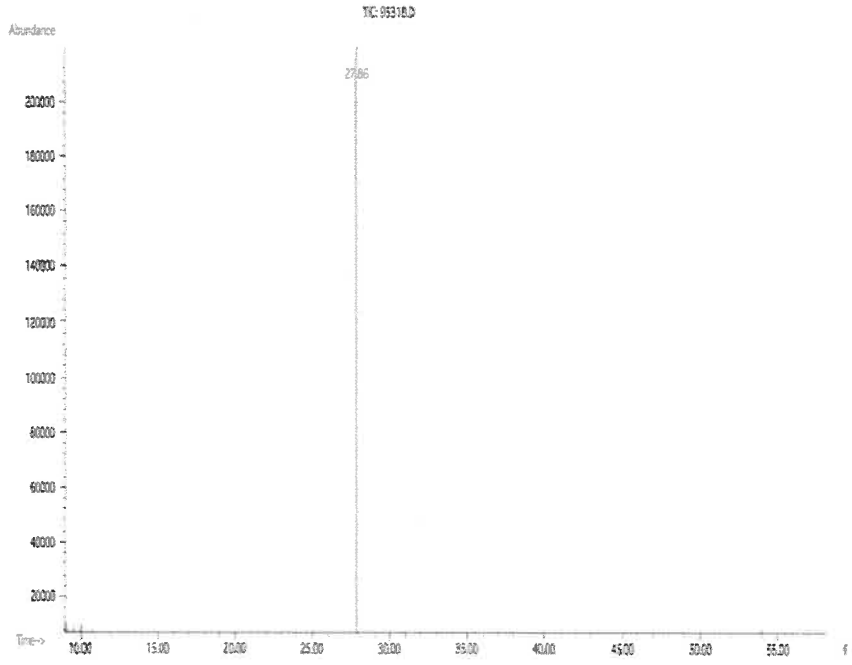
V14630 to V14649

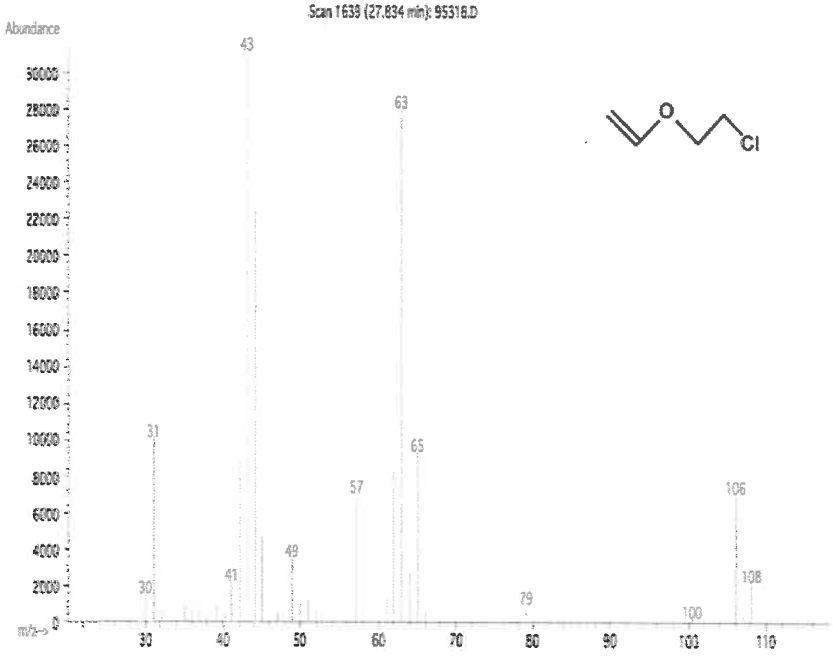
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 50.0 0.001 Flask Uncertainty

Prashant Chauhan	120524
Formulated By: Prashant Chauhan	DATE
Pedro L. Rentas	120524
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50536	0.50550	10002.9	40.5	110-75-8	N/A	ori-rat 250mg/kg

Method: GC6MSD-1.M. **Detector:** MSD. **Column:** (60m X 0.25mm X 1.5 µm). **Oven Profile:** Temp 1 = 35°C (Time 1=10min.), Temp 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector B Temp.= 200°C, Detector B Temp. = 220°C. **Analyst:** Candice Warren.





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- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
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Absolute Standards Inc.
PO Box 5585
Hamden, CT 06518-0585
Phone: 203-281-2917
FAX: 203-281-2922

Safety Data Sheet (SDS) GHS/OSHA Compliant

Section I Product and Company Identification

IDENTITY **ANALYTICAL STANDARD DISSOLVED IN METHANOL**

Manufacturer's Name	ABSOLUTE STANDARDS INC	Emergency Telephone USA & CANADA	**1-800-535-5053**
Address	44 Rossotto Dr. Hamden CT, 06514	Emergency Telephone International Date Prepared/Revised	**1-352-323-3500** January 1, 2024

Section II - Hazards Identification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H225	**Highly Flammable Liquid and Vapor**	**H301, 311, 331**	**Toxic if swallowed, skin contact, inhaled**
H370	**Cause damage to organs**	**H351**	**Suspected of causing cancer**
P271	**Use in ventilated area**	**P280**	**Use gloves, eye protection/face sheild**
P302,332	**If on skin, wash with soap and water**	**P305,351,338**	**If in eyes, remove contacts, rinse with water**

Signal Word: DANGER

Section III - Composition

Components (Specific Chemical Identity; Common Name(s))			% (optional)
Methanol	METHYL ALCOHOL	CAS#: 67-56-1	> 97

See Certified Weight Report For Other Analytes Present At Trace Quantities.

INTENDED USE: REFERENCE MATERIAL

Section IV. FIRST AID MEASURES

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.Move to safe area.
If inhaled	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash with soap and water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Rinse mouth with water. Consult a physician.

Section V. FIREFIGHTING MEASURES

Flammability	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Protective equipment for fire	Wear self contained breathing apparatus for fire fighting if necessary.

Section VI. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Vapours accumulate to form explosive concentrations.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Clean up	Contain spillage, and then collect and place in container for disposal according to local regulations (see section 13).

Section VII. HANDLING AND STORAGE

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use ventilation Keep away from sources of ignition. No smoking. Prevent the build up of electrostatic charge.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Methanol 67-56-1 TWA 200 ppm
Skin notation TWA 200 ppm
Potential for skin absorption , ingestion and inhalation.
Personal protective equipment Respiratory protection Handle with gloves. Gloves must be inspected prior to use. Eye protection.
Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product.

Section IX - Physical/Chemical Characteristics

Boiling Point	65°C	Specific Gravity (H2O = 1)	0.79
Vapor Pressure (mm Hg)	96	Melting Point	-98°C
Vapor Density (AIR = 1)	1.11	Evaporation rate (Butyl Acetate = 1)	4.6

Solubility in Water COMPLETE

Appearance and Odor CLEAR, COLORLESS LIQUID WITH CHARACTERISTIC PUNGENT ODOR.

Section X. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions Vapours may form explosive mixture with air.
Conditions to avoid Heat, flames, sparks, extreme temperature and sunlight.
Materials to avoid Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
Hazardous decomposition products formed under fire conditions. - Carbon oxides

Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - rat - 5,628 mg/kg
LC50 Inhalation - rat - 4 h - 64000 ppm
LD50 Dermal - rabbit - 15,800 mg/kg
Toxic if absorbed through skin. Causes skin irritation.
Eye damage/eye irritation
Toxic if inhaled. Causes respiratory tract irritation.
Toxic if swallowed.

Section XII. ECOLOGICAL INFORMATION FOR REPORTABLE QUANTITY OF 5000 lbs.

LC50	15,400 mg/l - 96 h
EC50	24,500.00 mg/l - 48 h
EC100	10,000.00 mg/l - 24 h

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory Solvent Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

IATA
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

Section XV. REGULATORY INFORMATION

OSHA Hazards Flammable liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section XVI. Misc. INFORMATION

The information in this Material Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and Global Harmonized System (GHS). This document is intended only as a guide to the appropriate precautionary handling of the material by trained personnel, or supervised by a person trained in chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, ABSOLUTE STANDARDS INC. cannot warn of all the potential dangers of use or interaction with other chemicals or substances. ABSOLUTE STANDARDS INC. warrants that the chemical meets the specifications set forth on the label. ABSOLUTE STANDARDS INC DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR APPLICATION. The user should recognize that this product can cause severe injury or death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Absolute Standards Inc. will periodically revise this Safety Data Sheet. If you have any questions, please call Technical Service at 1-203-281-2917 for assistance.

Absolute Standards, Inc.
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www.absolutestandards.com

Certified Reference Material CRM

Rec 12/6/24
20 vial

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

Part Number: 95318
Lot Number: 120524
Description: 2-Chloroethyl vinyl ether

Expiration Date: 120527
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 10000
NIST Test ID#: 6UTB

Solvent(s): Methanol **Lot#** EJ143-US

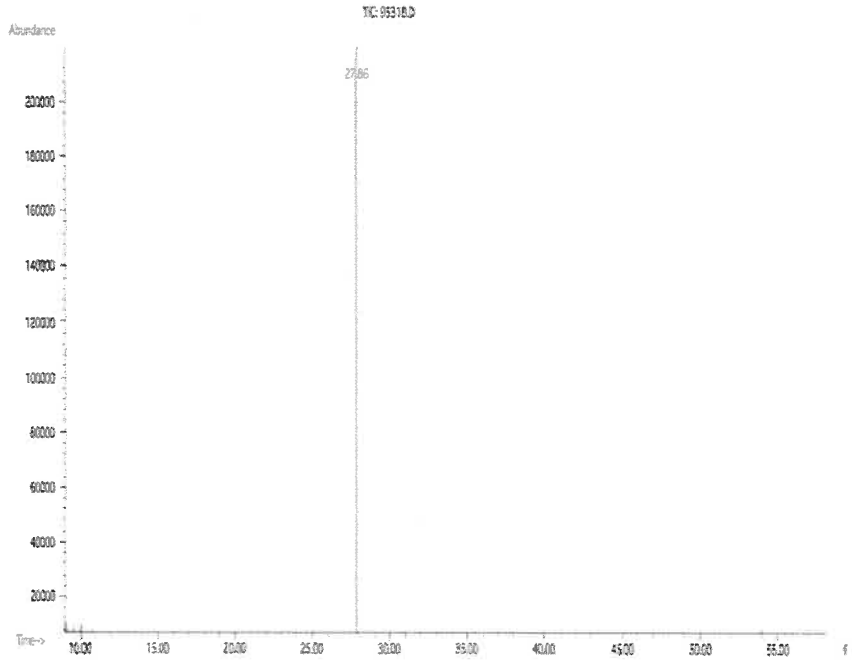
V14630 to V14649

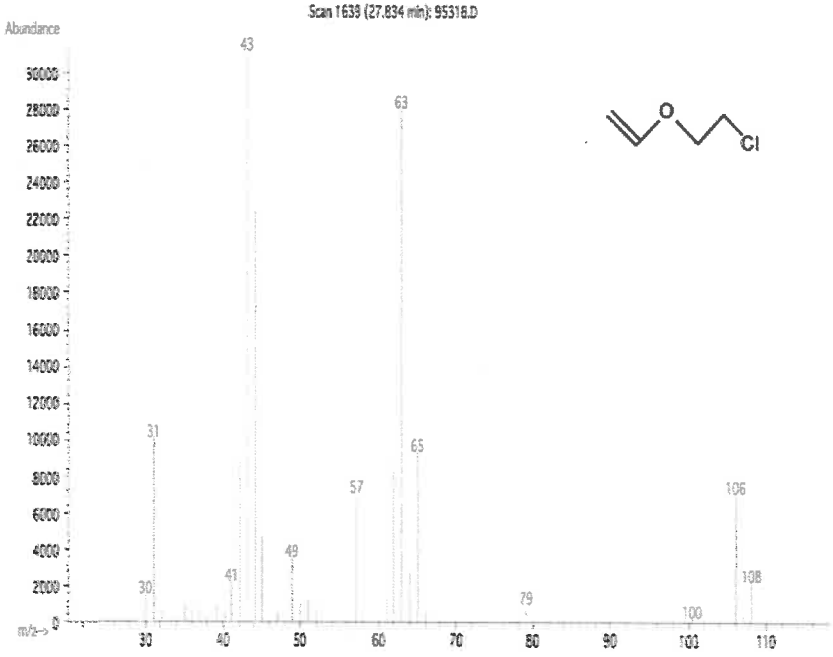
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 50.0 0.001 Flask Uncertainty

Prashant Chauhan	120524
Formulated By: Prashant Chauhan	DATE
Pedro L. Rentas	120524
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50536	0.50550	10002.9	40.5	110-75-8	N/A	ori-rat 250mg/kg

Method: GC6MSD-1.M. **Detector:** MSD. **Column:** (60m X 0.25mm X 1.5 µm). **Oven Profile:** Temp 1 = 35°C (Time 1=10min.), Temp 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector B Temp.= 200°C, Detector B Temp. = 220°C. **Analyst:** Candice Warren.





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Manufacturer's Name	ABSOLUTE STANDARDS INC	Emergency Telephone USA & CANADA	**1-800-535-5053**
Address	44 Rossotto Dr. Hamden CT, 06514	Emergency Telephone International Date Prepared/Revised	**1-352-323-3500** January 1, 2024

Section II - Hazards Identification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H225	**Highly Flammable Liquid and Vapor**	**H301, 311, 331**	**Toxic if swallowed, skin contact, inhaled**
H370	**Cause damage to organs**	**H351**	**Suspected of causing cancer**
P271	**Use in ventilated area**	**P280**	**Use gloves, eye protection/face sheild**
P302,332	**If on skin, wash with soap and water**	**P305,351,338**	**If in eyes, remove contacts, rinse with water**

Signal Word: DANGER

Section III - Composition

Components (Specific Chemical Identity; Common Name(s))			% (optional)
Methanol	METHYL ALCOHOL	CAS#: 67-56-1	> 97

See Certified Weight Report For Other Analytes Present At Trace Quantities.

INTENDED USE: REFERENCE MATERIAL

Section IV. FIRST AID MEASURES

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.Move to safe area.
If inhaled	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash with soap and water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Rinse mouth with water. Consult a physician.

Section V. FIREFIGHTING MEASURES

Flammability	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Protective equipment for fire	Wear self contained breathing apparatus for fire fighting if necessary.

Section VI. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Vapours accumulate to form explosive concentrations.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Clean up	Contain spillage, and then collect and place in container for disposal according to local regulations (see section 13).

Section VII. HANDLING AND STORAGE

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use ventilation Keep away from sources of ignition. No smoking. Prevent the build up of electrostatic charge.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Methanol 67-56-1 TWA 200 ppm
Skin notation TWA 200 ppm
Potential for skin absorption , ingestion and inhalation.
Personal protective equipment Respiratory protection Handle with gloves. Gloves must be inspected prior to use. Eye protection.
Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product.

Section IX - Physical/Chemical Characteristics

Boiling Point	65°C	Specific Gravity (H2O = 1)	0.79
Vapor Pressure (mm Hg)	96	Melting Point	-98°C
Vapor Density (AIR = 1)	1.11	Evaporation rate (Butyl Acetate = 1)	4.6

Solubility in Water COMPLETE

Appearance and Odor CLEAR, COLORLESS LIQUID WITH CHARACTERISTIC PUNGENT ODOR.

Section X. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions Vapours may form explosive mixture with air.
Conditions to avoid Heat, flames, sparks, extreme temperature and sunlight.
Materials to avoid Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
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Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - rat - 5,628 mg/kg
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LC50	15,400 mg/l - 96 h
EC50	24,500.00 mg/l - 48 h
EC100	10,000.00 mg/l - 24 h

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory Solvent Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

IATA
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

Section XV. REGULATORY INFORMATION

OSHA Hazards Flammable liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section XVI. Misc. INFORMATION

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Lot Number: 120524
Description: 2-Chloroethyl vinyl ether

Expiration Date: 120527
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 10000
NIST Test ID#: 6UTB

Solvent(s): Methanol **Lot#** EJ143-US

V14630 to V14649

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 50.0 0.001 Flask Uncertainty

Prashant Chauhan	120524
Formulated By: Prashant Chauhan	DATE
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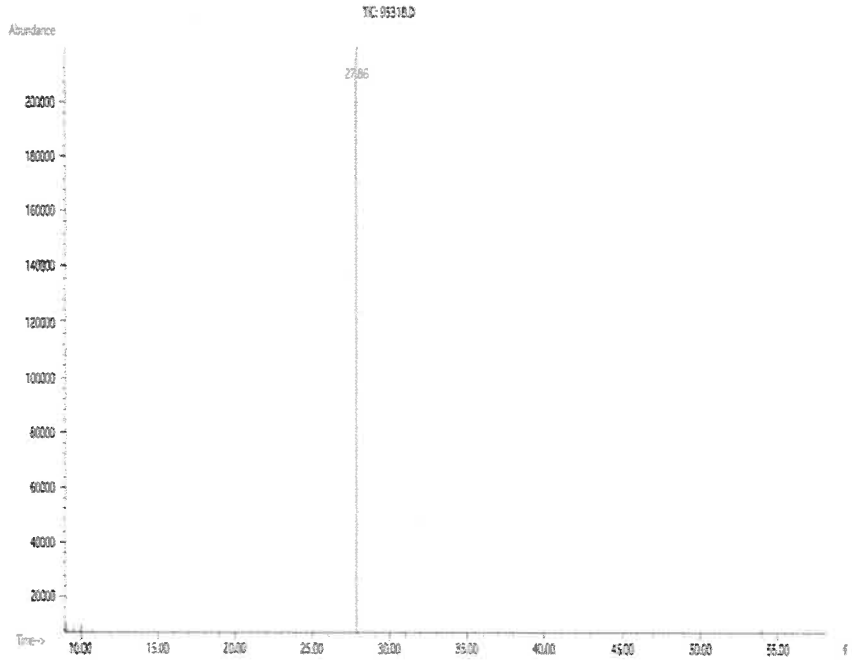
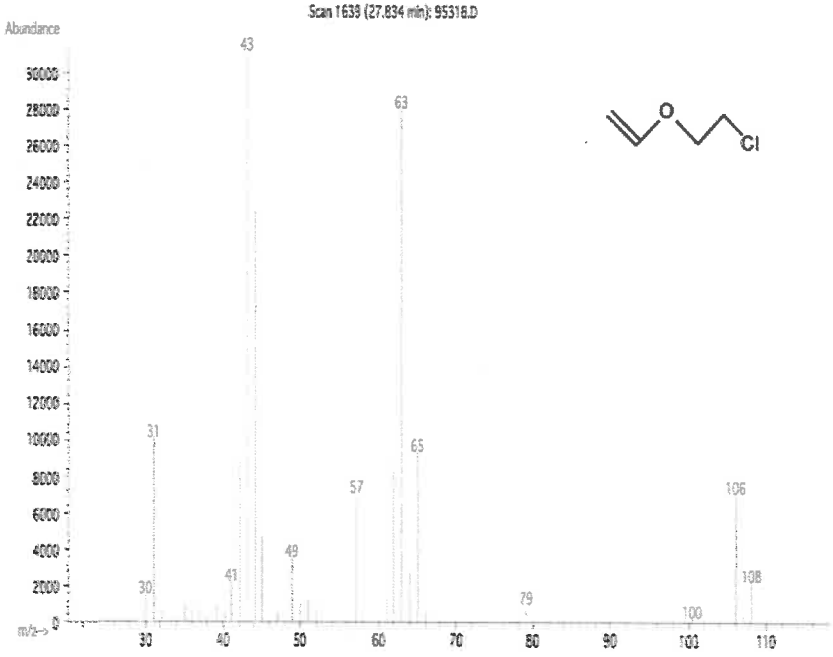
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50536	0.50550	10002.9	40.5	110-75-8	N/A	ori-rat 250mg/kg

Method: GC6MSD-1.M. **Detector:** MSD. **Column:** (60m X 0.25mm X 1.5 µm). **Oven Profile:** Temp 1 = 35°C (Time 1=10min.), Temp 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min., Injector B Temp.= 200°C, Detector B Temp. = 220°C. **Analyst:** Candice Warren.





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Section XIII. DISPOSAL CONSIDERATIONS

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Section XIV. TRANSPORT INFORMATION

DOT (US)
UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol

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4 J

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110 Benner Circle
Bellefonte, PA 16823-8812
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. : 30470 **Lot No.:** A0191703

Description : tert-Butanol Standard

tert-Butanol Std 50,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : November 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	tert-Butanol (TBA)	50,122.0 µg/mL	+/- 293.4753 µg/mL	Gravimetric
	CAS # 75-65-0 (Lot 101619K21F-1)		+/- 1,073.6797 µg/mL	Unstressed
	Purity 99%		+/- 1,104.8612 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)

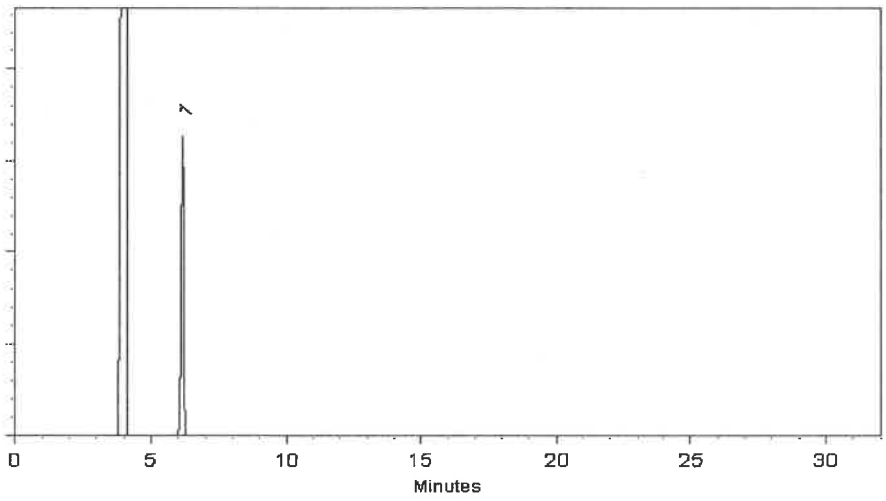
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

Alicia Leathers - Operation Technician I **Date Mixed:** 15-Nov-2022 **Balance:** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 17-Nov-2022

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:

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

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.

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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. : 30067 **Lot No.:** A0191805

Description : 4-Bromofluorobenzene Standard

4-Bromofluorobenzene Standard 2,500µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : November 30, 2027 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1-Bromo-4-fluorobenzene (BFB)	460-00-4	184975	99%	2,483.9 µg/mL	+/- 139.5488

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

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.)

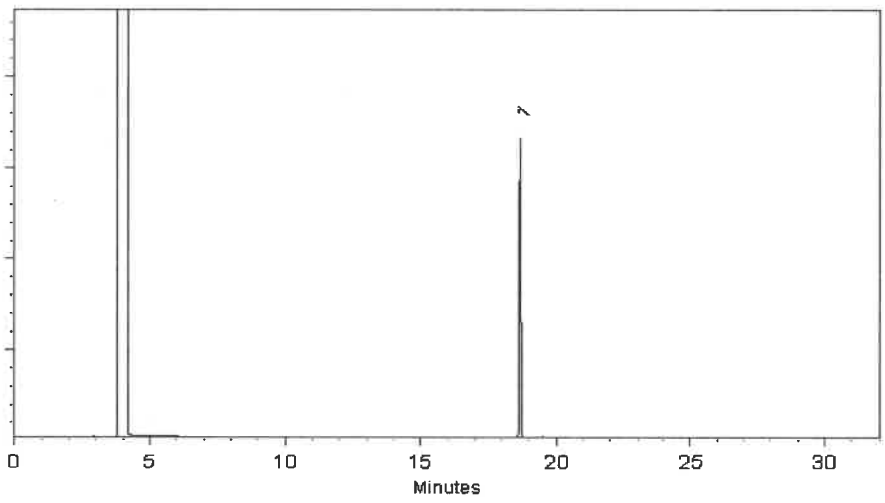
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Alicia Leathers - Operation Technician I **Date Mixed:** 17-Nov-2022 **Balance Serial #** B251644995

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 21-Nov-2022

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

7

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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. : 30006 **Lot No.:** A0193887

Description : VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

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

Expiration Date : April 30, 2026 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1	SHBP8774	99%	5,006.5 µg/mL	+/- 173.0015
2	2-Butanone (MEK)	78-93-3	SHBN9536	99%	5,008.5 µg/mL	+/- 173.0706
3	4-Methyl-2-pentanone (MIBK)	108-10-1	SHBP4724	99%	5,000.3 µg/mL	+/- 172.7884
4	2-Hexanone	591-78-6	MKCQ6663	99%	5,001.7 µg/mL	+/- 172.8345

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Quality Confirmation Test

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.)

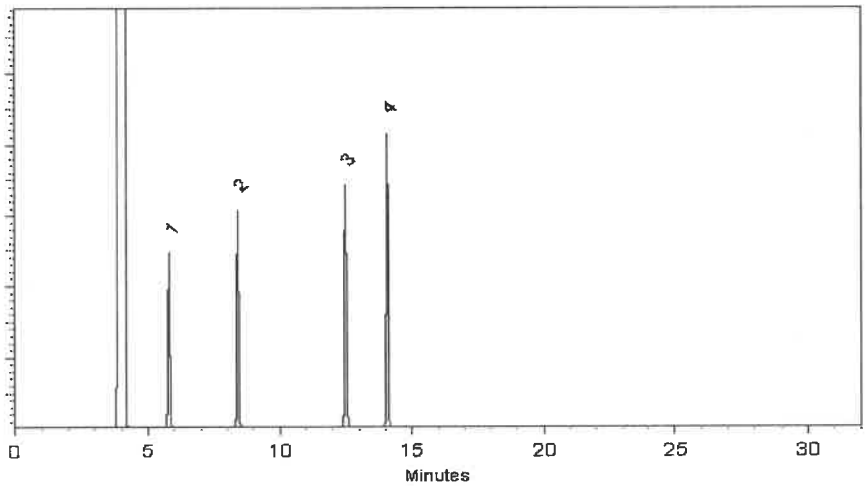
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Josh McCloskey - Operations Technician I

Date Mixed: 24-Jan-2023 **Balance Serial #** B707717271

Christie Mills - Operations Tech II - ARM QC

Date Passed: 27-Jan-2023

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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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. : 555582 **Lot No.:** A0196865

Description : Custom 8260A/B Surrogate Mix

Custom 8260A/B Surrogate Mix 25,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : April 30, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2-Dichloroethane-d4	17060-07-0	PR-32845	99%	25,036.0 µg/mL	+/- 1,417.9179
2	1-Bromo-4-fluorobenzene (BFB)	460-00-4	184975	99%	25,132.0 µg/mL	+/- 1,423.3549
3	Dibromofluoromethane	1868-53-7	022013	99%	25,040.0 µg/mL	+/- 1,418.1445
4	Toluene-d8	2037-26-5	PR-33397	99%	25,028.0 µg/mL	+/- 1,417.4648

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

Russ Bookhamer - Operations Technician I

Date Mixed: 11-Apr-2023 **Balance:** 1127510105

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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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. : 30042 **Lot No.:** A0197644

Description : 502.2 Calibration Mix #1

502.2 Calibration Mix #1 2,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : January 31, 2030 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8	00012554	99%	2,001.6 µg/mL	+/- 112.7159
2	Chloromethane (methyl chloride)	74-87-3	SHBM9611	99%	2,002.0 µg/mL	+/- 112.7840
3	Vinyl chloride	75-01-4	00015559	99%	2,002.2 µg/mL	+/- 112.6713
4	Bromomethane (methyl bromide)	74-83-9	101604	99%	2,006.4 µg/mL	+/- 112.8861
5	Chloroethane (ethyl chloride)	75-00-3	107-401039114-1	99%	2,000.9 µg/mL	+/- 112.5990
6	Trichlorofluoromethane (CFC-11)	75-69-4	MKCL8411	99%	1,999.2 µg/mL	+/- 112.4861

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

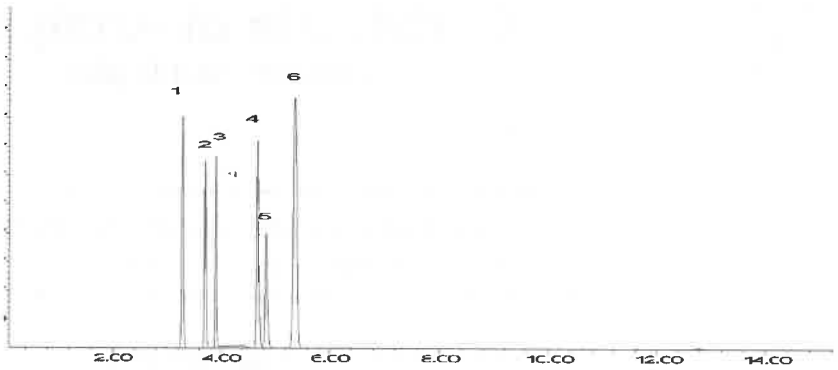
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
Split ratio 10:1

Inj. Vol
1µl



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.

Brittany Federinko - Operations Tech I

Date Mixed: 02-May-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 08-May-2023

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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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. : 30489 **Lot No.:** A0205013

Description : 8260B Acetates Mix

8260B Acetates Mix 2,000 µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : June 30, 2025 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Methyl acetate	79-20-9	SHBP3100	99%	2,012.7 µg/mL	+/- 69.5670
2	Vinyl acetate	108-05-4	RP231030CTH	98%	2,017.5 µg/mL	+/- 69.7338
3	Ethyl acetate	141-78-6	SHBQ9682	99%	2,020.0 µg/mL	+/- 69.8205
4	Isopropyl acetate	108-21-4	BCCG7069	99%	2,018.7 µg/mL	+/- 69.7744
5	Propyl acetate	109-60-4	KLOBM	99%	2,012.0 µg/mL	+/- 69.5439
6	Butyl acetate	123-86-4	SHBP6314	99%	2,020.0 µg/mL	+/- 69.8205
7	Amyl acetate	628-63-7	41325/1	97%	2,019.5 µg/mL	+/- 69.8046

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this

reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Quality Confirmation Test

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.)

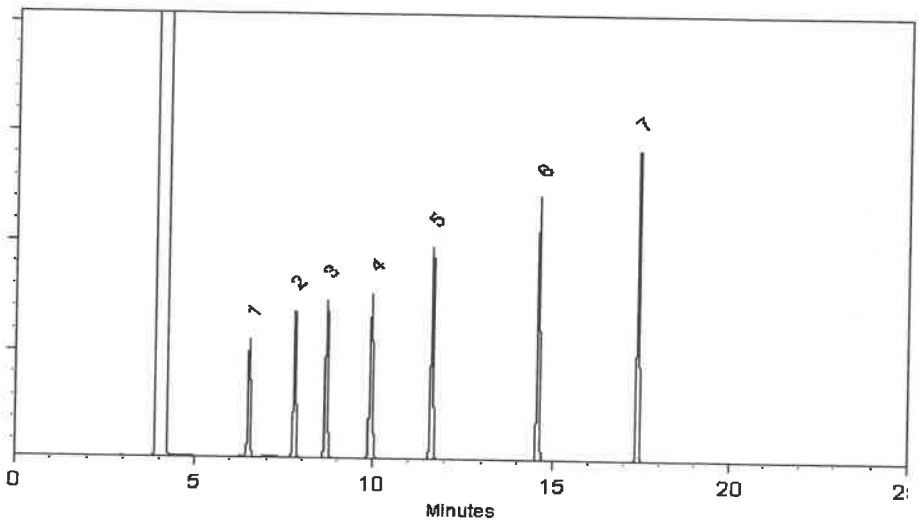
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Brittany Federinko - Operations Tech I

Date Mixed: 04-Dec-2023 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 06-Dec-2023

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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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. : 30489 **Lot No.:** A0209618

Description : 8260B Acetates Mix

8260B Acetates Mix 2,000 µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Methyl acetate	79-20-9	SHBP3100	99%	2,019.3 µg/mL	+/- 69.7974
2	Vinyl acetate	108-05-4	RP231030CTH	98%	2,016.8 µg/mL	+/- 69.7112
3	Ethyl acetate	141-78-6	SHBQ9682	99%	2,010.7 µg/mL	+/- 69.4979
4	Isopropyl acetate	108-21-4	BCCG7069	99%	2,016.0 µg/mL	+/- 69.6822
5	Propyl acetate	109-60-4	P8XLN	99%	2,008.0 µg/mL	+/- 69.4057
6	Butyl acetate	123-86-4	SHBP6314	99%	2,007.3 µg/mL	+/- 69.3826
7	Amyl acetate	628-63-7	41325/1	97%	2,004.7 µg/mL	+/- 69.2905

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this

reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Quality Confirmation Test

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.)

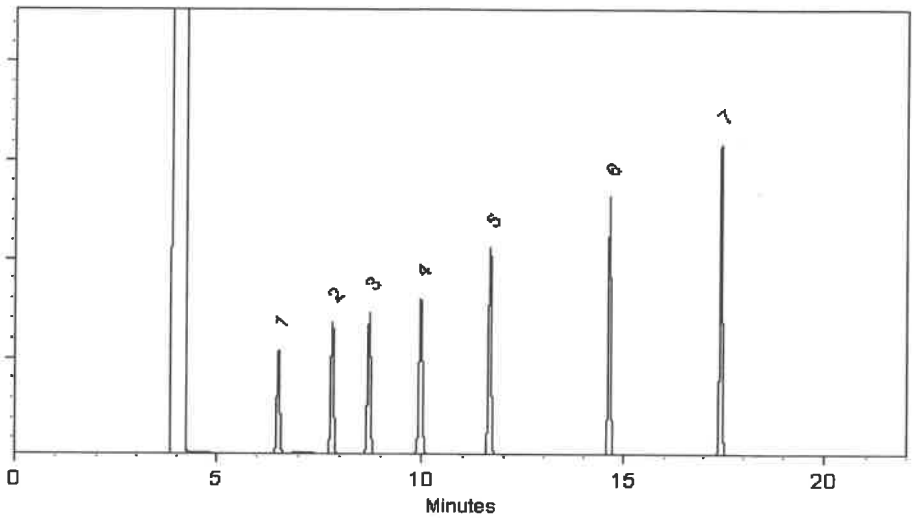
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Sam Moodler - Operations Tech I

Date Mixed: 28-Mar-2024 **Balance Serial #** B707717271

Dillan Murphy - Operations Technician I

Date Passed: 01-Apr-2024

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.
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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
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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. : 30489 **Lot No.:** A0209618

Description : 8260B Acetates Mix

8260B Acetates Mix 2,000 µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Methyl acetate	79-20-9	SHBP3100	99%	2,019.3 µg/mL	+/- 69.7974
2	Vinyl acetate	108-05-4	RP231030CTH	98%	2,016.8 µg/mL	+/- 69.7112
3	Ethyl acetate	141-78-6	SHBQ9682	99%	2,010.7 µg/mL	+/- 69.4979
4	Isopropyl acetate	108-21-4	BCCG7069	99%	2,016.0 µg/mL	+/- 69.6822
5	Propyl acetate	109-60-4	P8XLN	99%	2,008.0 µg/mL	+/- 69.4057
6	Butyl acetate	123-86-4	SHBP6314	99%	2,007.3 µg/mL	+/- 69.3826
7	Amyl acetate	628-63-7	41325/1	97%	2,004.7 µg/mL	+/- 69.2905

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this

reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Quality Confirmation Test

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.)

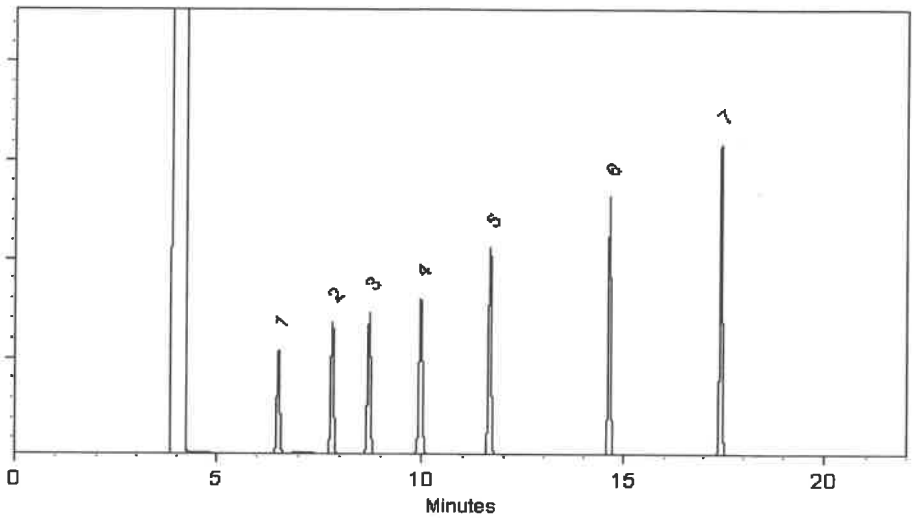
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Sam Moodler - Operations Tech I

Date Mixed: 28-Mar-2024 **Balance Serial #** B707717271

Dillan Murphy - Operations Technician I

Date Passed: 01-Apr-2024

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
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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. : 555581 **Lot No.:** A0210184

Description : Custom 8260 Internal Standard Mix

Custom 8260 Internal Standard Mix 25,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : April 30, 2027 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dichlorobenzene-d4	3855-82-1	PR-30447	99%	25,212.0 µg/mL	+/- 1,427.8857
2	1,4-Difluorobenzene	540-36-3	MKCS8657	99%	25,220.0 µg/mL	+/- 1,428.3388
3	Chlorobenzene-d5	3114-55-4	PR-31132	99%	25,116.0 µg/mL	+/- 1,422.4487
4	Pentafluorobenzene	363-72-4	MKCR9383	99%	25,180.0 µg/mL	+/- 1,426.0734

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

John Friedline - Operations Technician I

Date Mixed: 11-Apr-2024 **Balance:** 1127510105

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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:

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30 V.4

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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. : 30006 **Lot No.:** A0210618

Description : VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

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

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

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1	SHBQ8504	99%	5,014.8 µg/mL	+/- 173.2883
2	2-Butanone (MEK)	78-93-3	SHBQ4704	99%	5,012.4 µg/mL	+/- 173.2054
3	4-Methyl-2-pentanone (MIBK)	108-10-1	SHBP9200	99%	5,011.6 µg/mL	+/- 173.1777
4	2-Hexanone	591-78-6	MKCQ6663	99%	5,013.0 µg/mL	+/- 173.2261

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Quality Confirmation Test

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.)

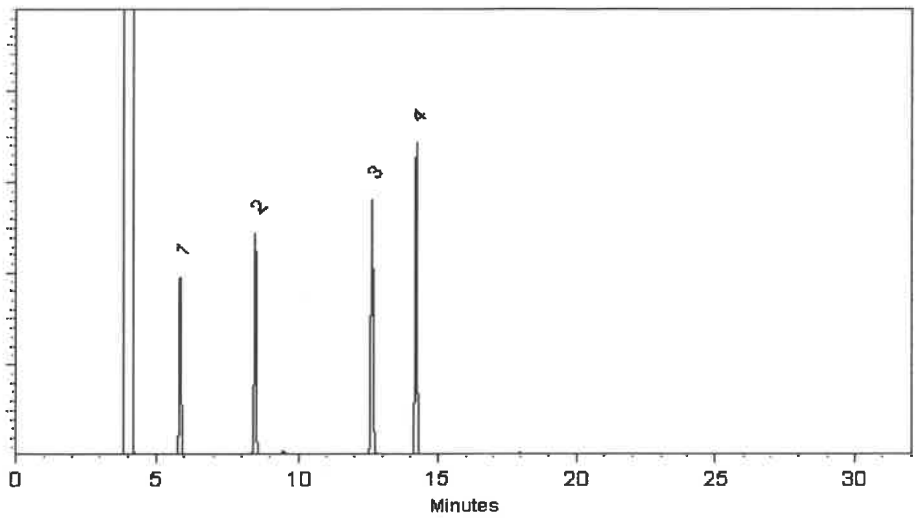
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Dakota Parson - Operations Technician I

Date Mixed: 22-Apr-2024 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 24-Apr-2024

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.
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Certified Uncertainty Value Notes:

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
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CERTIFIED REFERENCE MATERIAL

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Catalog No. : 30006 **Lot No.:** A0210618

Description : VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

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

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

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1	SHBQ8504	99%	5,014.8 µg/mL	+/- 173.2883
2	2-Butanone (MEK)	78-93-3	SHBQ4704	99%	5,012.4 µg/mL	+/- 173.2054
3	4-Methyl-2-pentanone (MIBK)	108-10-1	SHBP9200	99%	5,011.6 µg/mL	+/- 173.1777
4	2-Hexanone	591-78-6	MKCQ6663	99%	5,013.0 µg/mL	+/- 173.2261

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Quality Confirmation Test

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.)

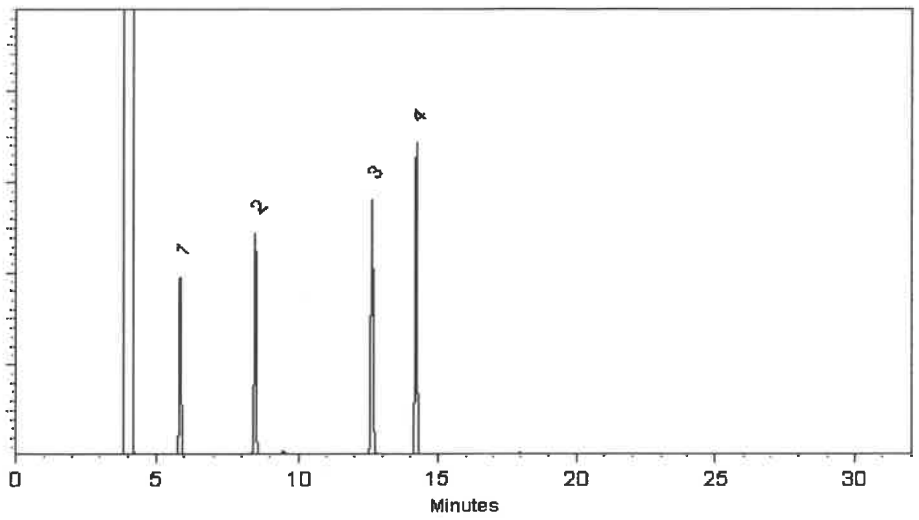
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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Dakota Parson - Operations Technician I

Date Mixed: 22-Apr-2024 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 24-Apr-2024

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

General Certified Reference Material Notes

Expiration Notes:

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- 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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
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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. : 30006 **Lot No.:** A0210618

Description : VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

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

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

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1	SHBQ8504	99%	5,014.8 µg/mL	+/- 173.2883
2	2-Butanone (MEK)	78-93-3	SHBQ4704	99%	5,012.4 µg/mL	+/- 173.2054
3	4-Methyl-2-pentanone (MIBK)	108-10-1	SHBP9200	99%	5,011.6 µg/mL	+/- 173.1777
4	2-Hexanone	591-78-6	MKCQ6663	99%	5,013.0 µg/mL	+/- 173.2261

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Quality Confirmation Test

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.)

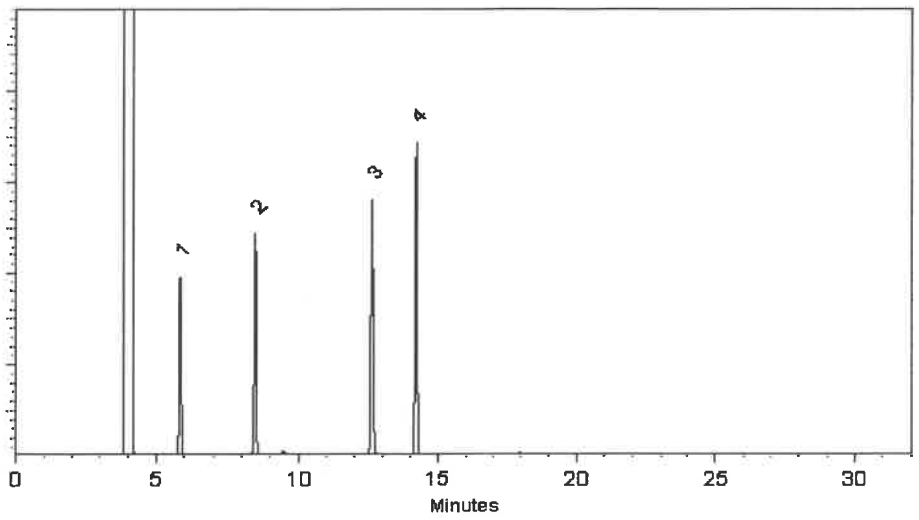
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Dakota Parson - Operations Technician I

Date Mixed: 22-Apr-2024 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 24-Apr-2024

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.
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- Purity values are rounded to the nearest whole number.

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Manufacturing Notes:

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Handling Notes:

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Catalog No. : 30006 **Lot No.:** A0210618

Description : VOA Calibration Mix #1

VOA Calibration Mix #1 5,000µg/mL, P&T Methanol/Water(90:10), 1mL/ampul

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

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

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Acetone	67-64-1	SHBQ8504	99%	5,014.8 µg/mL	+/- 173.2883
2	2-Butanone (MEK)	78-93-3	SHBQ4704	99%	5,012.4 µg/mL	+/- 173.2054
3	4-Methyl-2-pentanone (MIBK)	108-10-1	SHBP9200	99%	5,011.6 µg/mL	+/- 173.1777
4	2-Hexanone	591-78-6	MKCQ6663	99%	5,013.0 µg/mL	+/- 173.2261

* Expanded Uncertainty displayed in same units as Grav. Conc.

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Quality Confirmation Test

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.)

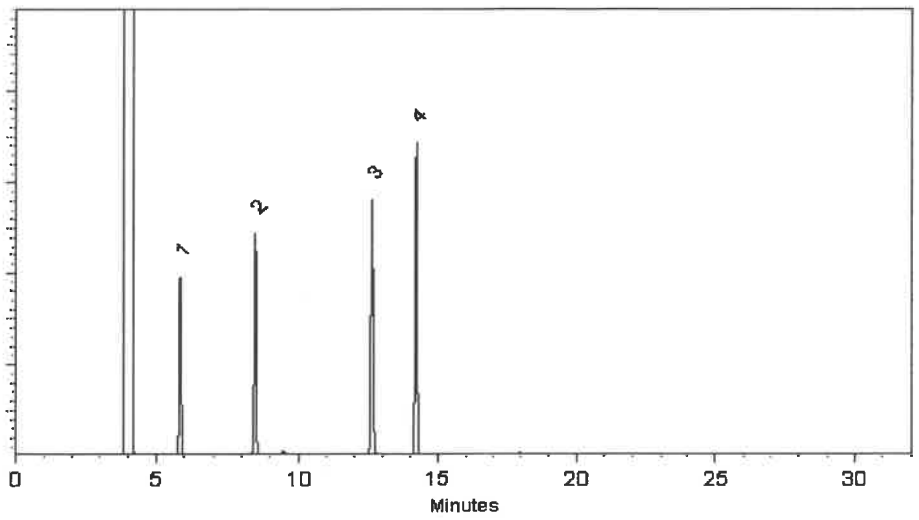
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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Dakota Parson - Operations Technician I

Date Mixed: 22-Apr-2024 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 24-Apr-2024

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.
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- 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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
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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. : 30225 **Lot No.:** A0214960

Description : Bromochloromethane Standard

Bromochloromethane 2000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : August 31, 2029 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Bromochloromethane	74-97-5	SYN240416CTH	99%	2,012.0 µg/mL	+/- 113.0519

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

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.)

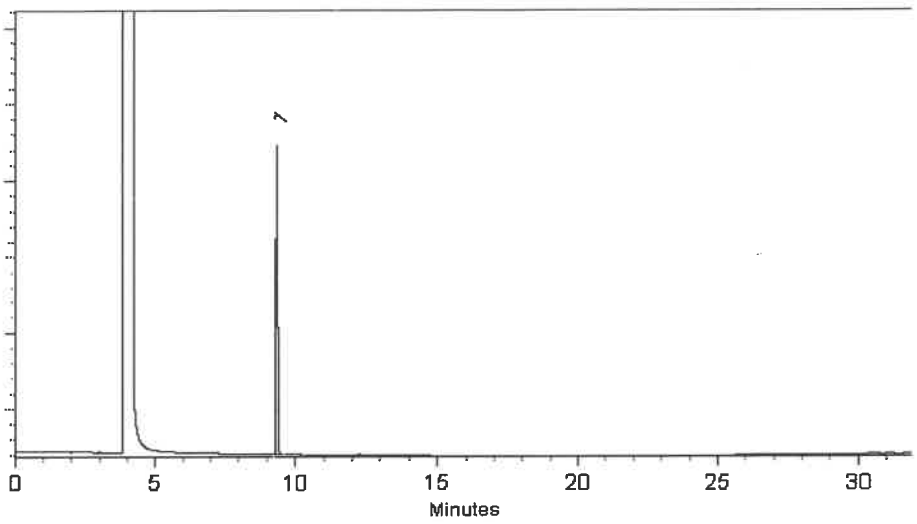
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Stacey Wanner - Operations Technician I

Date Mixed: 08-Aug-2024 **Balance Serial #** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Aug-2024

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
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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. : 30225 **Lot No.:** A0214960

Description : Bromochloromethane Standard

Bromochloromethane 2000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : August 31, 2029 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Bromochloromethane	74-97-5	SYN240416CTH	99%	2,012.0 µg/mL	+/- 113.0519

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

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.)

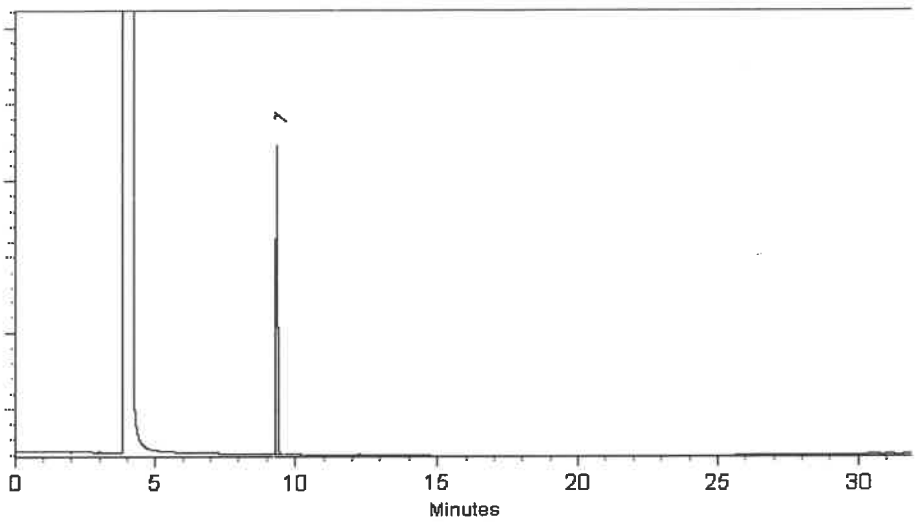
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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Stacey Wanner - Operations Technician I

Date Mixed: 08-Aug-2024 **Balance Serial #** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Aug-2024

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:

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Manufacturing Notes:

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Handling Notes:

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Catalog No. : 30225 **Lot No.:** A0214960

Description : Bromochloromethane Standard

Bromochloromethane 2000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : August 31, 2029 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Bromochloromethane	74-97-5	SYN240416CTH	99%	2,012.0 µg/mL	+/- 113.0519

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

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:
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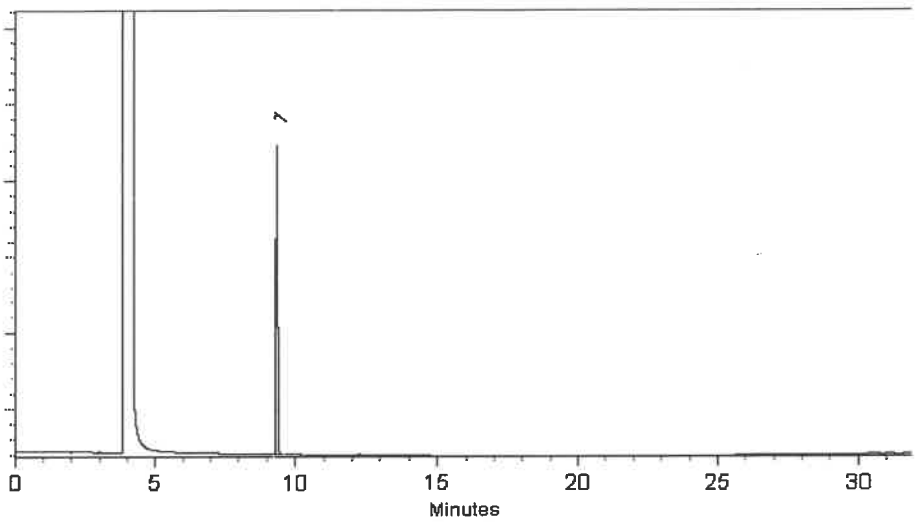
Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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Stacey Wanner - Operations Technician I

Date Mixed: 08-Aug-2024 **Balance Serial #** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Aug-2024

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

General Certified Reference Material Notes

Expiration Notes:

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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. : 30225 **Lot No.:** A0214960

Description : Bromochloromethane Standard

Bromochloromethane 2000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : August 31, 2029 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Bromochloromethane	74-97-5	SYN240416CTH	99%	2,012.0 µg/mL	+/- 113.0519

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

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.)

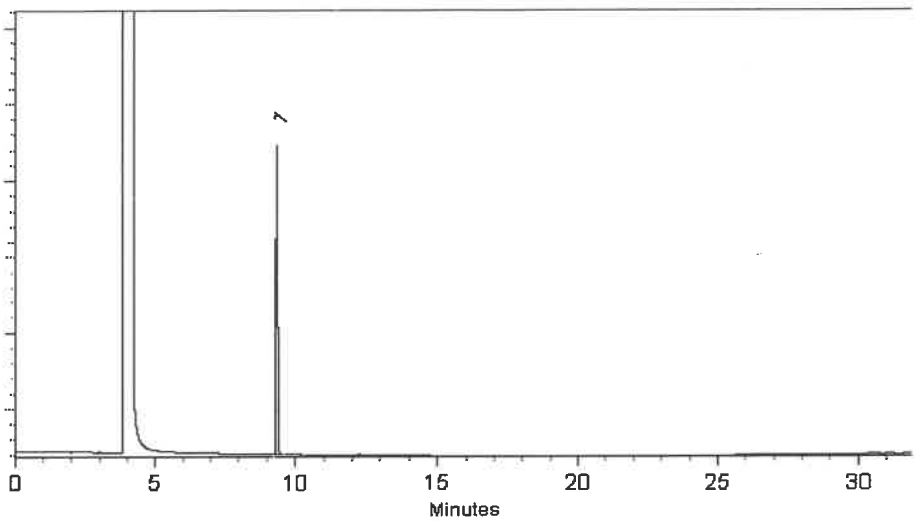
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Stacey Wanner - Operations Technician I

Date Mixed: 08-Aug-2024 **Balance Serial #** 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Aug-2024

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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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. : 30042 **Lot No.:** A0216826

Description : 502.2 Calibration Mix #1

502.2 Calibration Mix #1 2,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : May 31, 2031 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8	00022922	99%	2,000.9 µg/mL	+/- 112.4144
2	Chloromethane (methyl chloride)	74-87-3	00022694	99%	2,000.7 µg/mL	+/- 112.3998
3	Vinyl chloride	75-01-4	00015559	99%	2,000.3 µg/mL	+/- 112.3779
4	Bromomethane (methyl bromide)	74-83-9	00017022	99%	2,001.8 µg/mL	+/- 112.4650
5	Chloroethane (ethyl chloride)	75-00-3	107-401039114-1	99%	2,000.1 µg/mL	+/- 112.3700
6	Trichlorofluoromethane (CFC-11)	75-69-4	MKCJ8658	99%	2,000.7 µg/mL	+/- 112.3992

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

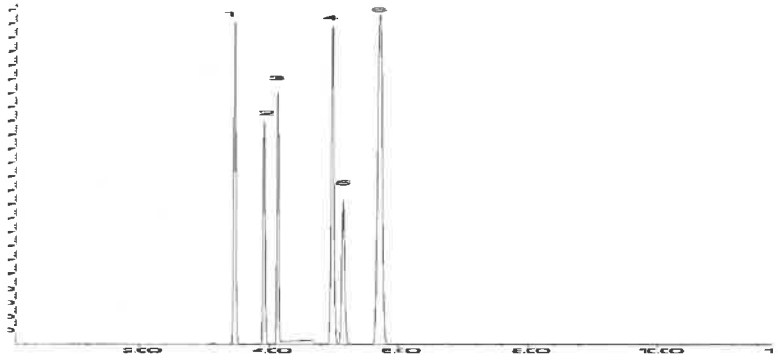
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
Split ratio 10:1

Inj. Vol
1µl



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.

Tom Suckar - Mix Technician

Date Mixed: 23-Sep-2024 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 04-Oct-2024

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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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. : 30042 **Lot No.:** A0216826

Description : 502.2 Calibration Mix #1

502.2 Calibration Mix #1 2,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : May 31, 2031 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8	00022922	99%	2,000.9 µg/mL	+/- 112.4144
2	Chloromethane (methyl chloride)	74-87-3	00022694	99%	2,000.7 µg/mL	+/- 112.3998
3	Vinyl chloride	75-01-4	00015559	99%	2,000.3 µg/mL	+/- 112.3779
4	Bromomethane (methyl bromide)	74-83-9	00017022	99%	2,001.8 µg/mL	+/- 112.4650
5	Chloroethane (ethyl chloride)	75-00-3	107-401039114-1	99%	2,000.1 µg/mL	+/- 112.3700
6	Trichlorofluoromethane (CFC-11)	75-69-4	MKCJ8658	99%	2,000.7 µg/mL	+/- 112.3992

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

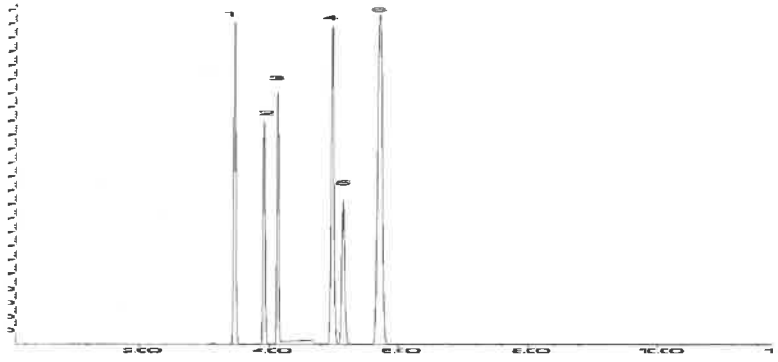
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD

Split Vent:
Split ratio 10:1

Inj. Vol
1µl



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.

Tom Suckar - Mix Technician

Date Mixed: 23-Sep-2024 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 04-Oct-2024

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
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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. : 30470 **Lot No.:** A0217535

Description : tert-Butanol Standard

tert-Butanol Std 50,000µg/mL, P&T Methanol, 1mL/ampul

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

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

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	tert-Butanol (TBA)	75-65-0	SHBQ8002-1	99%	50,007.5 µg/mL	+/- 717.6137

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

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.)

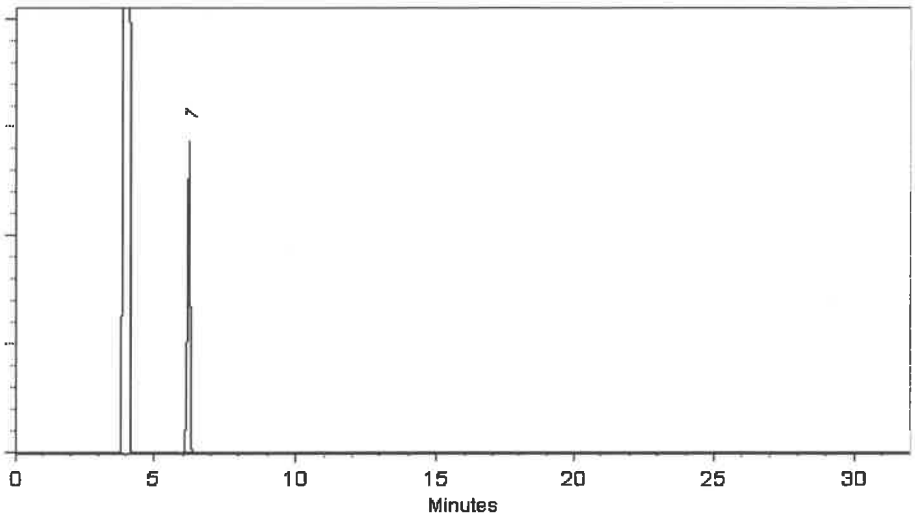
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Aaron Enyart - Operations Tech I

Date Mixed: 07-Oct-2024 **Balance Serial #** B251644995

Brittany Federinko - Operations Tech I

Date Passed: 09-Oct-2024

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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gravimetric

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ilac-MRA A2LA 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. : 555584 **Lot No.:** A0219012

Description : Custom CLP VOA Surrogate Standard Mix

Custom CLP VOA Surrogate Standard Mix 25,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : November 30, 2027 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2-Dichloroethane-d4	17060-07-0	PR-33313	99%	25,228.0 µg/mL	+/- 1,428.7919
2	1-Bromo-4-fluorobenzene (BFB)	460-00-4	0000268853	99%	25,196.0 µg/mL	+/- 1,426.9795
3	Toluene-d8	2037-26-5	PR-34141	99%	25,228.0 µg/mL	+/- 1,428.7919

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

Jess Hoy - Operations Tech I

Date Mixed: 12-Nov-2024 **Balance:** 1127510105

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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:

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- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Zoviny Rec 01/08/21

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chromatographic

V14803 - V14822

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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. : 555408-SL **Lot No.:** A0220471

Description : Custom Vinyl Acetate Standard

Custom Vinyl Acetate Standard 8,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : June 30, 2026 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Vinyl acetate	108-05-4	RD240423RSR	99%	8,066.0 µg/mL	+/- 278.7979

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Quality Confirmation Test

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.)

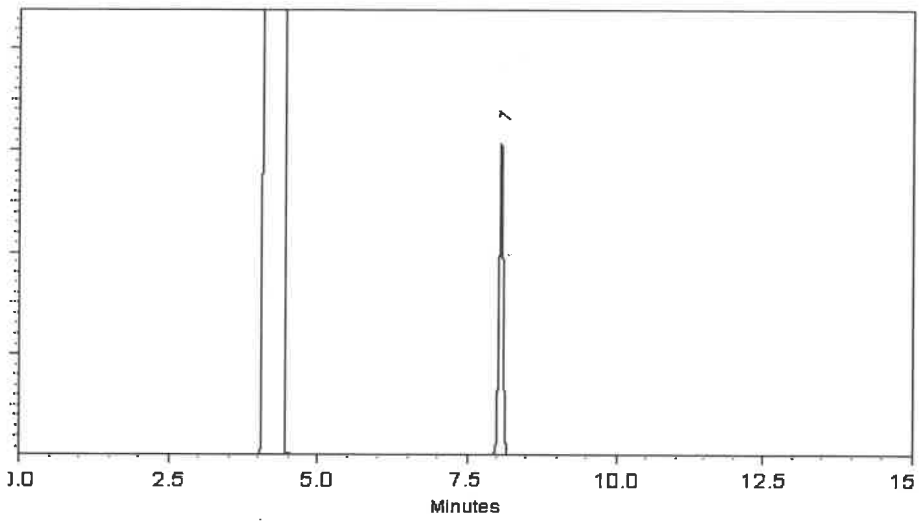
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Ethan Winiarski - Operations Tech I

Date Mixed: 24-Dec-2024 **Balance Serial #** 1127510105

Dillan Murphy - Operations Technician I

Date Passed: 02-Jan-2025

REVIEWED

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Zoviny Rec 01/08/21

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic

V14803 - V14822

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. : 555408-SL **Lot No.:** A0220471

Description : Custom Vinyl Acetate Standard

Custom Vinyl Acetate Standard 8,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : June 30, 2026 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Vinyl acetate	108-05-4	RD240423RSR	99%	8,066.0 µg/mL	+/- 278.7979

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Quality Confirmation Test

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.)

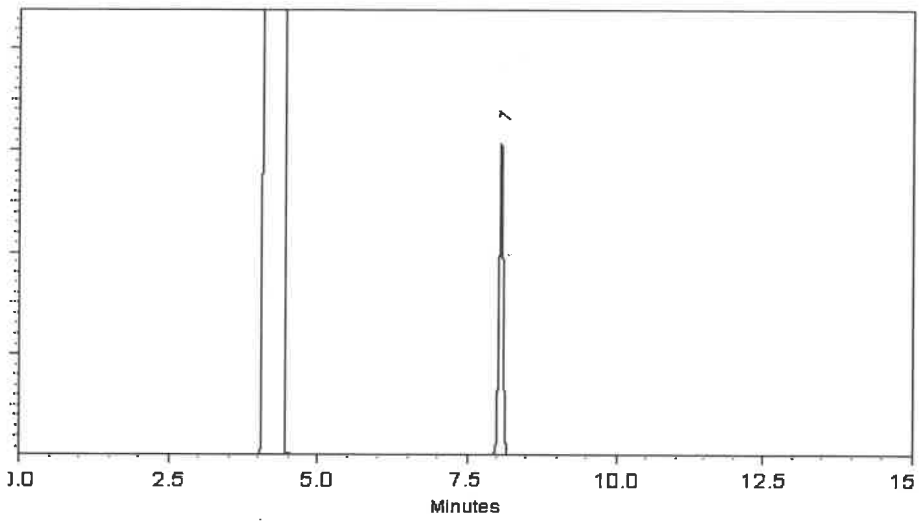
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Ethan Winiarski - Operations Tech I

Date Mixed: 24-Dec-2024 **Balance Serial #** 1127510105

Dillan Murphy - Operations Technician I

Date Passed: 02-Jan-2025

REVIEWED

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

10 vial Rec 01/08/25

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CERTIFIED REFERENCE MATERIAL

ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

Certificate of Analysis

chromatographic

V14793 to 14802

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. : 555408-FL **Lot No.:** A0220563

Description : Custom Vinyl Acetate Standard

Custom Vinyl Acetate Standard 8,000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : June 30, 2026 **Storage:** -20°C or colder

Handling: This product is photosensitive. **Ship:** On Ice

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Vinyl acetate	108-05-4	RD240423RSR	99%	8,060.0 µg/mL	+/- 278.5905

* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods . Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Quality Confirmation Test

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.)

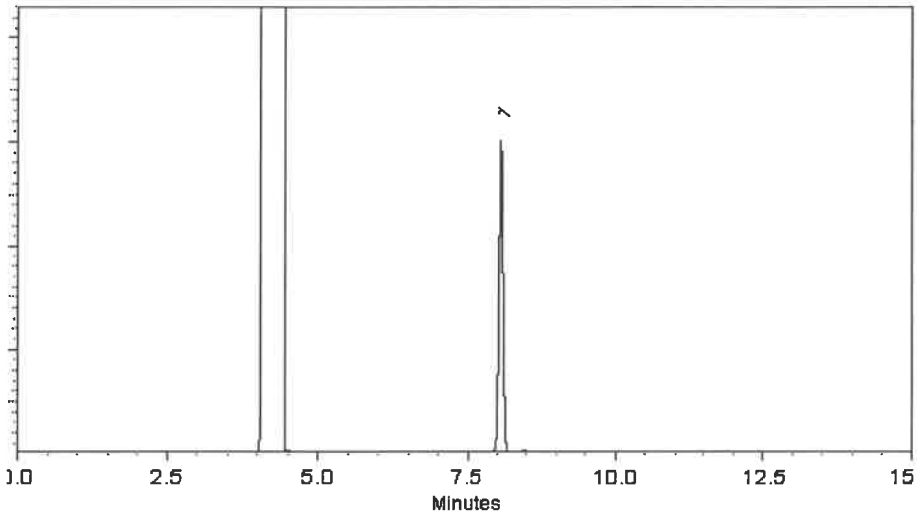
Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

Split Vent:
40 ml/min

Inj. Vol
1µl



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.

Tom Suckar - Mix Technician

Date Mixed: 30-Dec-2024 **Balance Serial #** B345965662

Dillan Murphy - Operations Technician I

Date Passed: 02-Jan-2025

REVIEWED

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 expanded uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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 ampuls. 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.
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Rec 03/12/25

CERTIFIED REFERENCE MATERIAL

10 vials

Certificate of Analysis

gravimetric

V14885 – to – V14894

ISO 17034 Accredited Reference Material Producer Certificate #3222.01

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. : 555583 **Lot No.:** A0223136

Description : Custom CLP VOA Internal Standard Mix

Custom CLP VOA Internal Standard Mix 25,000µg/mL, P&T Methanol, 1mL/ampul

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

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

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Difluorobenzene	540-36-3	MKCS8657	99%	25,024.0 µg/mL	+/- 1,417.2383
2	Bromochloromethane	74-97-5	S241017RSR	99%	25,060.0 µg/mL	+/- 1,419.2772
3	Chlorobenzene-d5	3114-55-4	PR-31132	99%	25,048.4 µg/mL	+/- 1,418.6202

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

Penelope D. Riglin

Penelope Riglin - Operations Tech I

Date Mixed: 10-Mar-2025 **Balance:** 1128342314

REVIEWED

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

General Certified Reference Material Notes

Expiration Notes:

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- 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:

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls 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:

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- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

Rec 05/09/25

avantor™ | J.T.Baker®

V14921 to
V14938

Material No.: 9077-02
Batch No.: 24G0262002
Manufactured Date: 2024-05-14
Expiration Date: 2027-05-14
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	0.3 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

JCroak

Jamie Croak
Director Quality Operations, Bioscience Production

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

Rec 05/09/25

avantor™ | J.T.Baker®

V14921 to
V14938

Material No.: 9077-02
Batch No.: 24G0262002
Manufactured Date: 2024-05-14
Expiration Date: 2027-05-14
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	0.3 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

JCroak

Jamie Croak
Director Quality Operations, Bioscience Production

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

Rec 05/21/25

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

5.014

Part Number:	91980
Lot Number:	051925
Description:	Acrolein
Expiration Date:	061925
Recommended Storage:	Refrigerate (4 °C)
Nominal Concentration (µg/mL):	5000
NIST Test ID#:	6UTB

Solvent(s): Water **Lot#** 041725Q

J14944-V14948

5E-05 Balance Uncertainty

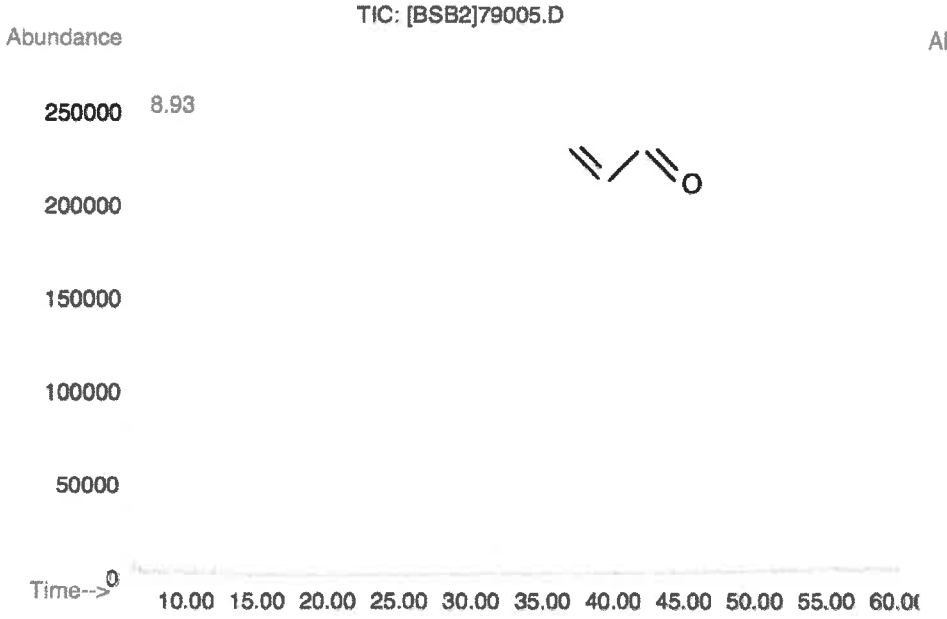
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

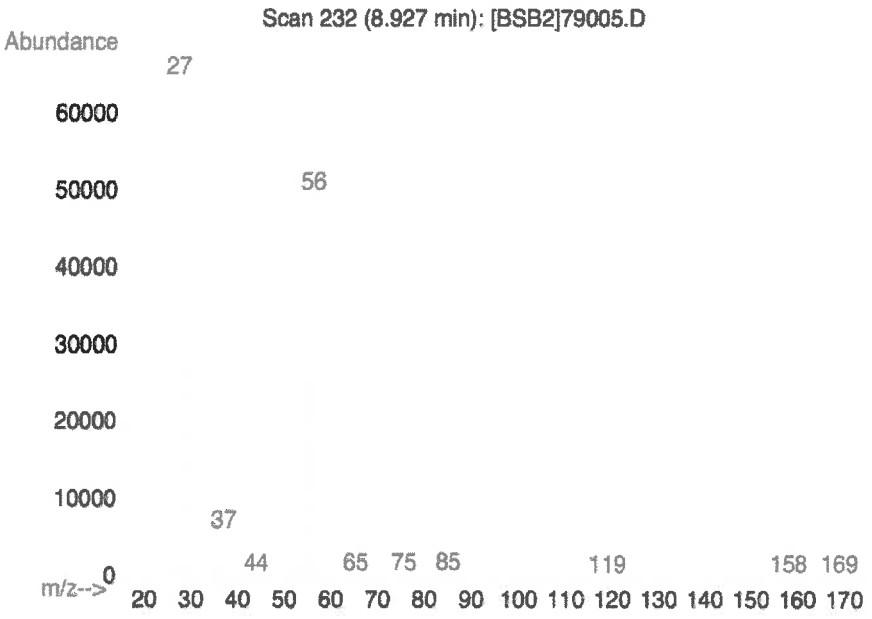
Lawrence Barry 051925
Formulated By: Lawrence Barry DATE

Pedro Rentas 051925
Reviewed By: Pedro L. Rentas DATE

	Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1.	Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05170	5004.1	52.5	107-02-8	0.1 ppm	orl-rat 46mg/kg

Method: GC6MSD-1. **Detector:** Mass Selective Detector (Scan mode). **Column:** Vocol (60m X 0.25mm ID X 1.5µm film thickness). **Oven Profile:** Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2=200°C (Time 2 = 8.75 min.) Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. **Analyst:** Pedro Rentas. **NOTE:** Due to the instability of acrolein in solution, all solutions of acrolein, and any dilutions thereof, should be used immediately Long term storage is not recommended. Please contact our technical department if further information is required.





- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated by an ISO 17025 certified organization with weights traceable through NIST to the SI kilogram (see above).**
- **Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**
  Rev 1.0, 2/25/2025

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

Rec 05/21/25

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

5.014

Part Number:	91980
Lot Number:	051925
Description:	Acrolein
Expiration Date:	061925
Recommended Storage:	Refrigerate (4 °C)
Nominal Concentration (µg/mL):	5000
NIST Test ID#:	6UTB

Solvent(s): Water **Lot#** 041725Q

J14944-V14948

5E-05 Balance Uncertainty

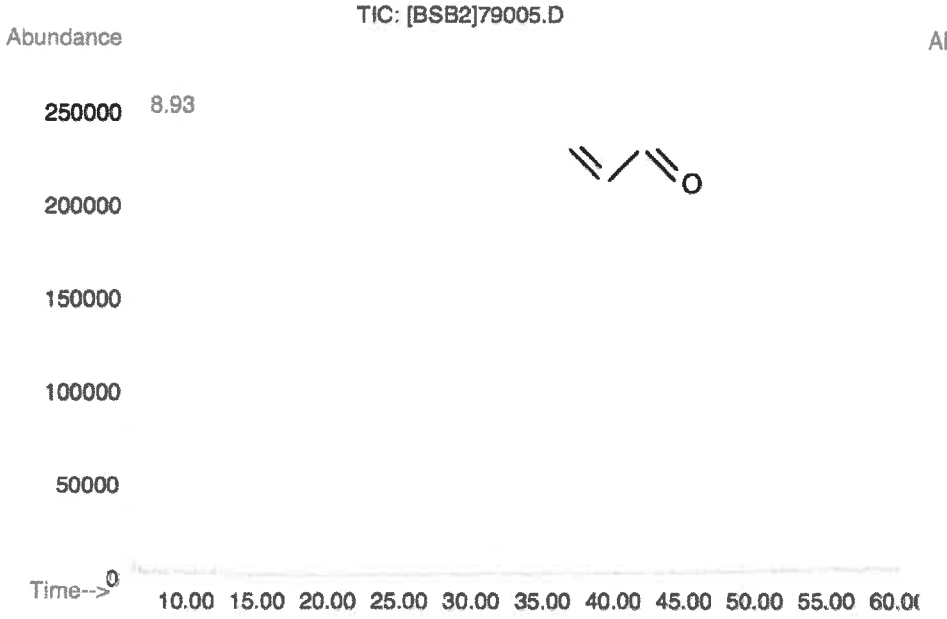
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

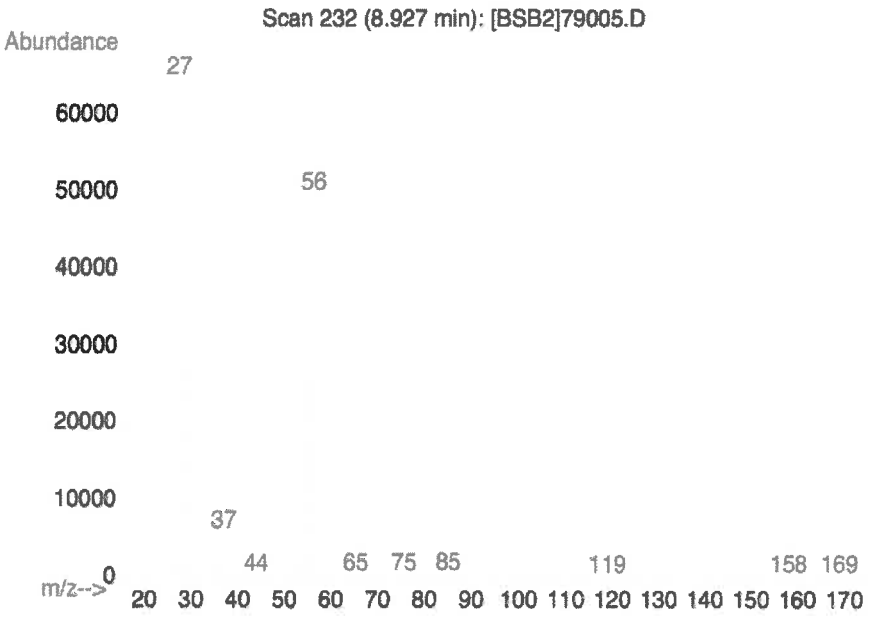
Lawrence Barry 051925
Formulated By: Lawrence Barry DATE

Pedro Rentas 051925
Reviewed By: Pedro L. Rentas DATE

	Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1.	Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05170	5004.1	52.5	107-02-8	0.1 ppm	orl-rat 46mg/kg

Method: GC6MSD-1. **Detector:** Mass Selective Detector (Scan mode). **Column:** Vocol (60m X 0.25mm ID X 1.5µm film thickness). **Oven Profile:** Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2=200°C (Time 2 = 8.75 min.) Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. **Analyst:** Pedro Rentas. **NOTE:** Due to the instability of acrolein in solution, all solutions of acrolein, and any dilutions thereof, should be used immediately Long term storage is not recommended. Please contact our technical department if further information is required.





- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated by an ISO 17025 certified organization with weights traceable through NIST to the SI kilogram (see above).**
- **Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**
  Rev 1.0, 2/25/2025

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

Rec 05/21/25

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

5.014

Part Number:	91980
Lot Number:	051925
Description:	Acrolein
Expiration Date:	061925
Recommended Storage:	Refrigerate (4 °C)
Nominal Concentration (µg/mL):	5000
NIST Test ID#:	6UTB

Solvent(s): Water **Lot#** 041725Q

J14944-V14948

5E-05 Balance Uncertainty

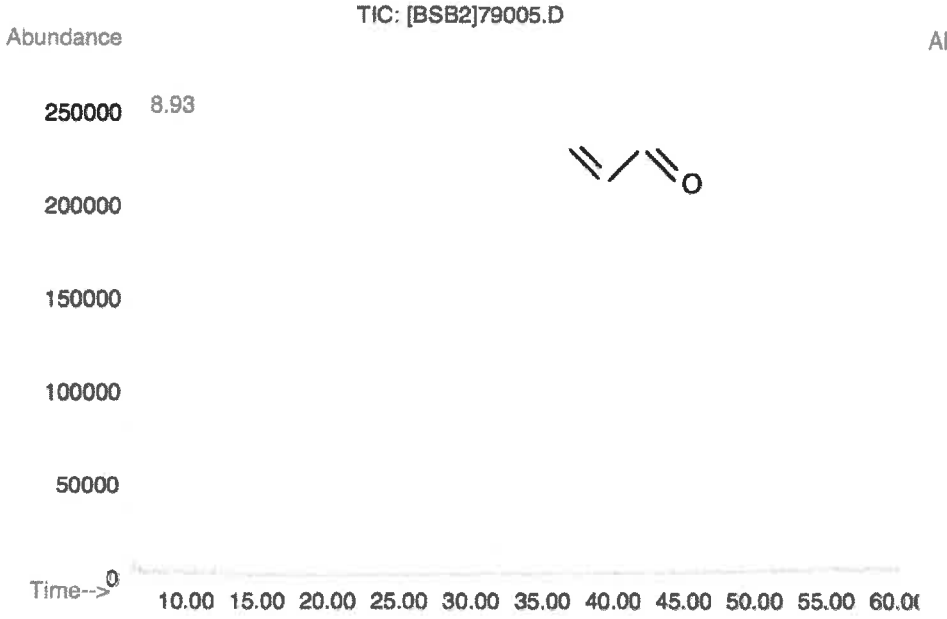
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

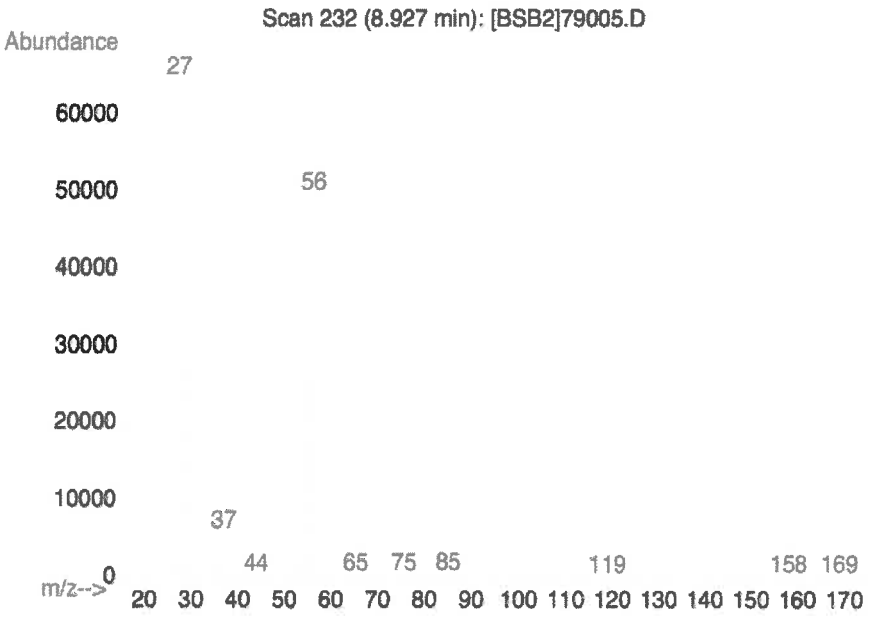
Lawrence Barry 051925
Formulated By: Lawrence Barry DATE

Pedro Rentas 051925
Reviewed By: Pedro L. Rentas DATE

	Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1.	Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05170	5004.1	52.5	107-02-8	0.1 ppm	orl-rat 46mg/kg

Method: GC6MSD-1. **Detector:** Mass Selective Detector (Scan mode). **Column:** Vocol (60m X 0.25mm ID X 1.5µm film thickness). **Oven Profile:** Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2=200°C (Time 2 = 8.75 min.) Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. **Analyst:** Pedro Rentas. **NOTE:** Due to the instability of acrolein in solution, all solutions of acrolein, and any dilutions thereof, should be used immediately Long term storage is not recommended. Please contact our technical department if further information is required.





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- **Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**
  Rev 1.0, 2/25/2025

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

Rec 05/21/25

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

5.014

Part Number:	91980
Lot Number:	051925
Description:	Acrolein
Expiration Date:	061925
Recommended Storage:	Refrigerate (4 °C)
Nominal Concentration (µg/mL):	5000
NIST Test ID#:	6UTB

Solvent(s): Water **Lot#** 041725Q

J14944-V14948

5E-05 Balance Uncertainty

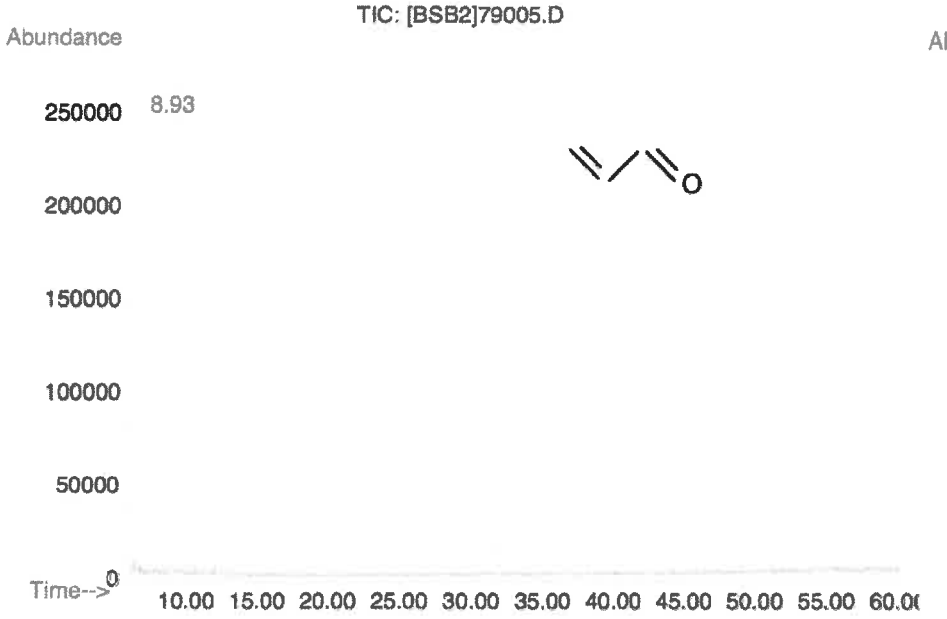
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

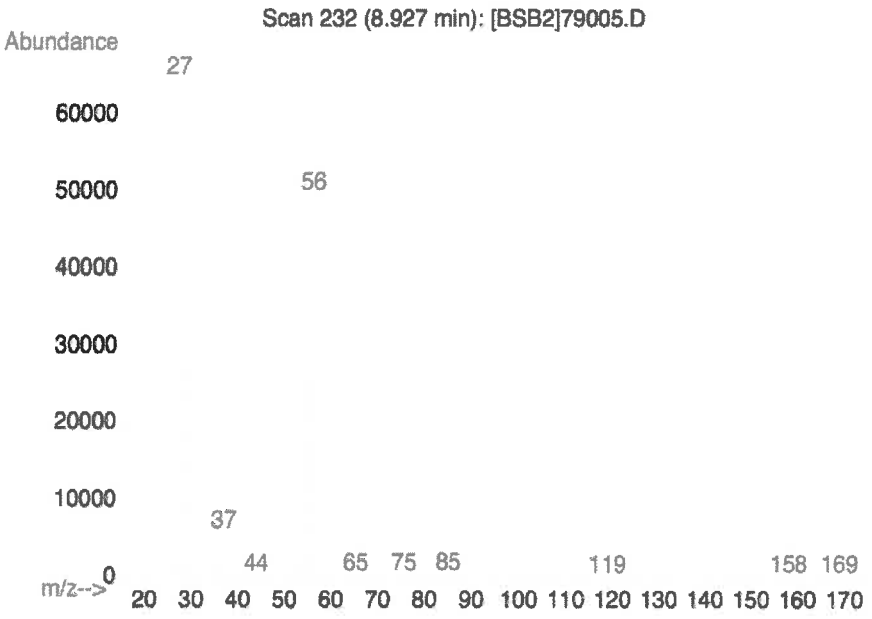
Lawrence Barry 051925
Formulated By: Lawrence Barry DATE

Pedro Rentas 051925
Reviewed By: Pedro L. Rentas DATE

	Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1.	Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05170	5004.1	52.5	107-02-8	0.1 ppm	orl-rat 46mg/kg

Method: GC6MSD-1. **Detector:** Mass Selective Detector (Scan mode). **Column:** Vocol (60m X 0.25mm ID X 1.5µm film thickness). **Oven Profile:** Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2=200°C (Time 2 = 8.75 min.) Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. **Analyst:** Pedro Rentas. **NOTE:** Due to the instability of acrolein in solution, all solutions of acrolein, and any dilutions thereof, should be used immediately Long term storage is not recommended. Please contact our technical department if further information is required.





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CERTIFIED WEIGHT REPORT

2 vial

V14949-95V

Part Number:	91980
Lot Number:	051725
Description:	Acrolein
Expiration Date:	061725
Recommended Storage:	Refrigerate (4 °C)
Nominal Concentration (µg/mL):	5000
NIST Test ID#:	6UTB

Solvent(s):	Lot#
Water	041725Q

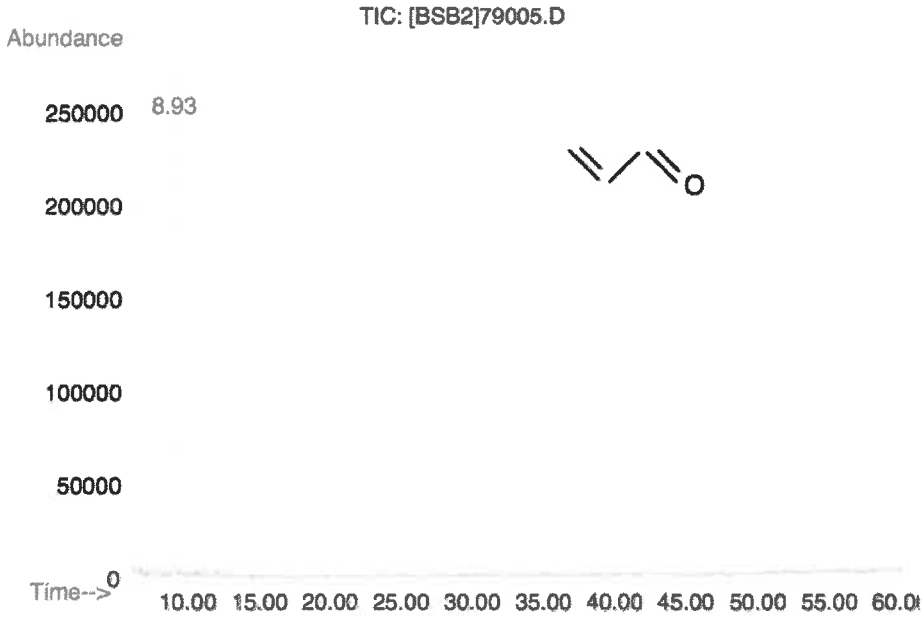
5E-05 Balance Uncertainty

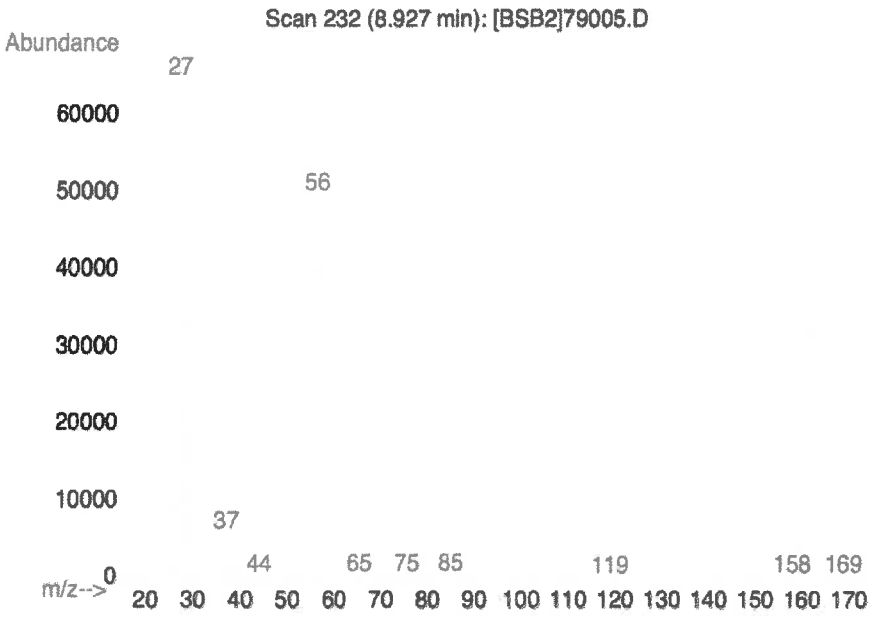
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

Justin Dippold	051725
Formulated By: Justin Dippold	DATE
Pedro Rentas	051725
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acrolein	5	103755R02H	5000	97	0.5	0.05166	0.05175	5008.9	52.5	107-02-8	0.1 ppm	orl-rat 46mg/kg

Method: GC6MSD-1. **Detector:** Mass Selective Detector (Scan mode). **Column:** Vocol (60m X 0.25mm ID X 1.5µm film thickness). **Oven Profile:** Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2=200°C (Time 2 = 8.75 min.) Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. **Analyst:** Pedro Rentas. **NOTE:** Due to the instability of acrolein in solution, all solutions of acrolein, and any dilutions thereof, should be used immediately Long term storage is not recommended. Please contact our technical department if further information is required.





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Rec 05/21/25

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CERTIFIED WEIGHT REPORT

2 vial

V14949-95V

Part Number:	91980
Lot Number:	051725
Description:	Acrolein
Expiration Date:	061725
Recommended Storage:	Refrigerate (4 °C)
Nominal Concentration (µg/mL):	5000
NIST Test ID#:	6UTB

Solvent(s):	Lot#
Water	041725Q

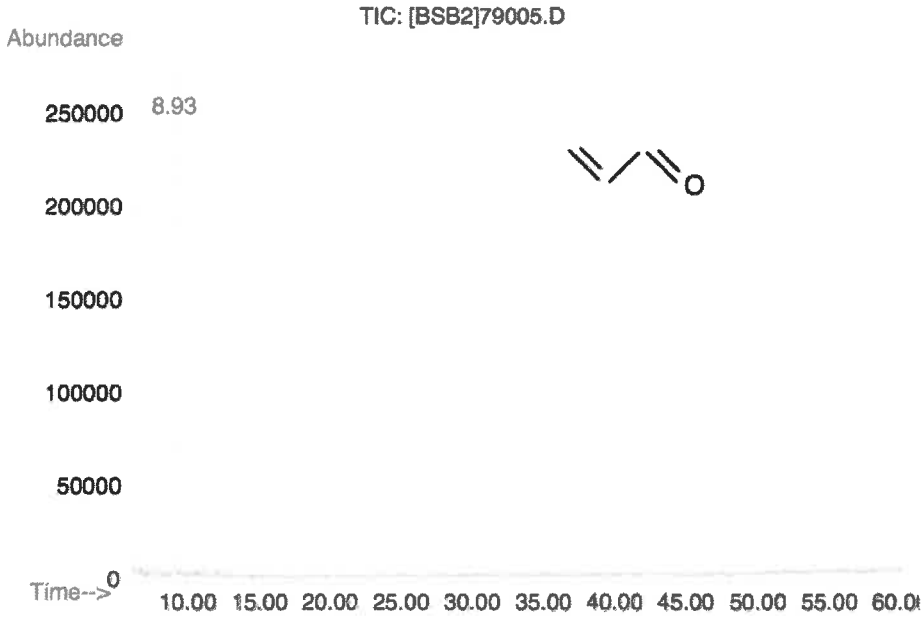
5E-05 Balance Uncertainty

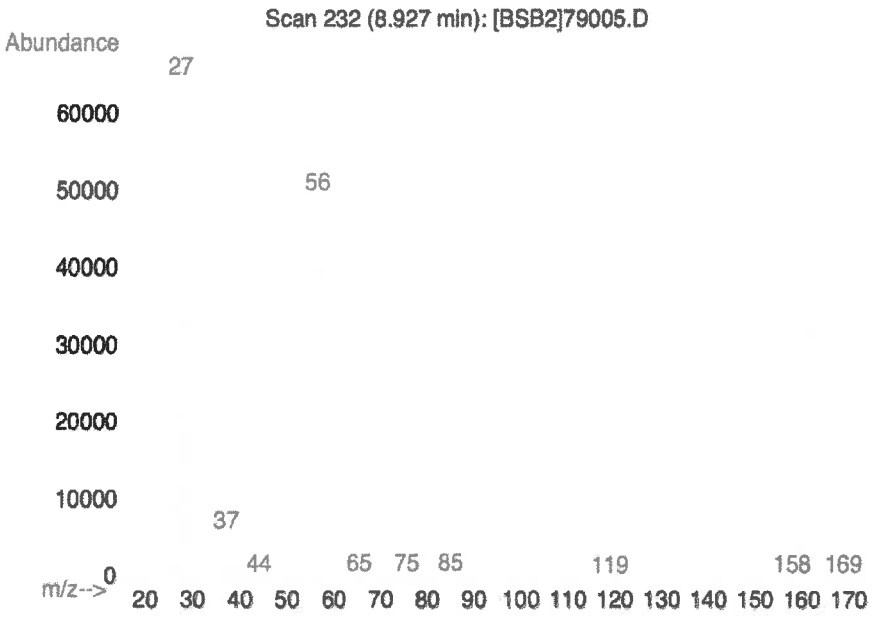
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

Justin Dippold	051725
Formulated By: Justin Dippold	DATE
Pedro Rentas	051725
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Acrolein	5	103755R02H	5000	97	0.5	0.05166	0.05175	5008.9	52.5	107-02-8	0.1 ppm	orl-rat 46mg/kg

Method: GC6MSD-1. **Detector:** Mass Selective Detector (Scan mode). **Column:** Vocol (60m X 0.25mm ID X 1.5µm film thickness). **Oven Profile:** Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2=200°C (Time 2 = 8.75 min.) Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C. **Analyst:** Pedro Rentas. **NOTE:** Due to the instability of acrolein in solution, all solutions of acrolein, and any dilutions thereof, should be used immediately Long term storage is not recommended. Please contact our technical department if further information is required.





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  Rev 1.0, 2/25/2025

SHIPPING DOCUMENTS

Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

ALLIANCE PROJECT NO.
QUOTE NO. Q2264
COC Number 2047111

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Ardmore Inc
ADDRESS: 29 Riverside Ave Bldg #14
CITY Newark STATE: NJ ZIP: 07104
ATTENTION: Michael Sharphouse
PHONE: 9734812406 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME:
PROJECT NO.: LOCATION:
PROJECT MANAGER:
e-mail:
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): STANDARD DAYS*
EDD: _____ DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

- ☐ Level 1 (Results Only)
- ☐ Level 2 (Results + QC)
- ☐ Level 3 (Results + QC + Raw Data)
- ☐ Level 4 (QC + Full Raw Data)
- ☐ NJ Reduced
- ☐ US EPA CLP
- ☐ NYS ASP A
- ☐ NYS ASP B
- ☐ Other _____
- ☐ EDD FORMAT _____

ANALYSIS

1: VOA
2: CN
3: SVOA
4: BOD/TSS
5: Metals
6:
7:
8:
9:

ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES 1	2	3	4	5	6	7	8	9	COMMENTS
1.	EFF WW	WW		X	6/6/25	12:30		X	X								
2.	EF WW	WW	X		6/6/25	12:30				X	X	X					
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1 Albert Sharphouse	6/6/25 1355	1.
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
2.		2.
RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
3.		3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.1°C °C
Comments: METALS LEAD ZINC

Page ____ of

CLIENT: ☐ Hand Delivered ☐ Other _____

Shipment Complete
☐ YES ☐ NO

WHITE - ALLIANCE COPY FOR RETURN TO CLIENT YELLOW - ALLIANCE COPY PINK - SAMPLER COPY

284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

QA Control Code: A2070148

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q2264 ARDM01
Client Name : Ardmore Chemical
Client Contact : Michael Sharphouse
Invoice Name : Ardmore Chemical
Invoice Contact : Michael Sharphouse

Order Date : 6/6/2025 2:07:00 PM
Project Name : PVSC Monthly 2025
Receive DateTime : 6/6/2025 1:55:00 PM
Purchase Order :

Project Mgr :
Report Type : Level 1
EDD Type : NONE
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q2264-01	EFF-WW	Water	06/06/2025	12:30					
					VOC-PP		624.1		10 Bus. Days

Relinguished By : dl
Date / Time : 6/6/25 1455

Received By : Sam
Date / Time : 06/06/25 14:55 Rgh 3

Storage Area : VOA Refridgerator Room