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

Cover Page

Order ID : Q1212

Project ID : Transfer Station-SPDES

Client : Tully Environmental, Inc

Lab Sample Number	Client Sample Number
Q1212-01	001-WILLETS-PT-BLVD(JAN)
Q1212-02	002-35TH-AVE(JAN)

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: 1/30/2025

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

284 Sheffield Street, Mountainside NJ 07092 Tel. 908-789-8900 Fax: 908-789-8922

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 #: **Q1212**

	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:** **01/30/2025**

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LAB CHRONICLE

OrderID:	Q1212	**OrderDate:**	1/29/2025 10:42:00 AM
Client:	Tully Environmental, Inc	**Project:**	Transfer Station-SPDES
Contact:	Dean Devoe	**Location:**	N31,VOA Ref. #3 Water

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q1212-01	**001-WILLETS-PT-BLVD(JAN)**	**Water**			**01/28/25**			**01/29/25**
			VOC-BTEX	624.1			01/30/25	
Q1212-02	**002-35TH-AVE(JAN)**	**Water**			**01/28/25**			**01/29/25**
			VOC-BTEX	624.1			01/30/25	

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Hit Summary Sheet
SW-846

SDG No.: Q1212

Client: Tully Environmental, Inc

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID:	**001-WILLETS-PT-BLVD(JAN)**							
Q1212-01	001-WILLETS-PT-	Water	Toluene	72.0		0.72	5.00	ug/L
			Total Voc :	72.0				
			Total Concentration:	72.0				
Client ID:	**002-35TH-AVE(JAN)**							
Q1212-02	002-35TH-AVE(JA	Water	Toluene	82.9		0.72	5.00	ug/L
			Total Voc :	82.9				
			Total Concentration:	82.9				

QC SUMMARY

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Surrogate Summary

SDG No.: Q1212

Client: Tully Environmental, Inc

Analytical Method: SW624.1

Lab Sample ID	Client ID	Parameter	Spike	Result	RecoveryQual	Limits Low	Limits High
Q1212-01	001-WILLETS-PT-BLVD(JAN)	1,2-Dichloroethane-d4	30	27.4	91	91	110
		Toluene-d8	30	30.6	102	91	112
		4-Bromofluorobenzene	30	28.6	95	63	112
Q1212-02	002-35TH-AVE(JAN)	1,2-Dichloroethane-d4	30	27.8	93	91	110
		Toluene-d8	30	30.7	102	91	112
		4-Bromofluorobenzene	30	27.7	92	63	112
VX0130WBL01	VX0130WBL01	1,2-Dichloroethane-d4	30	28.3	94	91	110
		Toluene-d8	30	30.1	100	91	112
		4-Bromofluorobenzene	30	27.3	91	63	112
VX0130WBS01	VX0130WBS01	1,2-Dichloroethane-d4	30	27.3	91	91	110
		Toluene-d8	30	29.8	99	91	112
		4-Bromofluorobenzene	30	29.4	98	63	112
VX0130WBSD0	VX0130WBSD01	1,2-Dichloroethane-d4	30	27.5	92	91	110
		Toluene-d8	30	29.0	97	91	112
		4-Bromofluorobenzene	30	29.0	97	63	112

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q1212

Client: Tully Environmental, Inc

Analytical Method: SW624.1 **Datafile :** VX044770.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VX0130WBS01	Benzene	20	20.7	ug/L	104			65	135	
	Toluene	20	20.5	ug/L	103			70	130	
	Ethyl Benzene	20	20.3	ug/L	102			60	140	
	m/p-Xylenes	40	42.7	ug/L	107			87	111	
	o-Xylene	20	21.2	ug/L	106			87	111	

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Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.: Q1212

Client: Tully Environmental, Inc

Analytical Method: SW624.1 **Datafile :** VX044771.D

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Limits Low	Limits High	RPD
VX0130WBSD01	Benzene	20	19.4	ug/L	97	7		65	135	20
	Toluene	20	18.6	ug/L	93	10		70	130	20
	Ethyl Benzene	20	18.6	ug/L	93	9		60	140	20
	m/p-Xylenes	40	38.7	ug/L	97	10		87	111	20
	o-Xylene	20	19.2	ug/L	96	10		87	111	20

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VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VX0130WBL01

Lab Name: CHEMTECH Contract: TULL01

Lab Code: CHEM Case No.: Q1212 SAS No.: Q1212 SDG NO.: Q1212

Lab File ID: VX044772.D Lab Sample ID: VX0130WBL01

Date Analyzed: 01/30/2025 Time Analyzed: 10:44

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
VX0130WBS01	VX0130WBS01	VX044770.D	01/30/2025
VX0130WBSD01	VX0130WBSD01	VX044771.D	01/30/2025
002-35TH-AVE(JAN)	Q1212-02	VX044774.D	01/30/2025
001-WILLETS-PT-BLVD(JAN)	Q1212-01	VX044775.D	01/30/2025

COMMENTS:

Raw Data: **VX044658.D**

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: TULL01

Lab Code: CHEM Case No.: Q1212 SAS No.: Q1212 SDG NO.: Q1212

Lab File ID: VX044658.D BFB Injection Date: 01/16/2025

Instrument ID: MSVOA_X BFB Injection Time: 08:02

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	18.2
75	30.0 - 60.0% of mass 95	48.5
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.5 (0.7) 1
174	50.0 - 100.0% of mass 95	66.7
175	5.0 - 9.0% of mass 174	4.7 (7) 1
176	95.0 - 101.0% of mass 174	64.7 (97) 1
177	5.0 - 9.0% of mass 176	4.3 (6.6) 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	VX044659.D	01/16/2025	08:39
VSTDICCC020	VSTDICCC020	VX044660.D	01/16/2025	09:02
VSTDICC050	VSTDICC050	VX044661.D	01/16/2025	09:25
VSTDICC100	VSTDICC100	VX044662.D	01/16/2025	09:49
VSTDICC150	VSTDICC150	VX044663.D	01/16/2025	10:12

Raw Data: **VX044768.D**

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: TULL01

Lab Code: CHEM Case No.: Q1212 SAS No.: Q1212 SDG NO.: Q1212

Lab File ID: VX044768.D BFB Injection Date: 01/30/2025

Instrument ID: MSVOA_X BFB Injection Time: 08:49

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	18.5
75	30.0 - 60.0% of mass 95	49.2
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.4
173	Less than 2.0% of mass 174	0.6 (0.8) 1
174	50.0 - 100.0% of mass 95	71.8
175	5.0 - 9.0% of mass 174	5.5 (7.7) 1
176	95.0 - 101.0% of mass 174	71.5 (99.6) 1
177	5.0 - 9.0% of mass 176	4.8 (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
VSTDCCC020	VSTDCCC020	VX044769.D	01/30/2025	09:23
VX0130WBS01	VX0130WBS01	VX044770.D	01/30/2025	09:55
VX0130WBSD01	VX0130WBSD01	VX044771.D	01/30/2025	10:21
VX0130WBL01	VX0130WBL01	VX044772.D	01/30/2025	10:44
002-35TH-AVE(JAN)	Q1212-02	VX044774.D	01/30/2025	11:37
001-WILLETS-PT-BLVD(JAN)	Q1212-01	VX044775.D	01/30/2025	12:00

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VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: TULL01

Lab Code: CHEM Case No.: Q1212 SAS No.: Q1212 SDG NO.: Q1212

Lab File ID: VX044769.D Date Analyzed: 01/30/2025

Instrument ID: MSVOA_X Time Analyzed: 09:23

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	29832	4.89	163814	6.75	150220	10.05
UPPER LIMIT	59664	5.385	327628	7.251	300440	10.549
LOWER LIMIT	14916	4.385	81907	6.251	75110	9.549
EPA SAMPLE NO.						
001-WILLETS-PT-BLVD(JAN)	27744	4.89	158226	6.76	142220	10.06
002-35TH-AVE(JAN)	25775	4.90	145121	6.76	129652	10.05
VX0130WBL01	24468	4.89	137072	6.76	123214	10.05
VX0130WBS01	25818	4.89	146320	6.75	136752	10.05
VX0130WBSD01	25350	4.89	141556	6.76	132262	10.05

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: TULL01

Lab Code: CHEM Case No.: Q1212 SAS No.: Q1212 SDG NO.: Q1212

Lab File ID: VX044769.D Date Analyzed: 01/30/2025

Instrument ID: MSVOA_X Time Analyzed: 09:23

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.						
001-WILLETS-PT-BLVD(JAN)	0	0.00				
002-35TH-AVE(JAN)	0	0.00				
VX0130WBL01	0	0.00				
VX0130WBS01	0	0.00				
VX0130WBSD01	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: **VX044775.D**

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

Report of Analysis

Client:	Tully Environmental, Inc	Date Collected:	01/28/25
Project:	Transfer Station-SPDES	Date Received:	01/29/25
Client Sample ID:	001-WILLETS-PT-BLVD(JAN)	SDG No.:	Q1212
Lab Sample ID:	Q1212-01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-BTEX
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX044775.D	1		01/30/25 12:00	VX013025

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
71-43-2	Benzene	0.69	U	0.69	5.00	ug/L
108-88-3	Toluene	72.0		0.72	5.00	ug/L
100-41-4	Ethyl Benzene	0.73	U	0.73	5.00	ug/L
179601-23-1	m/p-Xylenes	1.70	U	1.70	10.0	ug/L
95-47-6	o-Xylene	0.82	U	0.82	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	27.4		91 - 110	91%	SPK: 30
2037-26-5	Toluene-d8	30.6		91 - 112	102%	SPK: 30
460-00-4	4-Bromofluorobenzene	28.6		63 - 112	95%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	27700	4.891			
540-36-3	1,4-Difluorobenzene	158000	6.757			
3114-55-4	Chlorobenzene-d5	142000	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: **VX044775.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044775.D
Acq On : 30 Jan 2025 12:00
Operator : JC/MD
Sample : Q1212-01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Quant Time: Jan 30 12:26:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane	4.891	128	27744	30.000	ug/l		0.00
28) 1,4-Difluorobenzene	6.757	114	158226	30.000	ug/l		0.00
57) Chlorobenzene-d5	10.055	117	142220	30.000	ug/l		0.00
System Monitoring Compounds							
27) 1,2-Dichloroethane-d4	5.952	65	73481	27.435	ug/l		0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 91.433%				
60) 4-Bromofluorobenzene	11.079	95	79069	28.623	ug/l		0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 95.400%				
63) Toluene-d8	8.647	98	236325	30.551	ug/l		0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 101.833%				
Target Compounds							Qvalue
12) Methyl Acetate	2.703	43	840	0.281	ug/l		93
15) Acetone	2.379	58	11309	38.659	ug/l		99
16) Carbon Disulfide	2.507	76	1980	0.348	ug/l		98
30) 2-Butanone	4.574	43	6189	4.094	ug/l	#	89
58) 4-Methyl-2-Pentanone	8.573	43	7044	2.350	ug/l		94
62) Toluene	8.714	91	674184	71.992	ug/l		98
67) m/p-Xylenes	10.299	106	781	0.208	ug/l		97
80) 1,2,4-Trimethylbenzene	11.750	105	4067	0.524	ug/l		92
82) p-Isopropyltoluene	12.006	119	15443	1.987	ug/l		98
91) Naphthalene	13.780	128	3000	0.329	ug/l	#	94

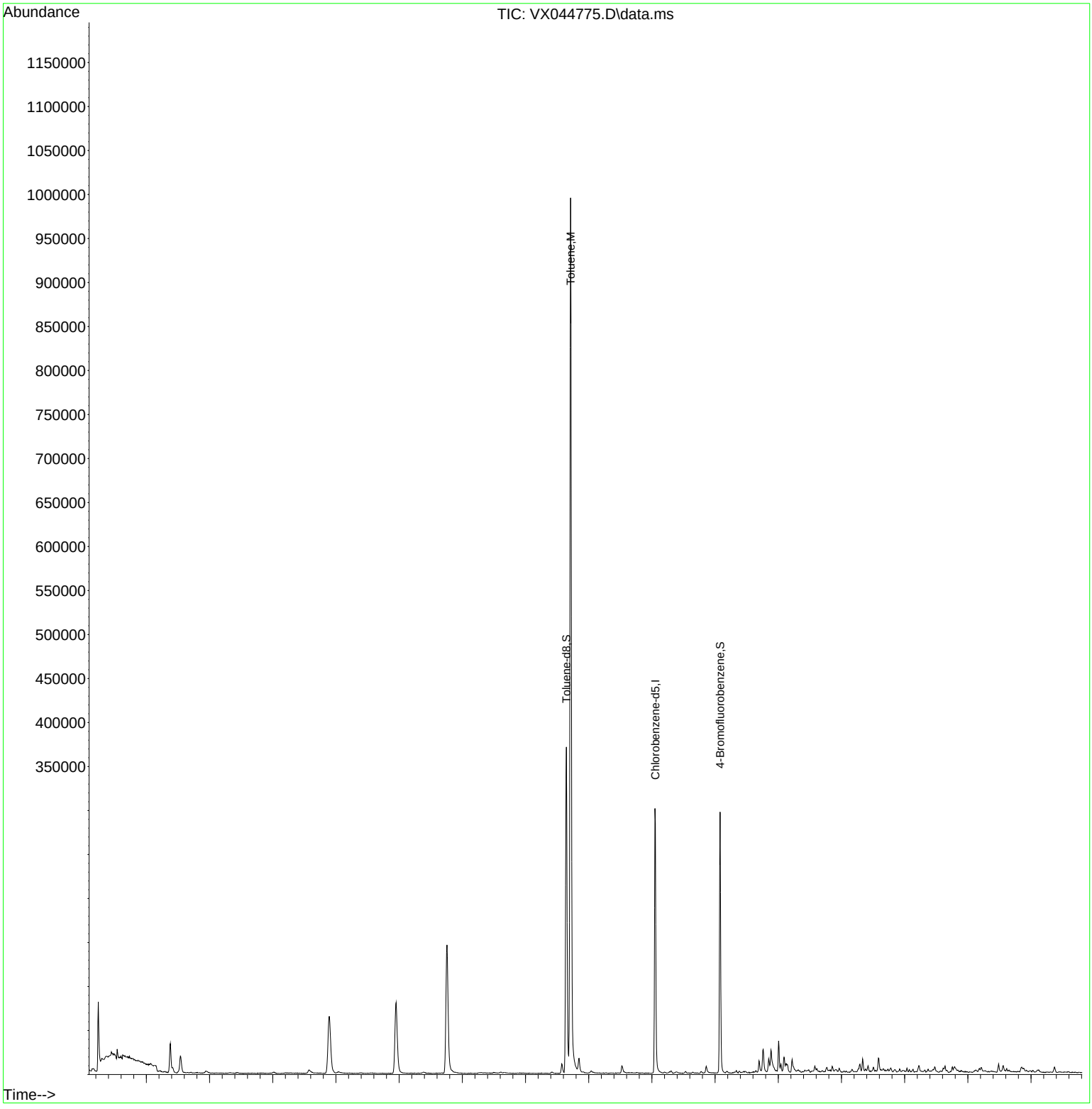
(#) = qualifier out of range (m) = manual integration (+) = signals summed

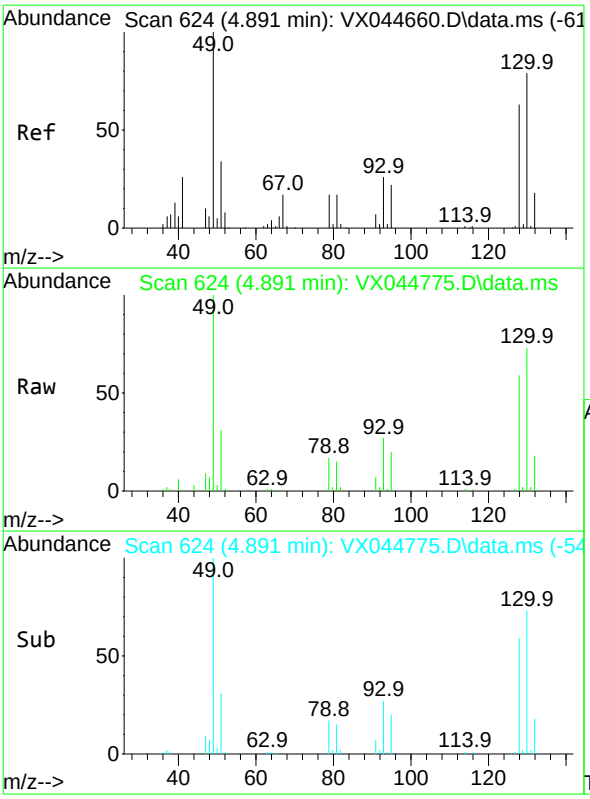
Sample Results: **VX044775.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044775.D
Acq On : 30 Jan 2025 12:00
Operator : JC/MD
Sample : Q1212-01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Quant Time: Jan 30 12:26:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration



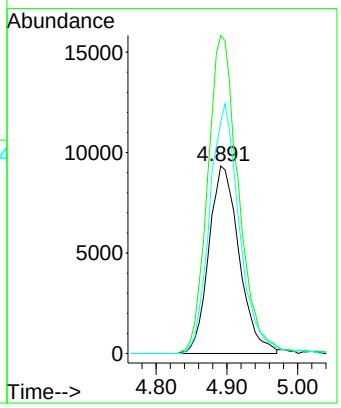


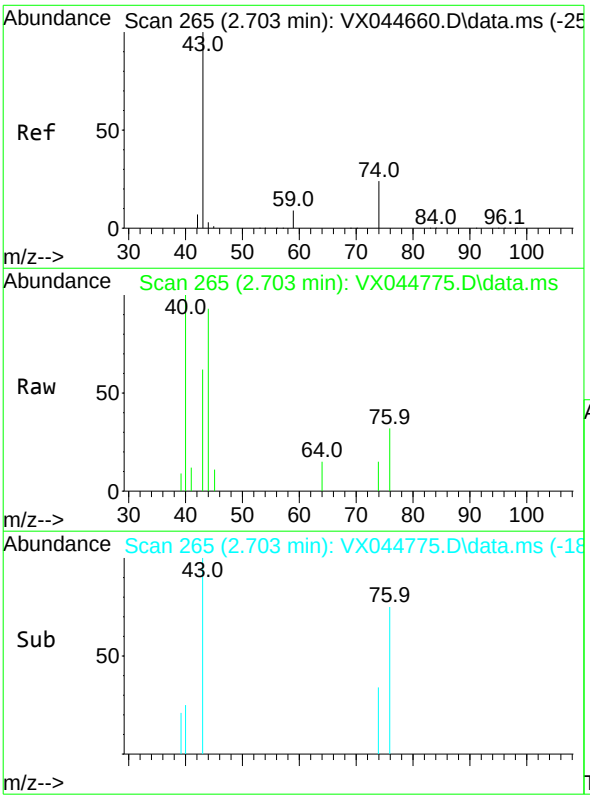
#1
Bromochloromethane
Concen: 30.000 ug/l
RT: 4.891 min Scan# 62
Delta R.T. 0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Tgt Ion:128 Resp: 27744

Ion	Ratio	Lower	Upper
128	100		
49	172.0	0.0	411.5
130	131.1	0.0	324.3

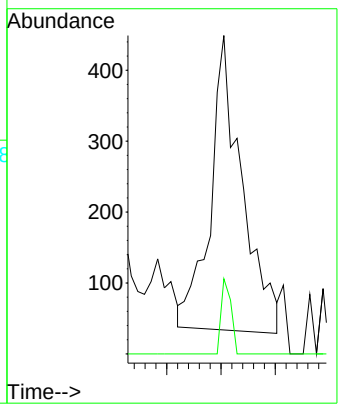


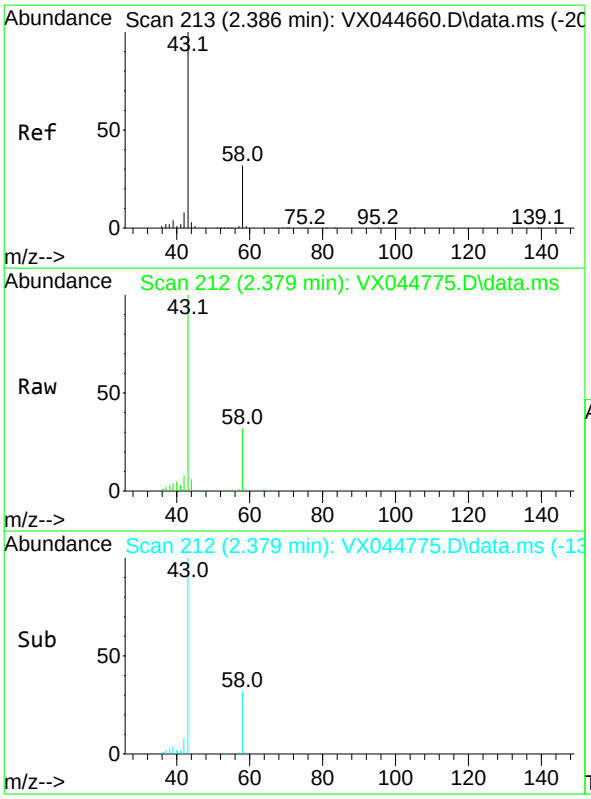


#12
Methyl Acetate
Concen: 0.281 ug/l
RT: 2.703 min Scan# 265
Delta R.T. -0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Tgt Ion: 43 Resp: 840

Ion	Ratio	Lower	Upper
43	100		
74	28.0	19.4	29.2



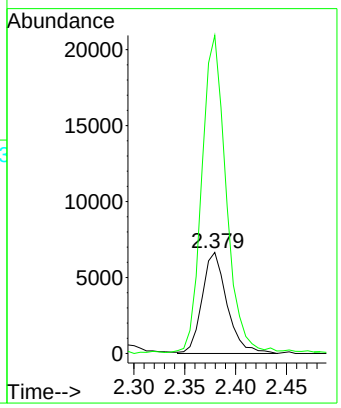


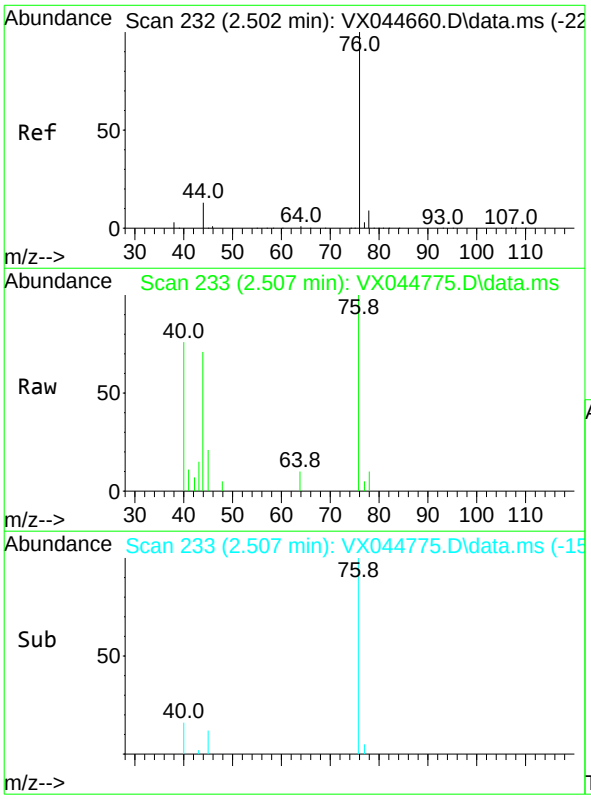
#15
Acetone
Concen: 38.659 ug/l
RT: 2.379 min Scan# 21
Delta R.T. -0.006 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Tgt Ion: 58 Resp: 11309

Ion	Ratio	Lower	Upper
58	100		
43	312.2	251.0	376.4

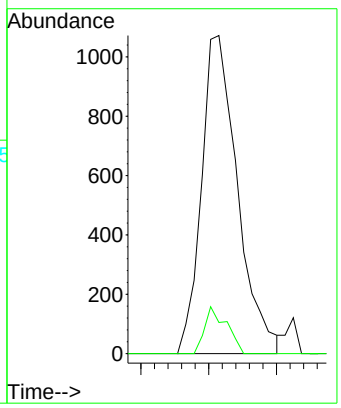


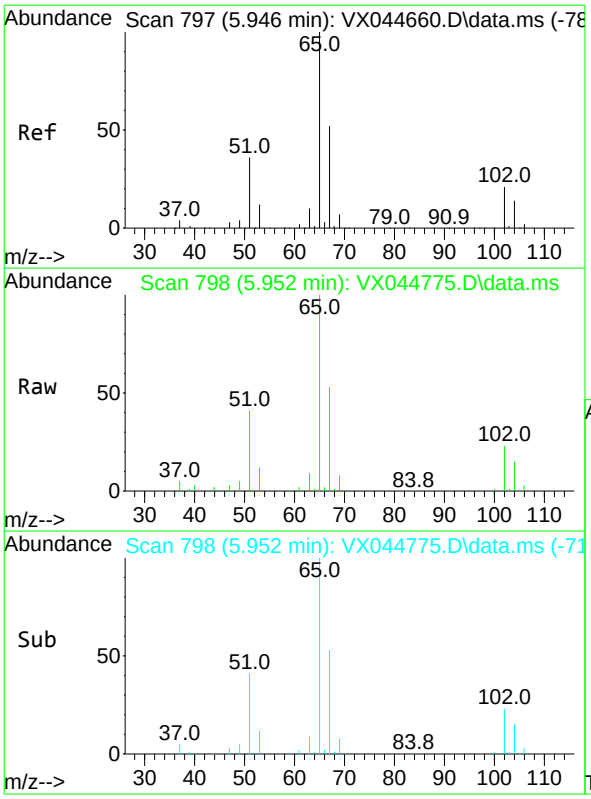


#16
Carbon Disulfide
Concen: 0.348 ug/l
RT: 2.507 min Scan# 233
Delta R.T. 0.006 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Tgt Ion: 76 Resp: 1980

Ion	Ratio	Lower	Upper
76	100		
78	9.8	7.3	10.9



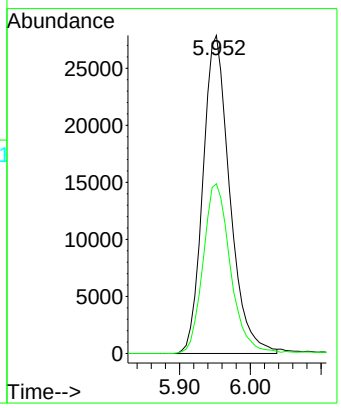


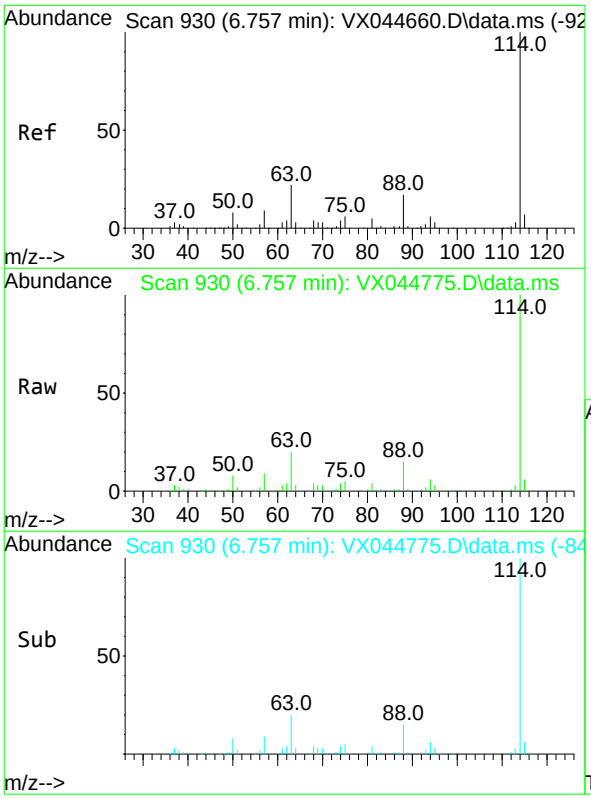
#27
1,2-Dichloroethane-d4
Concen: 27.435 ug/l
RT: 5.952 min Scan# 79
Delta R.T. 0.006 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Tgt Ion: 65 Resp: 73481

Ion	Ratio	Lower	Upper
65	100		
67	54.3	41.4	62.2

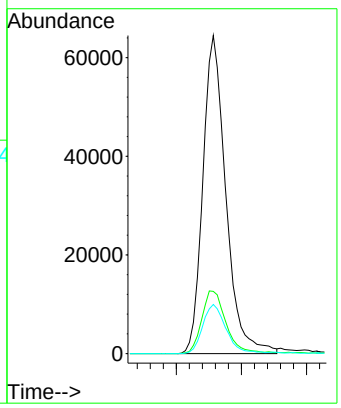


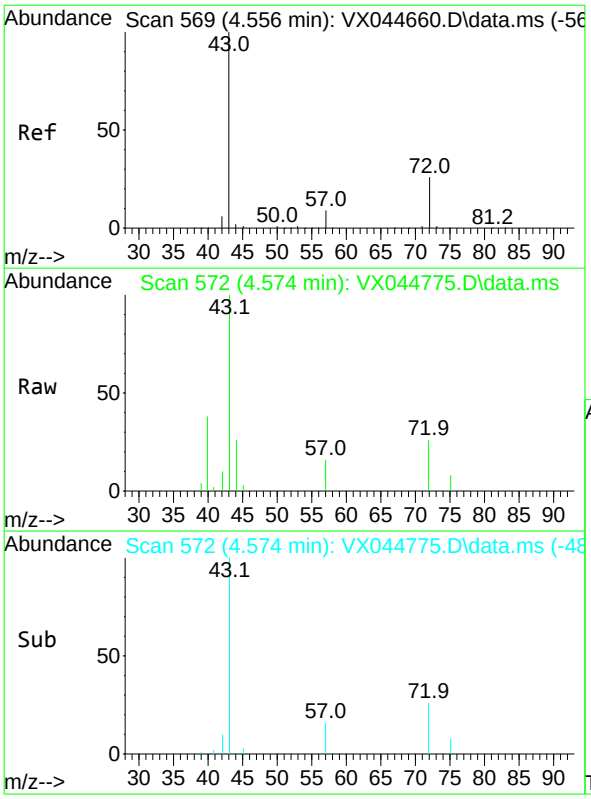


#28
1,4-Difluorobenzene
Concen: 30.000 ug/l
RT: 6.757 min Scan# 930
Delta R.T. -0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Tgt Ion:114 Resp: 158226

Ion	Ratio	Lower	Upper
114	100		
63	20.6	16.6	24.8
88	15.6	13.4	20.2



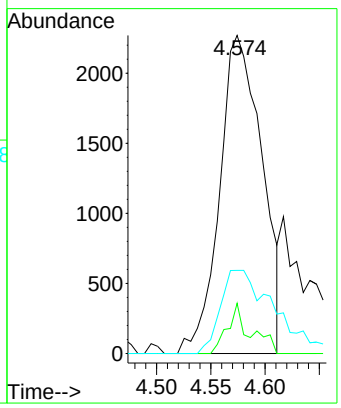


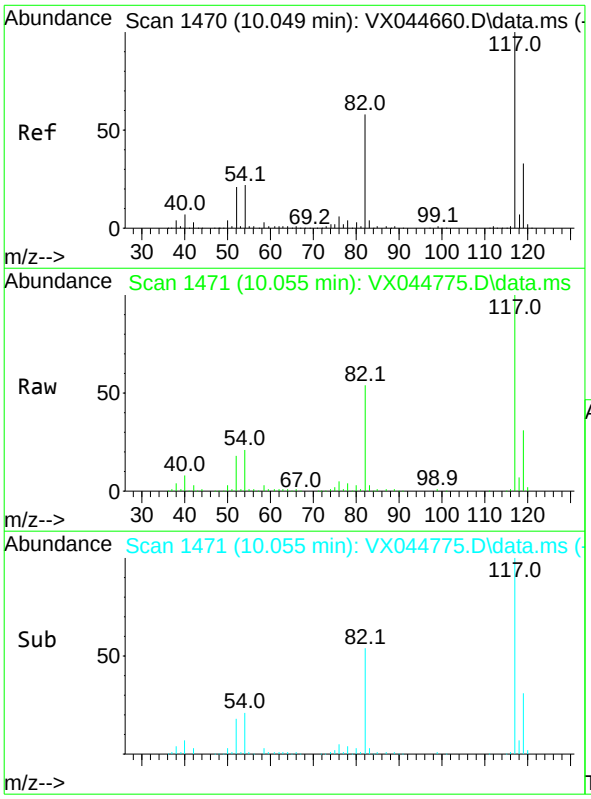
#30
2-Butanone
Concen: 4.094 ug/l
RT: 4.574 min Scan# 57
Delta R.T. 0.018 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Tgt Ion: 43 Resp: 6189

Ion	Ratio	Lower	Upper
43	100		
57	6.0	6.4	9.6#
72	20.6	21.5	32.3#

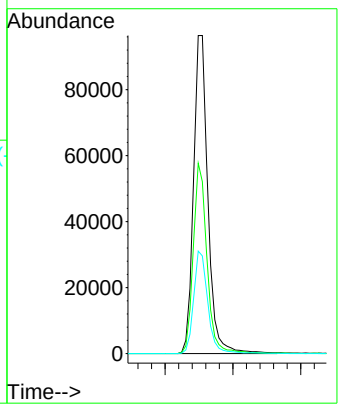


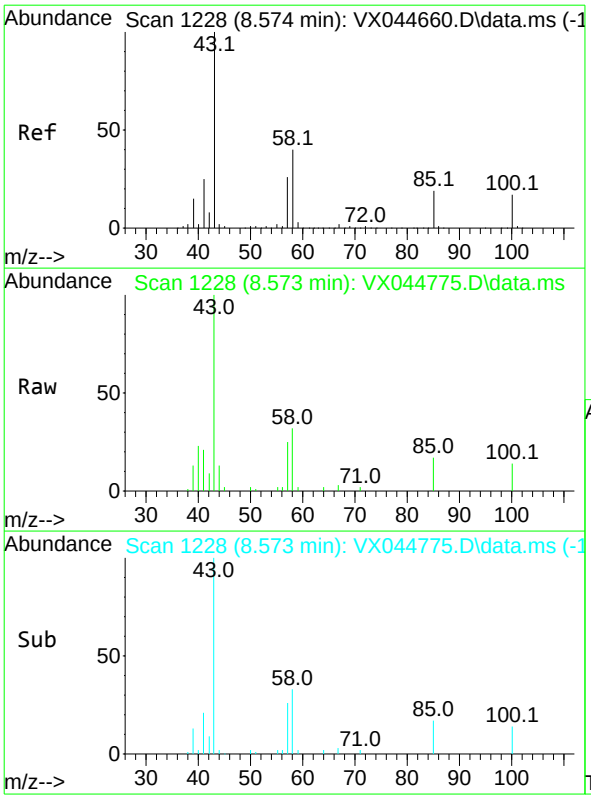


#57
Chlorobenzene-d5
Concen: 30.000 ug/l
RT: 10.055 min Scan# 1471
Delta R.T. 0.006 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Tgt Ion:117 Resp: 142220

Ion	Ratio	Lower	Upper
117	100		
82	57.0	45.8	68.6
119	31.5	25.8	38.6



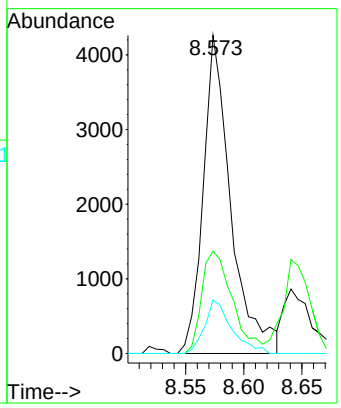


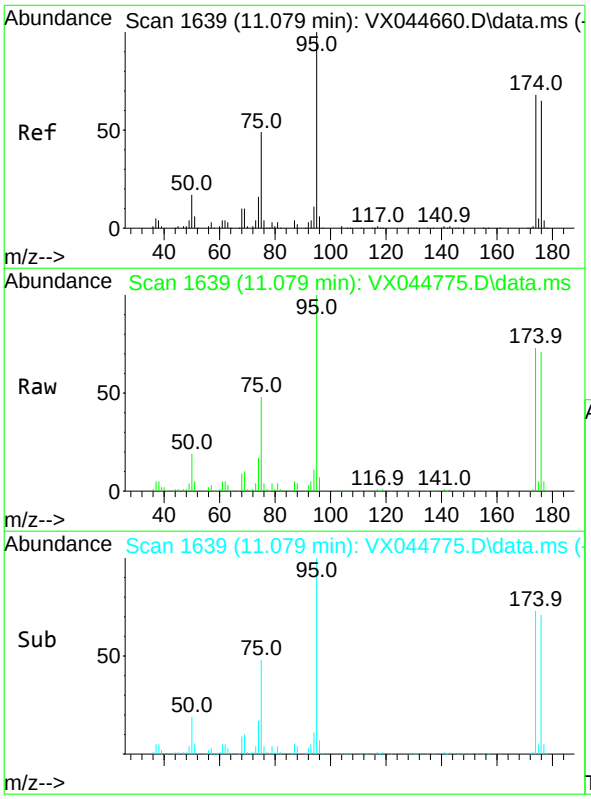
#58
4-Methyl-2-Pentanone
Concen: 2.350 ug/l
RT: 8.573 min Scan# 12
Delta R.T. -0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Tgt Ion: 43 Resp: 7044

Ion	Ratio	Lower	Upper
43	100		
58	35.8	31.7	47.5
85	16.5	15.0	22.6

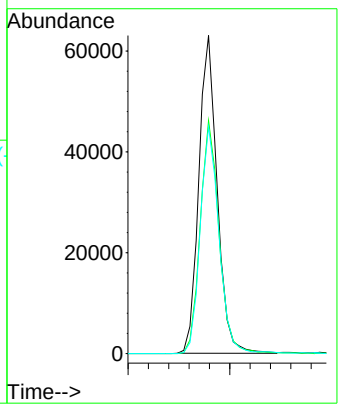


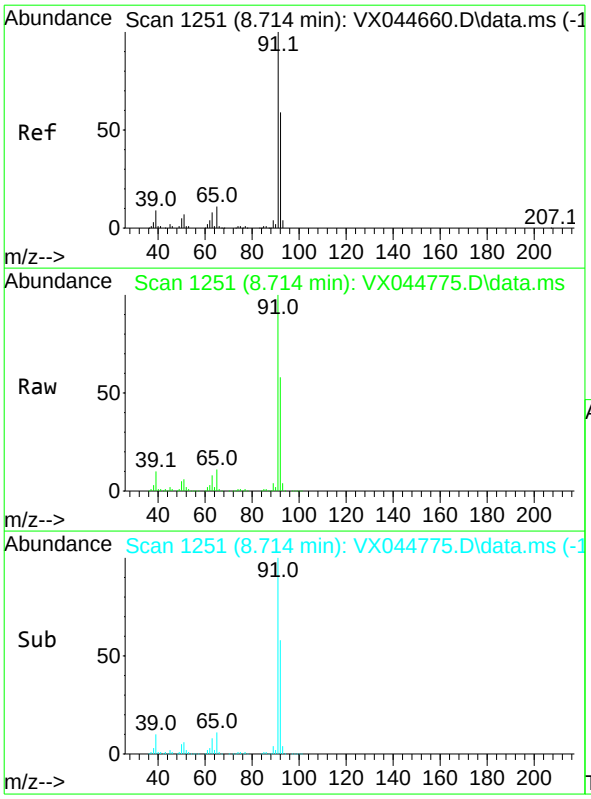


#60
4-Bromofluorobenzene
Concen: 28.623 ug/l
RT: 11.079 min Scan# 1639
Delta R.T. -0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Tgt Ion: 95 Resp: 79069

Ion	Ratio	Lower	Upper
95	100		
174	74.6	54.6	81.8
176	72.3	52.8	79.2



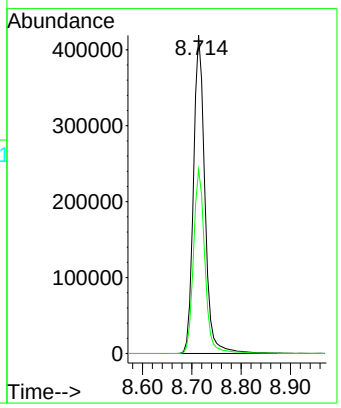


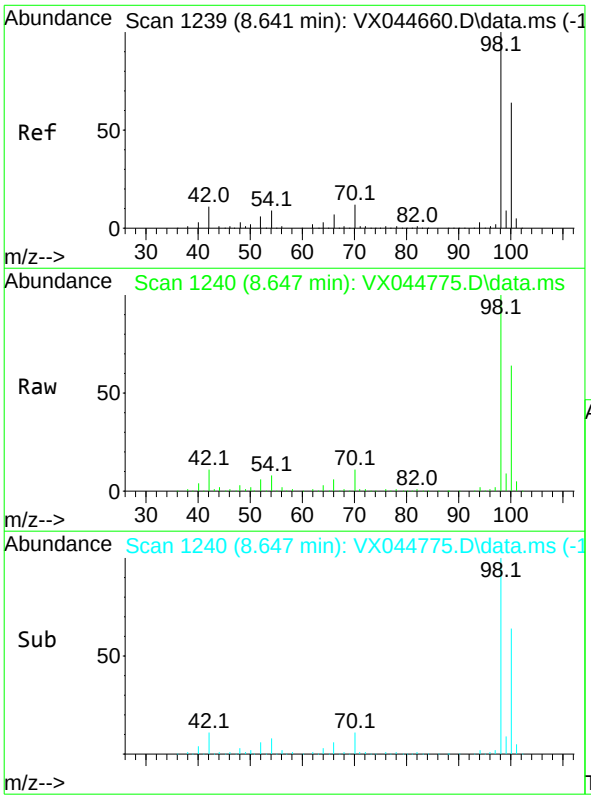
#62
Toluene
Concen: 71.992 ug/l
RT: 8.714 min Scan# 12
Delta R.T. -0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Tgt Ion: 91 Resp: 674184

Ion	Ratio	Lower	Upper
91	100		
92	57.7	47.3	70.9

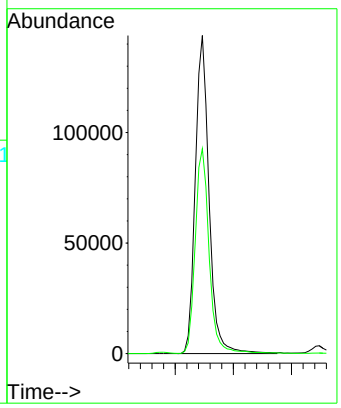


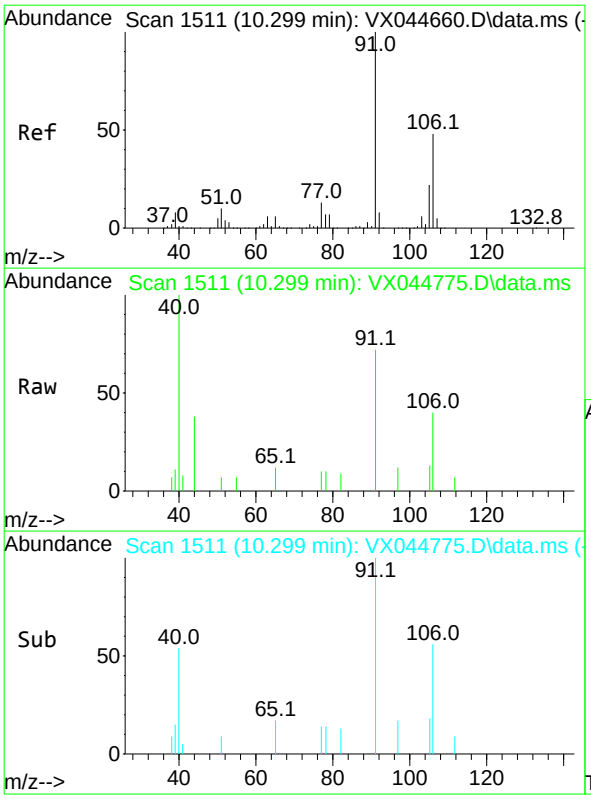


#63
Toluene-d8
Concen: 30.551 ug/l
RT: 8.647 min Scan# 1240
Delta R.T. 0.006 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Tgt Ion: 98 Resp: 236325

Ion	Ratio	Lower	Upper
98	100		
100	64.8	53.6	80.4



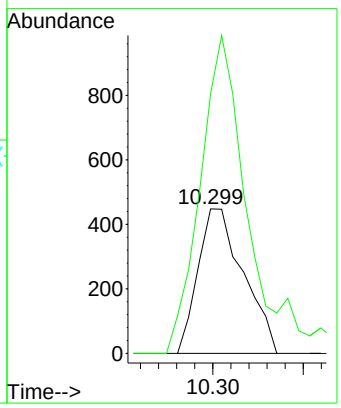


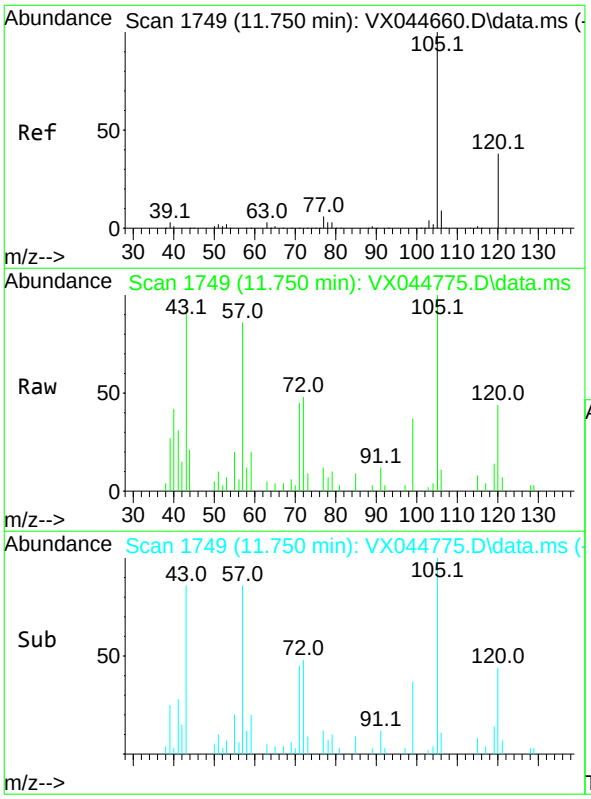
#67
m/p-Xylenes
Concen: 0.208 ug/l
RT: 10.299 min Scan# 15
Delta R.T. -0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Tgt Ion:106 Resp: 781

Ion	Ratio	Lower	Upper
106	100		
91	212.7	166.8	250.2

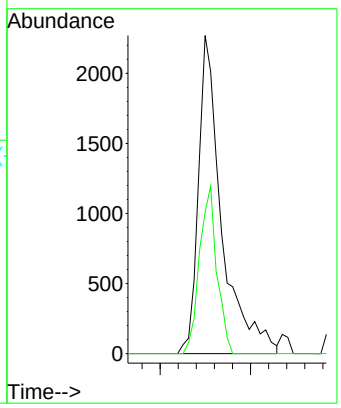


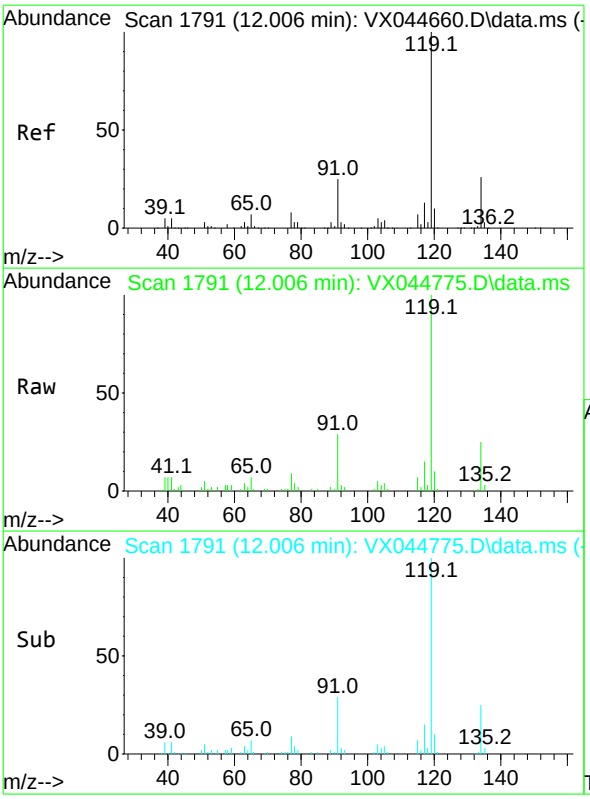


#80
1,2,4-Trimethylbenzene
Concen: 0.524 ug/l
RT: 11.750 min Scan# 1749
Delta R.T. -0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Tgt Ion:105 Resp: 4067

Ion	Ratio	Lower	Upper
105	100		
120	39.2	0.0	88.4



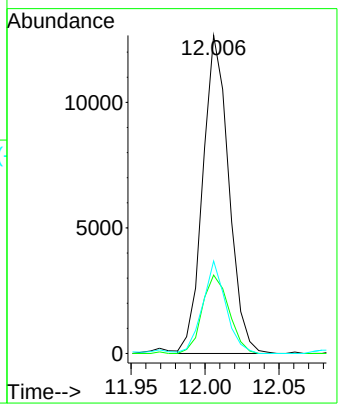


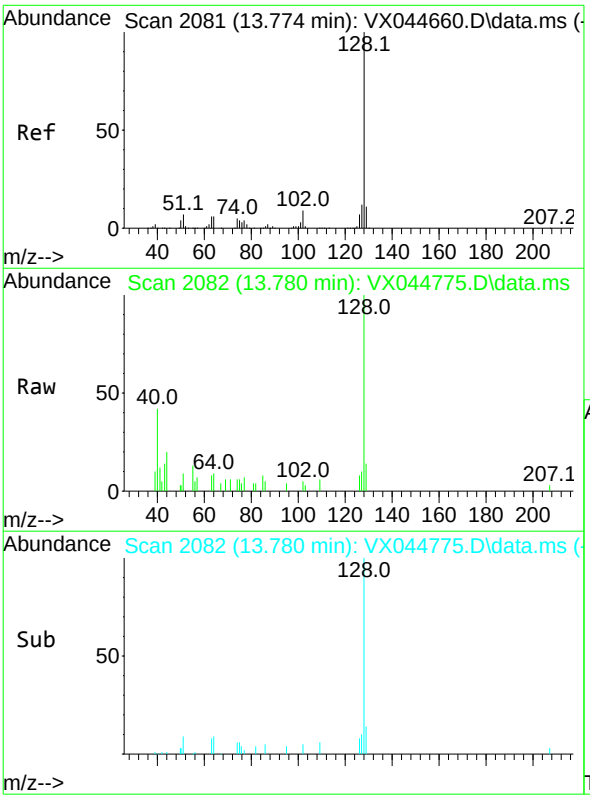
#82
p-Isopropyltoluene
Concen: 1.987 ug/l
RT: 12.006 min Scan# 17
Delta R.T. -0.000 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Instrument :
MSVOA_X
ClientSampleId :
001-WILLETS-PT-BLVD(JAN)

Tgt Ion:119 Resp: 15443

Ion	Ratio	Lower	Upper
119	100		
134	25.3	0.0	52.2
91	25.9	0.0	50.2

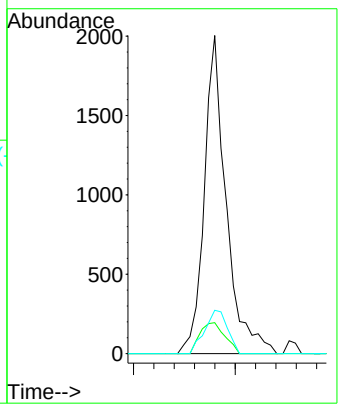




#91
Naphthalene
Concen: 0.329 ug/l
RT: 13.780 min Scan# 2082
Delta R.T. 0.006 min
Lab File: VX044775.D
Acq: 30 Jan 2025 12:00

Tgt Ion:128 Resp: 3000

Ion	Ratio	Lower	Upper
128	100		
127	11.1	10.2	15.4
129	14.2	9.0	13.6#



Raw Data: **VX044774.D**

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

Report of Analysis

Client:	Tully Environmental, Inc	Date Collected:	01/28/25
Project:	Transfer Station-SPDES	Date Received:	01/29/25
Client Sample ID:	002-35TH-AVE(JAN)	SDG No.:	Q1212
Lab Sample ID:	Q1212-02	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-BTEX
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX044774.D	1		01/30/25 11:37	VX013025

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
71-43-2	Benzene	0.69	U	0.69	5.00	ug/L
108-88-3	Toluene	82.9		0.72	5.00	ug/L
100-41-4	Ethyl Benzene	0.73	U	0.73	5.00	ug/L
179601-23-1	m/p-Xylenes	1.70	U	1.70	10.0	ug/L
95-47-6	o-Xylene	0.82	U	0.82	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	27.8		91 - 110	93%	SPK: 30
2037-26-5	Toluene-d8	30.7		91 - 112	102%	SPK: 30
460-00-4	4-Bromofluorobenzene	27.7		63 - 112	92%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	25800	4.897			
540-36-3	1,4-Difluorobenzene	145000	6.757			
3114-55-4	Chlorobenzene-d5	130000	10.049			

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: **VX044774.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044774.D
Acq On : 30 Jan 2025 11:37
Operator : JC/MD
Sample : Q1212-02
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Quant Time: Jan 30 12:09:52 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.897	128	25775	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	145121	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	129652	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.952	65	69149	27.790	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 92.633%			
60) 4-Bromofluorobenzene	11.079	95	69838	27.732	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 92.433%			
63) Toluene-d8	8.647	98	216585	30.714	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 102.367%			
Target Compounds						Qvalue
12) Methyl Acetate	2.709	43	1134	0.408	ug/l #	80
15) Acetone	2.386	58	11092	40.814	ug/l	83
16) Carbon Disulfide	2.495	76	2044	0.386	ug/l #	86
58) 4-Methyl-2-Pentanone	8.580	43	6672	2.441	ug/l	98
62) Toluene	8.714	91	707342	82.855	ug/l	98
67) m/p-Xylenes	10.305	106	781	0.228	ug/l	81
80) 1,2,4-Trimethylbenzene	11.750	105	4082	0.577	ug/l	81
82) p-Isopropyltoluene	12.006	119	15767	2.226	ug/l	100
91) Naphthalene	13.780	128	3341	0.402	ug/l	95

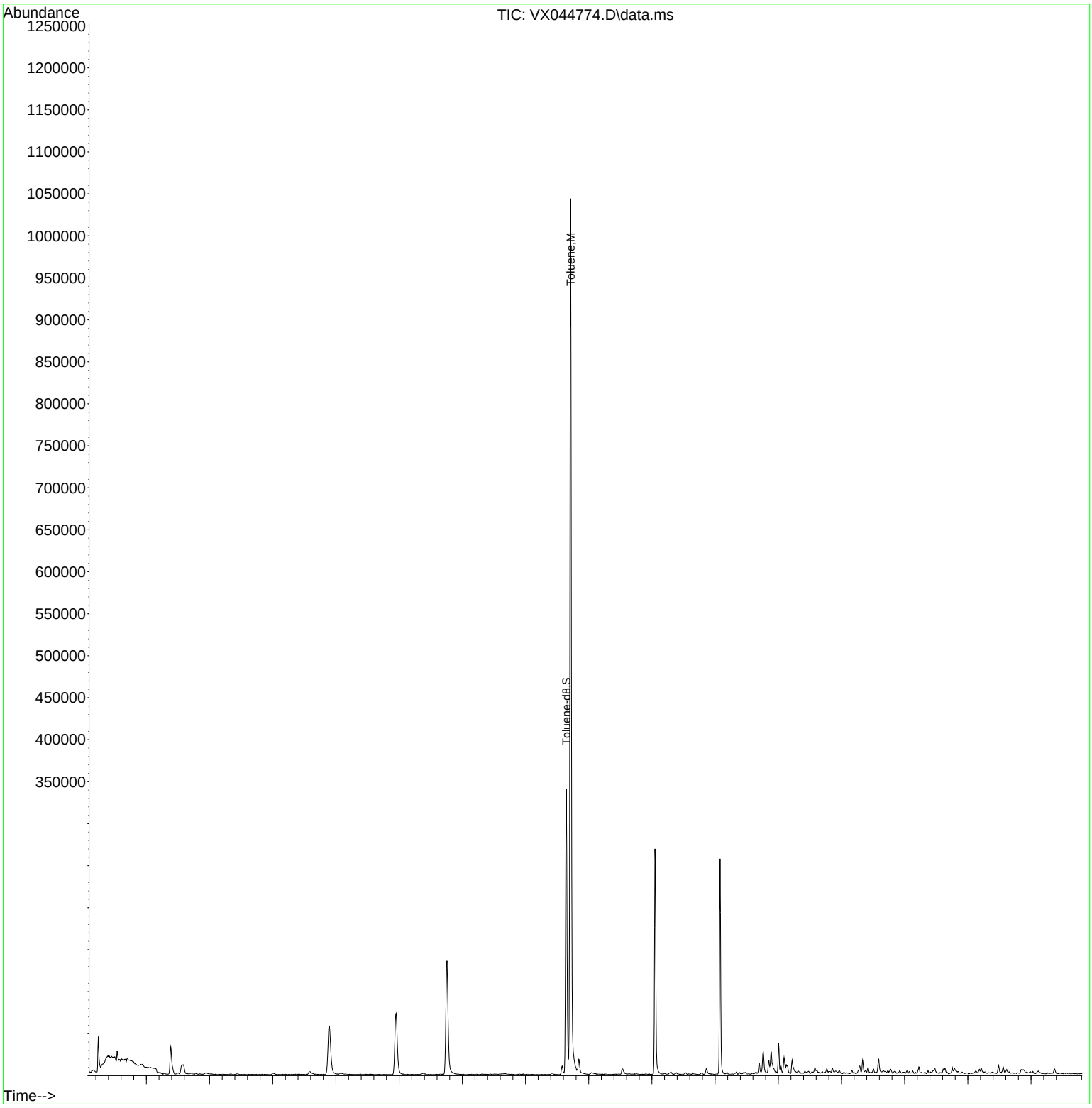
(#) = qualifier out of range (m) = manual integration (+) = signals summed

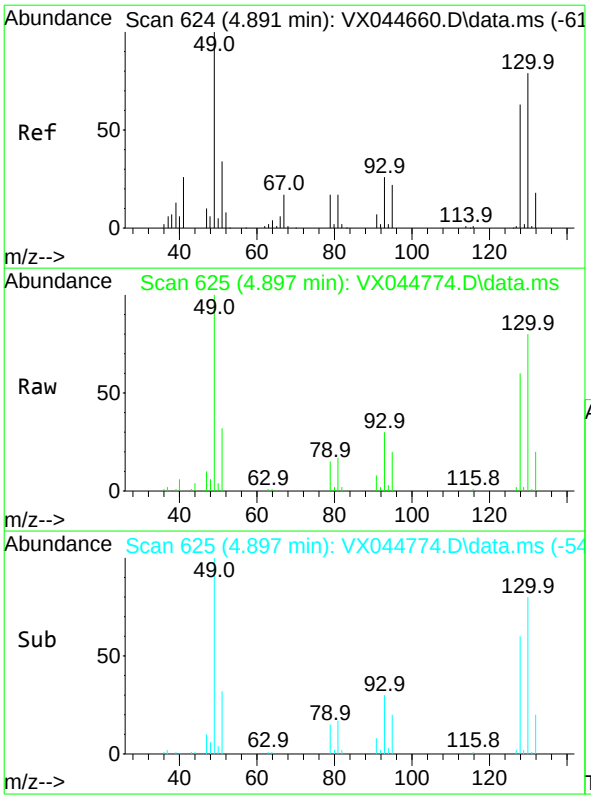
Sample Results: **VX044774.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044774.D
Acq On : 30 Jan 2025 11:37
Operator : JC/MD
Sample : Q1212-02
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Quant Time: Jan 30 12:09:52 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration



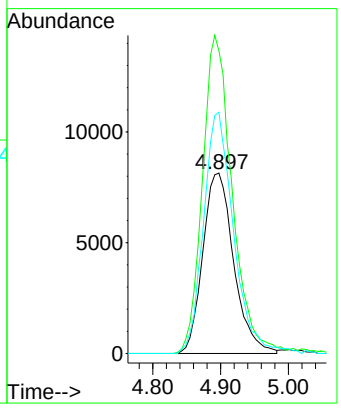


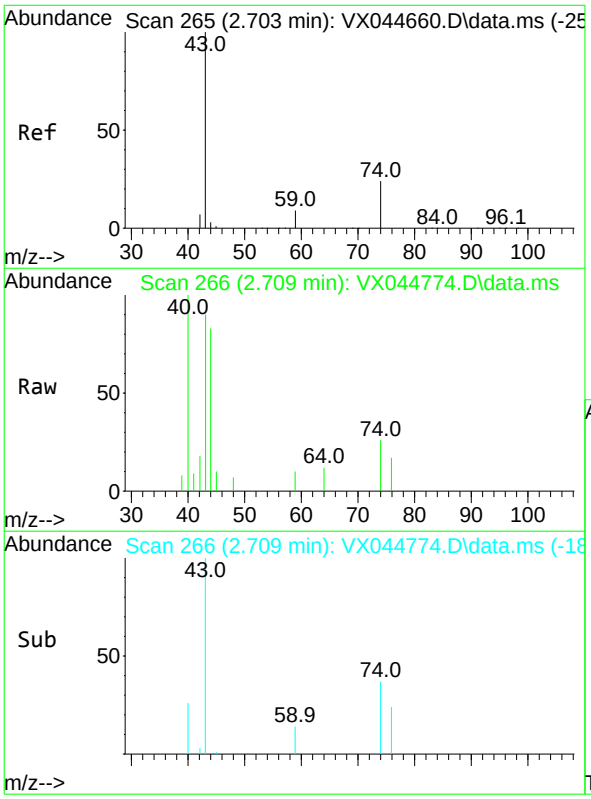
#1
Bromochloromethane
Concen: 30.000 ug/l
RT: 4.897 min Scan# 62
Delta R.T. 0.006 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Tgt Ion:128 Resp: 25775

Ion	Ratio	Lower	Upper
128	100		
49	169.1	0.0	411.5
130	129.2	0.0	324.3

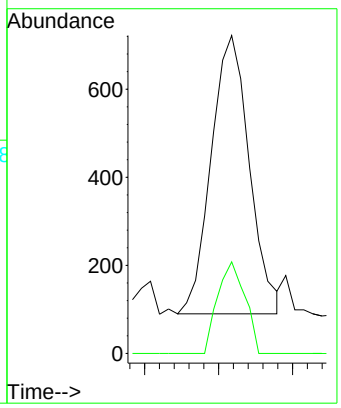


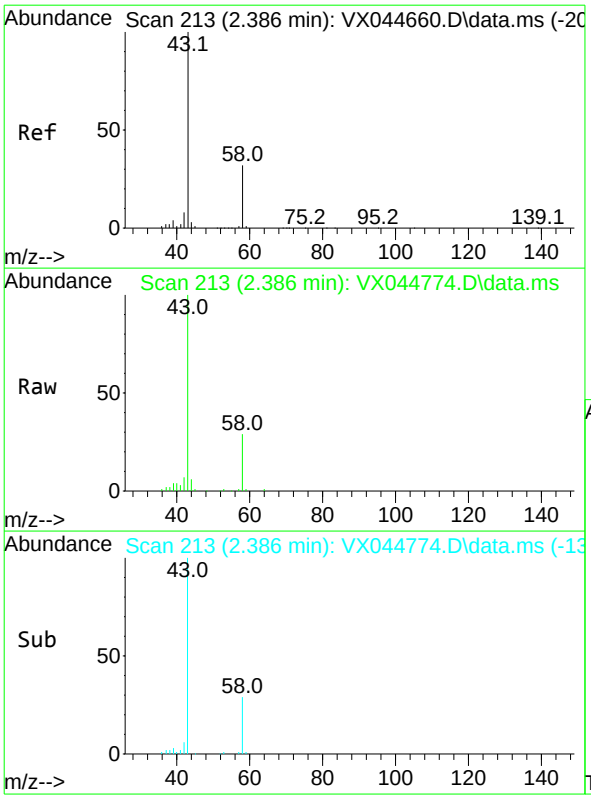


#12
Methyl Acetate
Concen: 0.408 ug/l
RT: 2.709 min Scan# 266
Delta R.T. 0.006 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Tgt Ion: 43 Resp: 1134

Ion	Ratio	Lower	Upper
43	100		
74	34.3	19.4	29.2#



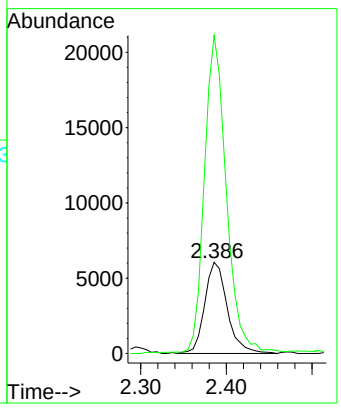


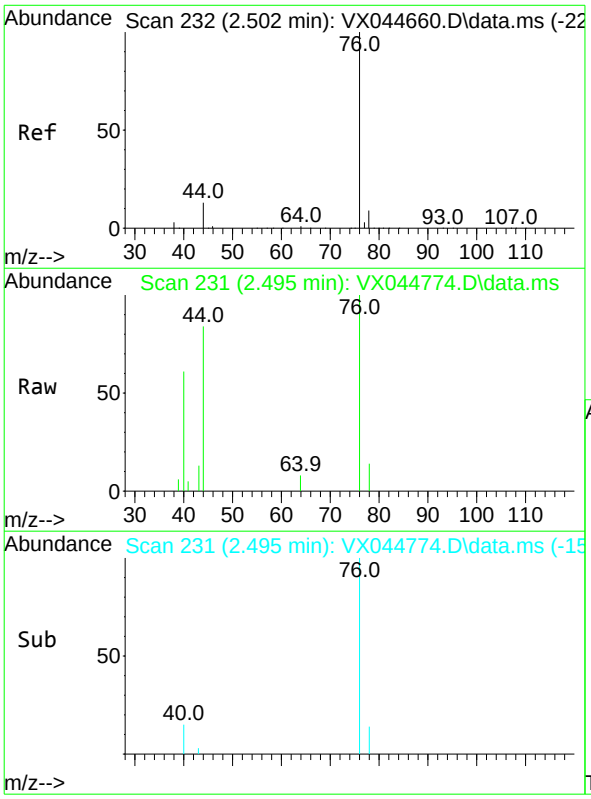
#15
Acetone
Concen: 40.814 ug/l
RT: 2.386 min Scan# 21
Delta R.T. 0.000 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Tgt Ion: 58 Resp: 11092

Ion	Ratio	Lower	Upper
58	100		
43	347.0	251.0	376.4

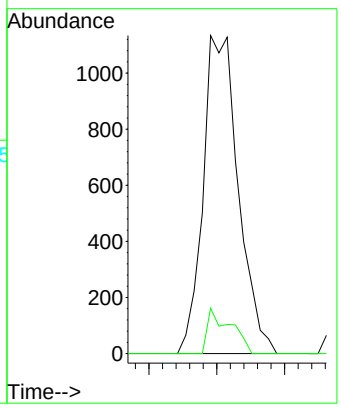


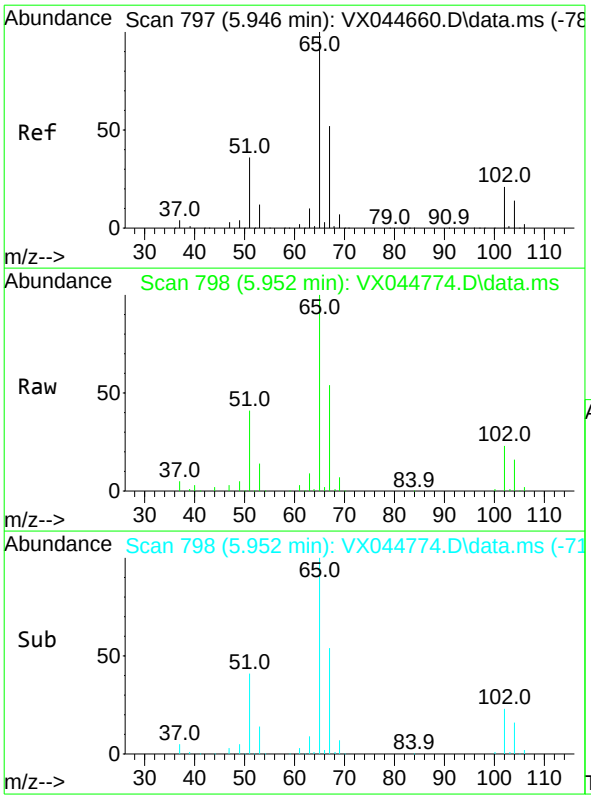


#16
Carbon Disulfide
Concen: 0.386 ug/l
RT: 2.495 min Scan# 231
Delta R.T. -0.006 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Tgt Ion: 76 Resp: 2044

Ion	Ratio	Lower	Upper
76	100		
78	14.3	7.3	10.9#



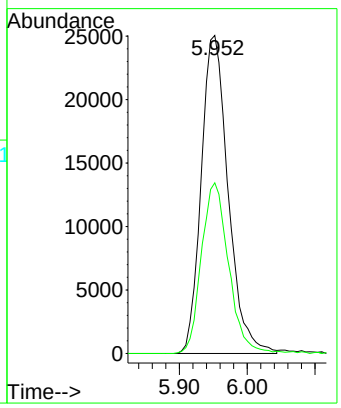


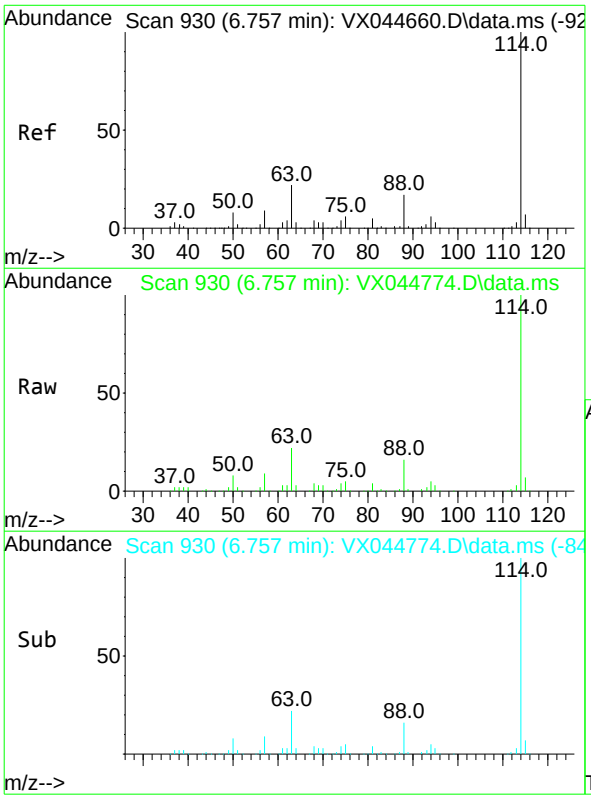
#27
1,2-Dichloroethane-d4
Concen: 27.790 ug/l
RT: 5.952 min Scan# 79
Delta R.T. 0.006 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Tgt Ion: 65 Resp: 69149

Ion	Ratio	Lower	Upper
65	100		
67	53.9	41.4	62.2

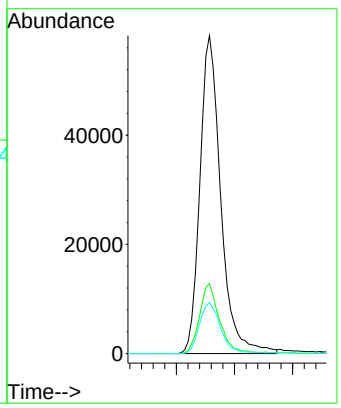


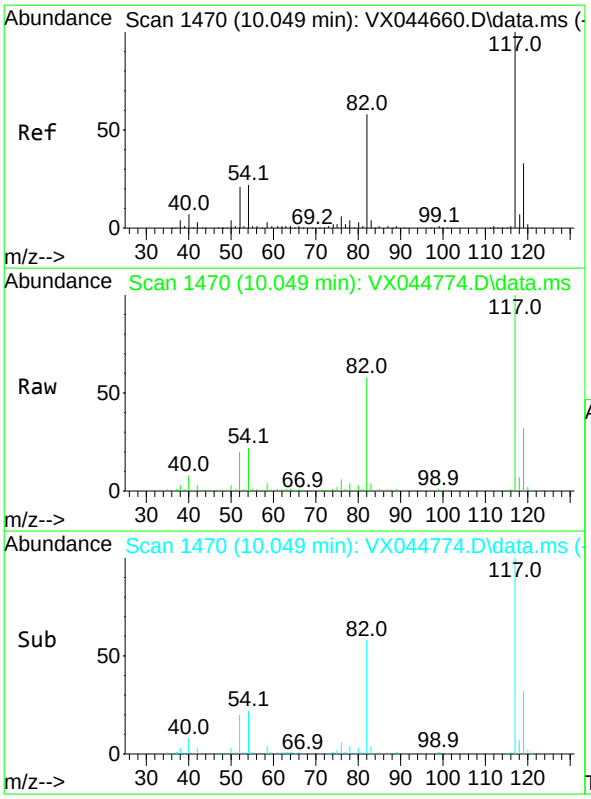


#28
1,4-Difluorobenzene
Concen: 30.000 ug/l
RT: 6.757 min Scan# 930
Delta R.T. 0.000 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Tgt Ion:114 Resp: 145121

Ion	Ratio	Lower	Upper
114	100		
63	21.0	16.6	24.8
88	16.0	13.4	20.2



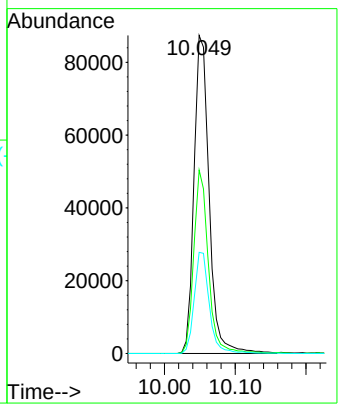


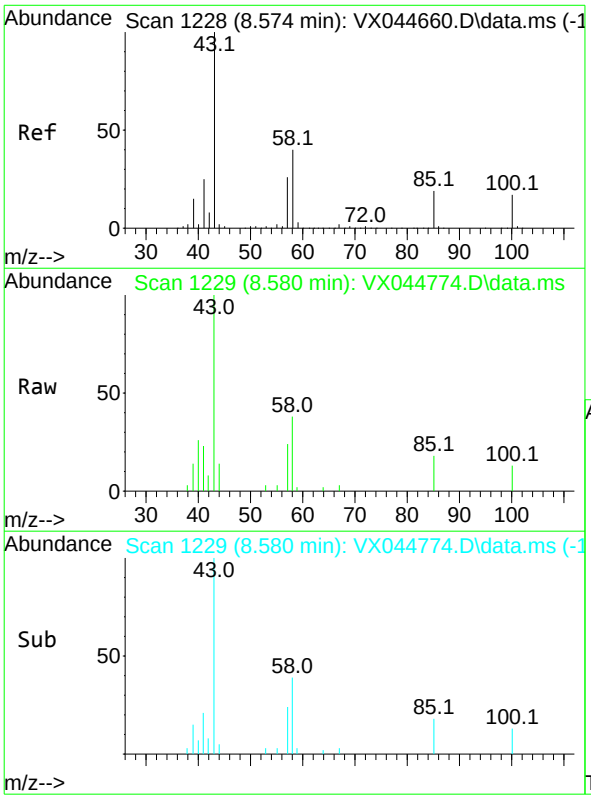
#57
Chlorobenzene-d5
Concen: 30.000 ug/l
RT: 10.049 min Scan# 14
Delta R.T. 0.000 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Tgt Ion:117 Resp: 129652

Ion	Ratio	Lower	Upper
117	100		
82	55.1	45.8	68.6
119	31.3	25.8	38.6

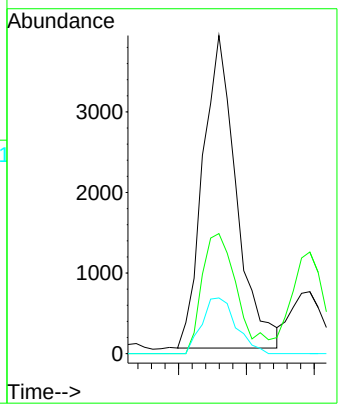


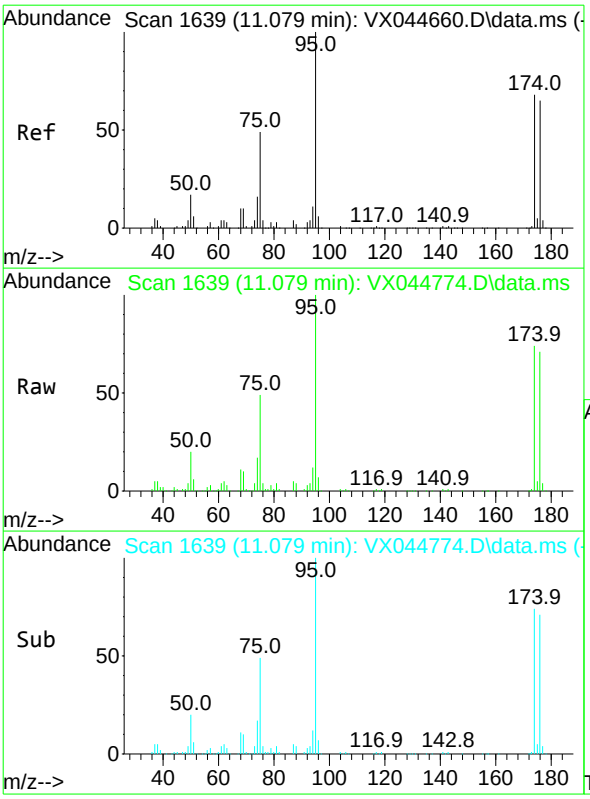


#58
4-Methyl-2-Pentanone
Concen: 2.441 ug/l
RT: 8.580 min Scan# 1229
Delta R.T. 0.006 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Tgt Ion: 43 Resp: 6672

Ion	Ratio	Lower	Upper
43	100		
58	38.0	31.7	47.5
85	18.1	15.0	22.6



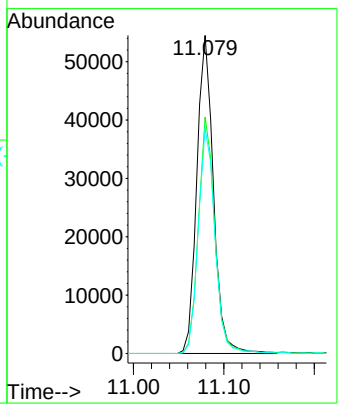


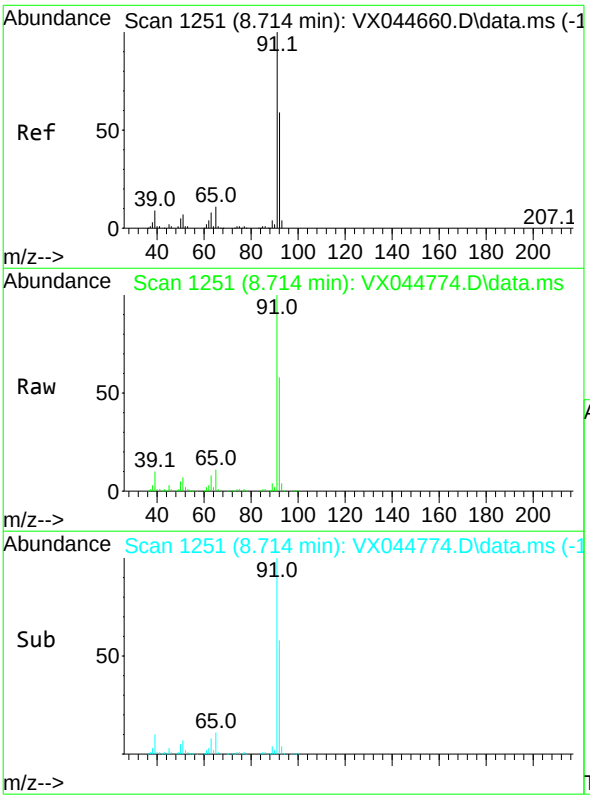
#60
4-Bromofluorobenzene
Concen: 27.732 ug/l
RT: 11.079 min Scan# 16
Delta R.T. 0.000 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Tgt Ion: 95 Resp: 69838

Ion	Ratio	Lower	Upper
95	100		
174	73.4	54.6	81.8
176	70.9	52.8	79.2

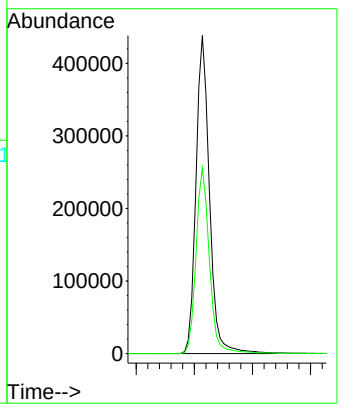


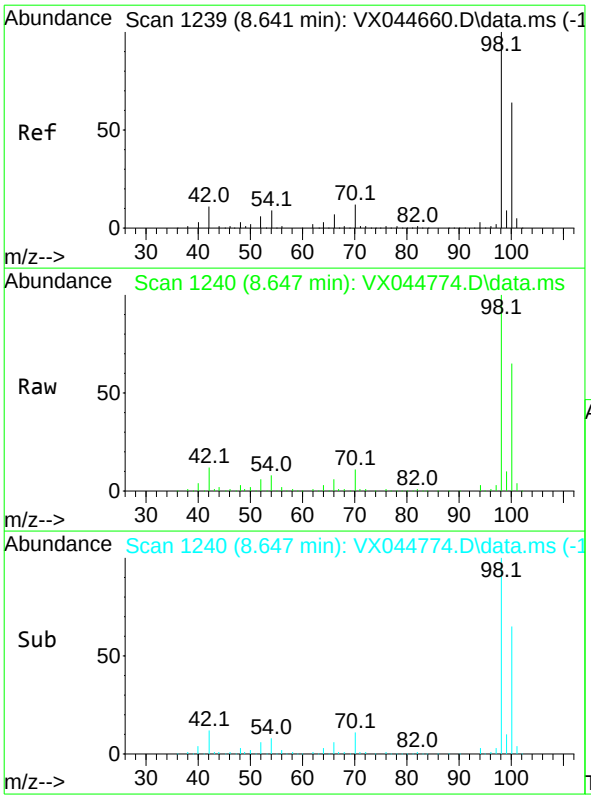


#62
Toluene
Concen: 82.855 ug/l
RT: 8.714 min Scan# 1251
Delta R.T. 0.000 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Tgt Ion: 91 Resp: 707342

Ion	Ratio	Lower	Upper
91	100		
92	57.9	47.3	70.9



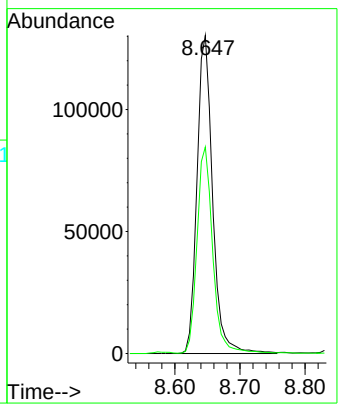


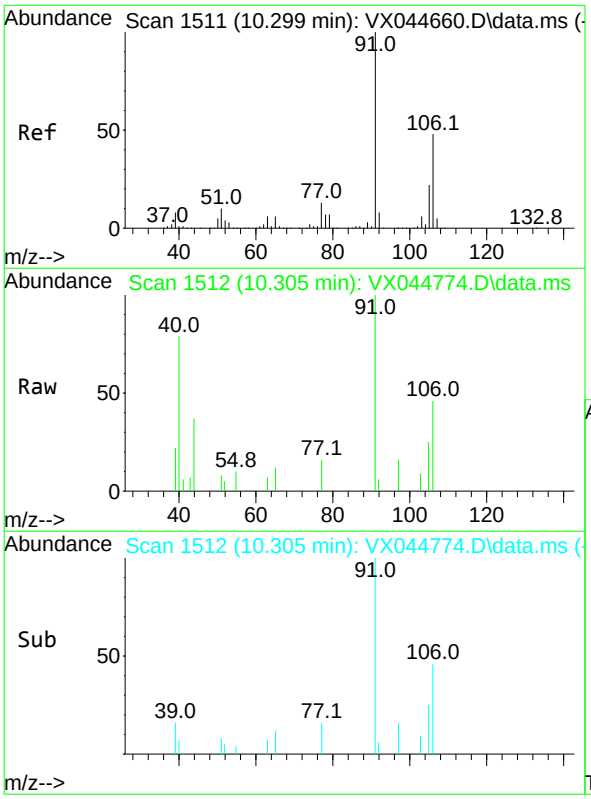
#63
Toluene-d8
Concen: 30.714 ug/l
RT: 8.647 min Scan# 12
Delta R.T. 0.006 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Tgt Ion: 98 Resp: 216585

Ion	Ratio	Lower	Upper
98	100		
100	65.1	53.6	80.4

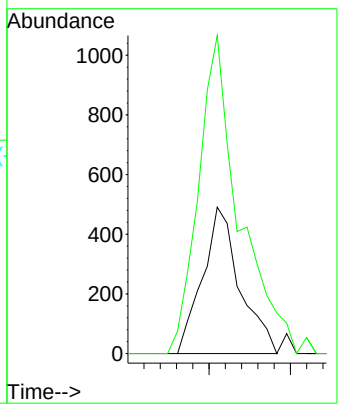


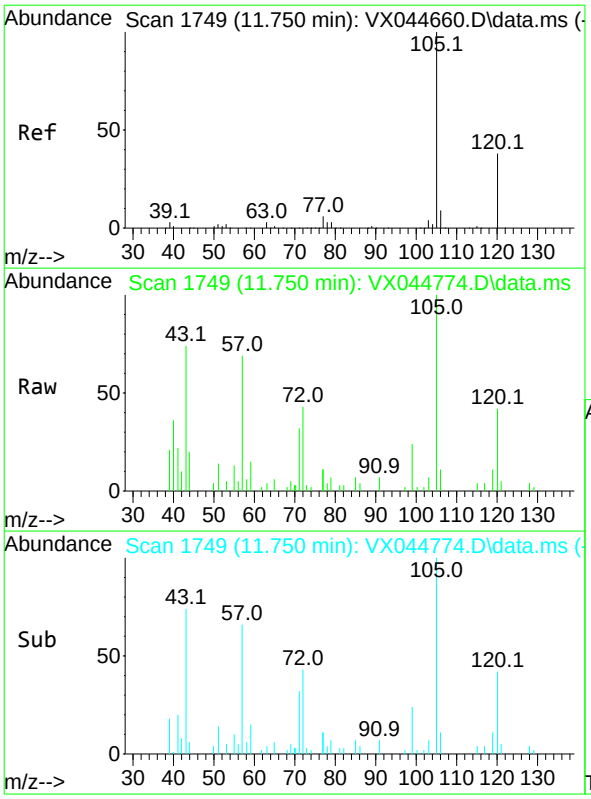


#67
m/p-Xylenes
Concen: 0.228 ug/l
RT: 10.305 min Scan# 1512
Delta R.T. 0.006 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Tgt Ion:106 Resp: 781

Ion	Ratio	Lower	Upper
106	100		
91	237.9	166.8	250.2



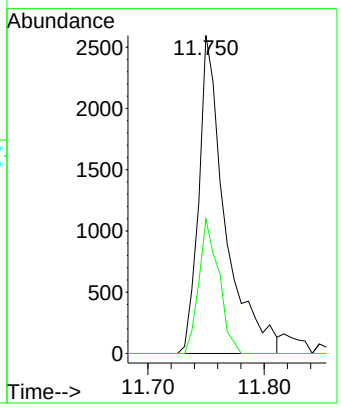


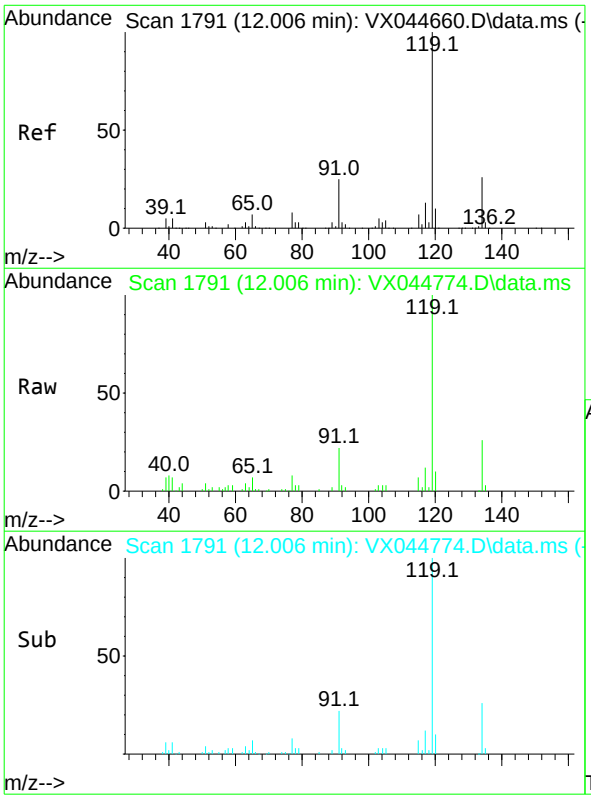
#80
1,2,4-Trimethylbenzene
Concen: 0.577 ug/l
RT: 11.750 min Scan# 17
Delta R.T. 0.000 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Tgt Ion:105 Resp: 4082

Ion	Ratio	Lower	Upper
105	100		
120	32.1	0.0	88.4

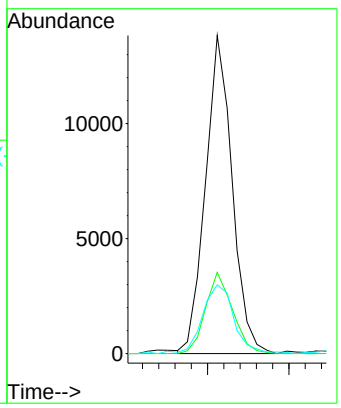


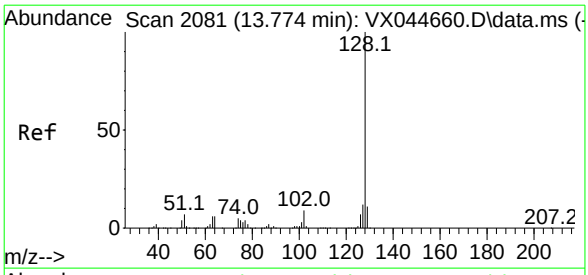


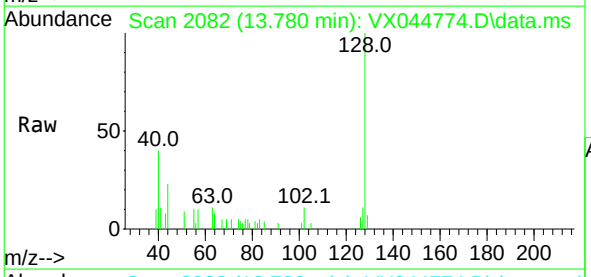
#82
p-Isopropyltoluene
Concen: 2.226 ug/l
RT: 12.006 min Scan# 1791
Delta R.T. 0.000 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

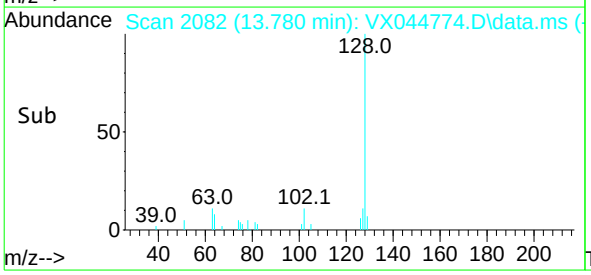
Tgt Ion:119 Resp: 15767

Ion	Ratio	Lower	Upper
119	100		
134	25.8	0.0	52.2
91	24.9	0.0	50.2







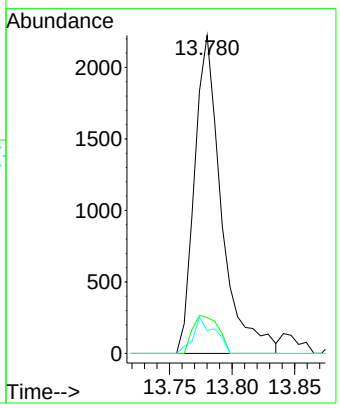


#91
Naphthalene
Concen: 0.402 ug/l
RT: 13.780 min Scan# 20
Delta R.T. 0.006 min
Lab File: VX044774.D
Acq: 30 Jan 2025 11:37

Instrument :
MSVOA_X
ClientSampleId :
002-35TH-AVE(JAN)

Tgt Ion:128 Resp: 3341

Ion	Ratio	Lower	Upper
128	100		
127	11.4	10.2	15.4
129	9.1	9.0	13.6



CALIBRATION SUMMARY

Raw Data

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

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: TULL01

Lab Code: CHEM Case No.: Q1212 SAS No.: Q1212 SDG No.: Q1212

Instrument ID: MSVOA_X Calibration Date(s): 01/16/2025 01/16/2025

Heated Purge: (Y/N) N Calibration Time(s): 08:39 10:12

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

LAB FILE ID: RRF005 = VX044659.D RRF020 = VX044660.D RRF050 = VX044661.D
RRF100 = VX044662.D RRF150 = VX044663.D RRF =

COMPOUND	RRF005	RRF020	RRF050	RRF100	RRF150	RRF	$\overline{RRF}$	% RSD
Benzene	1.720	1.726	1.635	1.681	1.562		1.665	4.1
Toluene	2.097	1.972	1.935	2.023	1.850		1.975	4.7
Ethyl Benzene	2.213	2.181	2.126	2.228	2.031		2.156	3.7
m/p-Xylenes	0.838	0.817	0.780	0.808	0.719		0.792	5.8
o-Xylene	0.841	0.823	0.787	0.800	0.726		0.795	5.5
1,2-Dichloroethane-d4	2.935	2.867	2.905	2.916	2.857		2.896	1.1
Toluene-d8	1.674	1.620	1.622	1.634	1.609		1.632	1.5
4-Bromofluorobenzene	0.579	0.578	0.588	0.586	0.582		0.583	0.7

* 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 : 624X011625W.M
Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
Last Update : Fri Jan 17 01:21:41 2025
Response Via : Initial Calibration

Calibration Files
5 =VX044659.D 20 =VX044660.D 50 =VX044661.D 100 =VX044662.D 150 =VX044663.D

		Compound	5	20	50	100	150	Avg	%RSD
1)	I	Bromochloromethane	----------ISTD----------						
2)	M	Dichlorodifluoro...	2.532	2.647	2.555	2.990	2.611	2.667	6.98
3)	M	Chloromethane	2.821	2.891	2.775	2.910	2.632	2.806	3.97
4)	M	Vinyl Chloride	2.718	2.750	2.650	2.953	2.656	2.745	4.49
5)	M	Bromomethane	0.720	0.648	0.619	0.683	0.647	0.663	5.89
6)	M	Chloroethane	0.337	0.431	0.443	0.506	0.459	0.435	14.18
7)	M	Trichlorofluorom...	3.012	2.966	2.841	3.281	2.932	3.006	5.52
8)	T	Diethyl Ether	1.186	1.152	1.114	1.214	1.133	1.160	3.48
9)		1,1,2-Trichlorot...	2.135	2.090	2.010	2.424	2.111	2.154	7.34
10)	M	1,1-Dichloroethene	2.310	2.167	2.109	2.359	2.134	2.216	5.05
11)		Methyl Iodide	3.030	3.123	3.066	3.170	2.965	3.071	2.60
12)		Methyl Acetate	3.129	3.141	3.211	3.540	3.155	3.235	5.35
13)	M	Acrolein	0.481	0.295	0.325	0.353	0.335	0.358	20.13
14)	M	Acrylonitrile	1.225	1.195	1.163	1.234	1.078	1.179	5.35
15)	M	Acetone	0.336	0.311	0.307	0.335	0.292	0.316	6.01
16)	M	Carbon Disulfide	6.007	6.100	6.013	6.600	6.072	6.158	4.06
17)		Allyl chloride	3.852	4.047	3.933	4.277	3.871	3.996	4.37
18)	M	Methylene Chloride	2.516	2.531	2.426	2.551	2.375	2.480	3.05
19)	M	trans-1,2-Dichlo...	2.273	2.202	2.143	2.306	2.094	2.203	4.00
20)	T	Diisopropyl ether	7.531	7.477	7.136	7.411	6.711	7.253	4.68
21)	M	1,1-Dichloroethane	4.238	4.335	4.228	4.546	4.166	4.303	3.46
22)	M	cis-1,2-Dichloro...	2.682	2.813	2.656	2.863	2.622	2.727	3.84
23)	M	tert-Butyl Alcohol	0.665	0.584	0.542	0.568	0.492	0.570	11.14
24)	M	Methyl tert-Buty...	7.881	7.826	7.445	7.974	7.263	7.678	4.00
25)	M	Chloroform	4.285	4.354	4.180	4.469	4.089	4.275	3.46
26)		Cyclohexane	3.790	3.587	3.386	3.928	3.390	3.616	6.66
27)	s	1,2-Dichloroetha...	2.935	2.867	2.905	2.916	2.857	2.896	1.14
28)	I	1,4-Difluorobenzene	----------ISTD----------						
29)		1,1-Dichloropropene	0.533	0.520	0.505	0.550	0.501	0.522	3.88
30)	M	2-Butanone	0.302	0.295	0.285	0.292	0.260	0.287	5.57
31)		2,2-Dichloropropane	0.766	0.729	0.693	0.741	0.681	0.722	4.84
32)	M	1,1,1-Trichloroe...	0.729	0.702	0.665	0.708	0.654	0.692	4.54
33)	M	Carbon Tetrachlo...	0.616	0.587	0.558	0.605	0.551	0.583	4.83
34)	M	Benzene	1.720	1.726	1.635	1.681	1.562	1.665	4.09
35)		Methacrylonitrile	0.329	0.324	0.317	0.333	0.299	0.320	4.15
36)	M	1,2-Dichloroethane	0.610	0.616	0.579	0.607	0.563	0.595	3.81
37)	M	Trichloroethene	0.394	0.405	0.394	0.424	0.393	0.402	3.29
38)		Methylcyclohexane	0.728	0.692	0.669	0.776	0.680	0.709	6.16
39)	M	1,2-Dichloropropane	0.416	0.428	0.415	0.423	0.394	0.415	3.17
40)		Dibromomethane	0.319	0.314	0.302	0.313	0.295	0.309	3.22
41)	M	Bromodichloromet...	0.667	0.655	0.628	0.638	0.598	0.637	4.14
42)	M	Vinyl Acetate	1.208	1.187	1.120	1.142	1.035	1.138	5.94
43)		Ethyl Acetate	0.539	0.592	0.552	0.593	0.535	0.562	5.11
44)		Isopropyl Acetate	1.016	1.043	1.000	1.033	0.959	1.010	3.26
45)	T	1,4-Dioxane	0.011	0.010	0.010	0.009	0.008	0.010	9.48
46)		Methyl methacrylate	0.506	0.509	0.495	0.501	0.462	0.494	3.83
47)		n-amyl Acetate	0.883	0.902	0.847	0.840	0.767	0.848	6.11
48)	M	t-1,3-Dichloropr...	0.673	0.696	0.675	0.685	0.635	0.673	3.38
49)	T	cis-1,3-Dichloro...	0.737	0.748	0.719	0.731	0.671	0.721	4.16
50)	M	1,1,2-Trichloroe...	0.425	0.419	0.398	0.391	0.355	0.397	6.96
51)		Ethyl methacrylate	0.711	0.720	0.704	0.688	0.630	0.691	5.22
52)		1,3-Dichloropropane	0.737	0.718	0.678	0.680	0.624	0.687	6.35
53)	M	Dibromochloromet...	0.507	0.503	0.469	0.468	0.428	0.475	6.76
54)	M	1,2-Dibromoethane	0.449	0.440	0.417	0.414	0.380	0.420	6.44
55)	M	2-Chloroethyl vi...	0.376	0.351	0.338	0.309	0.302	0.335	9.10
56)	M	Bromoform	0.340	0.324	0.314	0.310	0.287	0.315	6.19

Method Path : Z:\voasrv\HPCHEM1\MSVOA_X\Method\
Method File : 624X011625W.M

57)	I	Chlorobenzene-d5	----------ISTD----------						
58)	M	4-Methyl-2-Penta...	0.685	0.649	0.618	0.638	0.572	0.632	6.60
59)	M	2-Hexanone	0.503	0.474	0.451	0.470	0.417	0.463	6.86
60)	S	4-Bromofluoroben...	0.579	0.578	0.588	0.586	0.582	0.583	0.75
61)	M	Tetrachloroethene	0.365	0.350	0.349	0.387	0.348	0.360	4.71
62)	M	Toluene	2.097	1.972	1.935	2.023	1.850	1.975	4.69
63)	S	Toluene-d8	1.674	1.620	1.622	1.634	1.609	1.632	1.53
64)	M	Chlorobenzene	1.275	1.230	1.215	1.256	1.157	1.227	3.70
65)		1,1,1,2-Tetrachl...	0.460	0.445	0.433	0.449	0.417	0.441	3.68
66)	M	Ethyl Benzene	2.213	2.181	2.126	2.228	2.031	2.156	3.71
67)	M	m/p-Xylenes	0.838	0.817	0.780	0.808	0.719	0.792	5.82
68)	M	o-Xylene	0.841	0.823	0.787	0.800	0.726	0.795	5.53
69)	M	Styrene	1.363	1.358	1.291	1.322	1.196	1.306	5.19
70)		Isopropylbenzene	2.139	2.047	1.942	2.041	1.828	1.999	5.92
71)	M	1,1,2,2-Tetrachl...	0.749	0.684	0.650	0.671	0.607	0.672	7.74
72)		1,2,3-Trichlorop...	0.594	0.582	0.560	0.574	0.518	0.565	5.19
73)		Bromobenzene	0.488	0.476	0.458	0.470	0.437	0.466	4.16
74)		n-propylbenzene	2.310	2.311	2.237	2.371	2.126	2.271	4.13
75)		2-Chlorotoluene	1.514	1.469	1.400	1.437	1.318	1.428	5.22
76)		1,3,5-Trimethylb...	1.743	1.677	1.602	1.640	1.457	1.624	6.59
77)		t-1,4-Dichloro-2...	0.283	0.267	0.259	0.278	0.251	0.268	4.92
78)		4-Chlorotoluene	1.655	1.609	1.552	1.602	1.448	1.573	5.03
79)		tert-butylbenzene	1.815	1.730	1.625	1.675	1.496	1.668	7.17
80)		1,2,4-Trimethylb...	1.748	1.689	1.602	1.660	1.492	1.638	5.93
81)		sec-Butylbenzene	2.100	2.035	1.947	2.048	1.830	1.992	5.33
82)		p-Isopropyltoluene	1.701	1.683	1.602	1.690	1.520	1.639	4.71
83)	M	1,3-Dichlorobenzene	0.829	0.841	0.819	0.858	0.789	0.827	3.13
84)	M	1,4-Dichlorobenzene	0.809	0.833	0.797	0.841	0.775	0.811	3.30
85)		n-Butylbenzene	1.363	1.419	1.407	1.536	1.379	1.421	4.80
86)	T	Hexachloroethane	0.395	0.360	0.346	0.367	0.335	0.361	6.39
87)	M	1,2-Dichlorobenzene	0.873	0.852	0.816	0.836	0.754	0.826	5.51
88)		1,2-Dibromo-3-Ch...	0.185	0.159	0.153	0.163	0.150	0.162	8.44
89)		1,2,4-Trichlorob...	0.477	0.496	0.506	0.562	0.526	0.513	6.33
90)		Hexachlorobutadiene	0.202	0.199	0.190	0.207	0.194	0.199	3.36
91)	M	Naphthalene	1.885	1.938	1.905	2.019	1.857	1.921	3.24
92)		1,2,3-Trichlorob...	0.492	0.526	0.518	0.554	0.522	0.522	4.29

(#) = Out of Range

Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044659.D
Acq On : 16 Jan 2025 08:39
Operator :
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 00:59:56 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	31935	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.751	114	175523	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	154224	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.946	65	93745	30.407	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 101.367%			
60) 4-Bromofluorobenzene	11.079	95	89238	29.790	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 99.300%			
63) Toluene-d8	8.641	98	258118	30.772	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 102.567%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	13478m	5.255	ug/l	
3) Chloromethane	1.294	50	15014	5.027	ug/l	99
4) Vinyl Chloride	1.374	62	14464	4.949	ug/l	93
5) Bromomethane	1.593	94	3833	5.432	ug/l	97
6) Chloroethane	1.660	64	1795	3.804	ug/l	91
7) Trichlorofluoromethane	1.867	101	16029	5.008	ug/l	96
8) Diethyl Ether	2.130	74	6314	5.114	ug/l	96
9) 1,1,2-Trichlorotrifluo...	2.319	101	11362	4.955	ug/l	99
10) 1,1-Dichloroethene	2.306	96	12297	5.213	ug/l	93
11) Methyl Iodide	2.441	142	16127	4.934	ug/l	98
12) Methyl Acetate	2.703	43	16652	4.835	ug/l	100
13) Acrolein	2.233	56	12799	33.611	ug/l	99
14) Acrylonitrile	3.062	53	32592	25.973	ug/l	99
15) Acetone	2.386	58	8941	26.553	ug/l	95
16) Carbon Disulfide	2.501	76	31970	4.877	ug/l	98
17) Allyl chloride	2.654	41	20504	4.820	ug/l	99
18) Methylene Chloride	2.782	84	13392	5.071	ug/l	88
19) trans-1,2-Dichloroethene	3.081	96	12096	5.157	ug/l	90
20) Diisopropyl ether	3.757	45	40086	5.192	ug/l #	86
21) 1,1-Dichloroethane	3.599	63	22559	4.925	ug/l	98
22) cis-1,2-Dichloroethene	4.477	96	14274	4.917	ug/l	94
23) tert-Butyl Alcohol	2.977	59	17704m	32.520	ug/l	
24) Methyl tert-Butyl Ether	3.111	73	41947	5.132	ug/l	100
25) Chloroform	5.080	83	22809	5.012	ug/l	98
26) Cyclohexane	5.452	56	20174	5.241	ug/l #	99
29) 1,1-Dichloropropene	5.684	75	15595	5.108	ug/l	96
30) 2-Butanone	4.562	43	44109	26.301	ug/l	99
31) 2,2-Dichloropropane	4.458	77	22402m	5.303	ug/l	
32) 1,1,1-Trichloroethane	5.373	97	21324	5.270	ug/l	100
33) Carbon Tetrachloride	5.659	117	18012	5.277	ug/l	94
34) Benzene	6.025	78	50311	5.165	ug/l	100
35) Methacrylonitrile	4.922	41	9621	5.133	ug/l	96
36) 1,2-Dichloroethane	6.080	62	17847	5.125	ug/l #	92
37) Trichloroethene	7.116	130	11515	4.896	ug/l	98
38) Methylcyclohexane	7.366	83	21311	5.138	ug/l	99
39) 1,2-Dichloropropane	7.421	63	12181	5.015	ug/l	93
40) Dibromomethane	7.574	93	9326	5.165	ug/l	96
41) Bromodichloromethane	7.818	83	19506	5.231	ug/l	97
42) Vinyl Acetate	3.715	43	176672	26.526	ug/l	99

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044659.D
Acq On : 16 Jan 2025 08:39
Operator :
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 17 00:59:56 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.714	43	15761	4.791 ug/l #	95
44) Isopropyl Acetate	6.342	43	29728	5.030 ug/l	99
45) 1,4-Dioxane	7.671	88	6188	109.953 ug/l	98
46) Methyl methacrylate	7.696	41	14808	5.119 ug/l	91
47) n-amyl Acetate	10.841	43	25825	5.207 ug/l	100
48) t-1,3-Dichloropropene	8.976	75	19698	5.005 ug/l	99
49) cis-1,3-Dichloropropene	8.360	75	21573	5.112 ug/l	98
50) 1,1,2-Trichloroethane	9.147	97	12425	5.334 ug/l	95
51) Ethyl methacrylate	9.116	69	20798	5.148 ug/l	95
52) 1,3-Dichloropropane	9.305	76	21568	5.362 ug/l	99
53) Dibromochloromethane	9.518	129	14835	5.338 ug/l	97
54) 1,2-Dibromoethane	9.610	107	13144	5.346 ug/l	100
55) 2-Chloroethyl vinyl ether	8.238	63	55031	28.109 ug/l	100
56) Bromoform	10.799	173	9949	5.399 ug/l	97
58) 4-Methyl-2-Pentanone	8.574	43	88064	27.090 ug/l	100
59) 2-Hexanone	9.433	43	64656	27.167 ug/l	99
61) Tetrachloroethene	9.269	164	9388	5.075 ug/l	94
62) Toluene	8.714	91	53894	5.307 ug/l	97
64) Chlorobenzene	10.073	112	32777	5.197 ug/l	97
65) 1,1,1,2-Tetrachloroethane	10.159	131	11815	5.215 ug/l	97
66) Ethyl Benzene	10.189	91	56887	5.133 ug/l	99
67) m/p-Xylenes	10.299	106	43104	10.581 ug/l	99
68) o-Xylene	10.640	106	21611	5.286 ug/l	99
69) Styrene	10.652	104	35022	5.217 ug/l	99
70) Isopropylbenzene	10.957	105	54978	5.349 ug/l	98
71) 1,1,2,2-Tetrachloroethane	11.207	83	19252	5.562 ug/l	99
72) 1,2,3-Trichloropropane	11.238	75	15260m	5.249 ug/l	
73) Bromobenzene	11.195	156	12540	5.237 ug/l	98
74) n-propylbenzene	11.299	91	59373	5.082 ug/l	99
75) 2-Chlorotoluene	11.360	91	38923	5.300 ug/l	99
76) 1,3,5-Trimethylbenzene	11.451	105	44812	5.369 ug/l	98
77) t-1,4-Dichloro-2-butene	11.018	75	7275	5.290 ug/l	95
78) 4-Chlorotoluene	11.451	91	42547	5.261 ug/l	100
79) tert-butylbenzene	11.713	119	46656	5.441 ug/l	99
80) 1,2,4-Trimethylbenzene	11.750	105	44923	5.334 ug/l	99
81) sec-Butylbenzene	11.890	105	53980	5.272 ug/l	98
82) p-Isopropyltoluene	12.006	119	43716	5.187 ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	21317	5.012 ug/l	99
84) 1,4-Dichlorobenzene	12.042	146	20782	4.984 ug/l	100
85) n-Butylbenzene	12.329	91	35040	4.797 ug/l	99
86) Hexachloroethane	12.536	117	10162	5.481 ug/l	99
87) 1,2-Dichlorobenzene	12.335	146	22448	5.286 ug/l	96
88) 1,2-Dibromo-3-Chloropr...	12.945	75	4748	5.705 ug/l	95
89) 1,2,4-Trichlorobenzene	13.585	180	12251	4.642 ug/l	99
90) Hexachlorobutadiene	13.719	225	5203	5.096 ug/l	98
91) Naphthalene	13.774	128	48452	4.907 ug/l	100
92) 1,2,3-Trichlorobenzene	13.963	180	12639	4.708 ug/l	98

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

ICAL Form

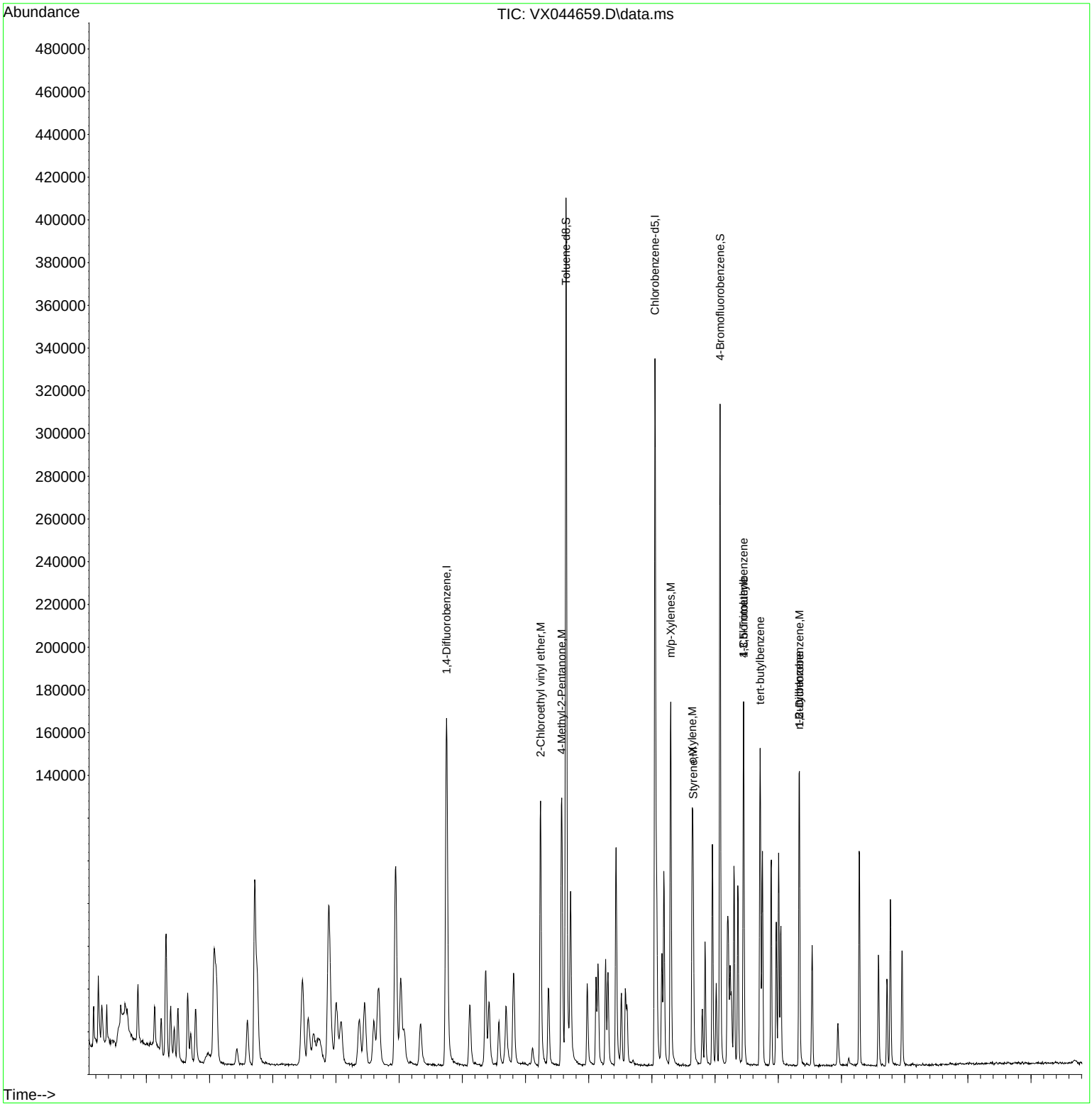
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044659.D
Acq On : 16 Jan 2025 08:39
Operator :
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 17 00:59:56 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC005

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044660.D
Acq On : 16 Jan 2025 09:02
Operator :
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:00:56 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	33434	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	183316	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	165841	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.946	65	95855	29.698	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 99.000%			
60) 4-Bromofluorobenzene	11.079	95	95915	29.776	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 99.267%			
63) Toluene-d8	8.641	98	268606	29.779	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 99.267%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	59011	21.978	ug/l	100
3) Chloromethane	1.301	50	64444	20.609	ug/l	100
4) Vinyl Chloride	1.374	62	61288	20.032	ug/l	100
5) Bromomethane	1.593	94	14449	19.557	ug/l	100
6) Chloroethane	1.666	64	9612	19.455	ug/l	100
7) Trichlorofluoromethane	1.867	101	66116	19.733	ug/l	100
8) Diethyl Ether	2.136	74	25682	19.869	ug/l	100
9) 1,1,2-Trichlorotrifluo...	2.319	101	46585	19.407	ug/l	100
10) 1,1-Dichloroethene	2.313	96	48300	19.557	ug/l	100
11) Methyl Iodide	2.447	142	69610	20.341	ug/l	100
12) Methyl Acetate	2.703	43	70020	19.421	ug/l	100
13) Acrolein	2.239	56	32834	82.358	ug/l	100
14) Acrylonitrile	3.062	53	133148	101.348	ug/l	100
15) Acetone	2.386	58	34632	98.240	ug/l	100
16) Carbon Disulfide	2.502	76	135960	19.810	ug/l	100
17) Allyl chloride	2.654	41	90204	20.254	ug/l	100
18) Methylene Chloride	2.782	84	56413	20.405	ug/l	100
19) trans-1,2-Dichloroethene	3.081	96	49084	19.989	ug/l	100
20) Diisopropyl ether	3.757	45	166654	20.616	ug/l	100
21) 1,1-Dichloroethane	3.605	63	96629	20.151	ug/l	100
22) cis-1,2-Dichloroethene	4.483	96	62694	20.628	ug/l	100
23) tert-Butyl Alcohol	2.977	59	65050m	114.131	ug/l	
24) Methyl tert-Butyl Ether	3.111	73	174439	20.386	ug/l	100
25) Chloroform	5.086	83	97039	20.366	ug/l	100
26) Cyclohexane	5.458	56	79956	19.839	ug/l #	100
29) 1,1-Dichloropropene	5.684	75	63605	19.948	ug/l	100
30) 2-Butanone	4.556	43	180079	102.811	ug/l	100
31) 2,2-Dichloropropane	4.471	77	89122	20.198	ug/l	100
32) 1,1,1-Trichloroethane	5.373	97	85820	20.310	ug/l	100
33) Carbon Tetrachloride	5.666	117	71722	20.121	ug/l	100
34) Benzene	6.031	78	210959	20.737	ug/l	100
35) Methacrylonitrile	4.922	41	39575	20.216	ug/l	100
36) 1,2-Dichloroethane	6.080	62	75287	20.699	ug/l	100
37) Trichloroethene	7.123	130	49474	20.143	ug/l	100
38) Methylcyclohexane	7.373	83	84540	19.514	ug/l	100
39) 1,2-Dichloropropane	7.421	63	52299	20.616	ug/l	100
40) Dibromomethane	7.580	93	38410	20.366	ug/l	100
41) Bromodichloromethane	7.818	83	80017	20.548	ug/l	100
42) Vinyl Acetate	3.715	43	725170	104.251	ug/l	100

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044660.D
Acq On : 16 Jan 2025 09:02
Operator :
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:00:56 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.715	43	72396m	21.071 ug/l	
44) Isopropyl Acetate	6.336	43	127474	20.652 ug/l	100
45) 1,4-Dioxane	7.677	88	25021	425.692 ug/l	100
46) Methyl methacrylate	7.690	41	62145	20.568 ug/l	100
47) n-amyl Acetate	10.841	43	110225	21.278 ug/l	100
48) t-1,3-Dichloropropene	8.976	75	85014	20.683 ug/l	100
49) cis-1,3-Dichloropropene	8.360	75	91440	20.747 ug/l	100
50) 1,1,2-Trichloroethane	9.147	97	51190	21.040 ug/l	100
51) Ethyl methacrylate	9.116	69	88025	20.861 ug/l	100
52) 1,3-Dichloropropane	9.305	76	87800	20.900 ug/l	100
53) Dibromochloromethane	9.519	129	61431	21.165 ug/l	100
54) 1,2-Dibromoethane	9.604	107	53825	20.963 ug/l	100
55) 2-Chloroethyl vinyl ether	8.238	63	214240	104.779 ug/l	100
56) Bromoform	10.799	173	39538	20.544 ug/l	100
58) 4-Methyl-2-Pentanone	8.574	43	358614	102.588 ug/l	100
59) 2-Hexanone	9.433	43	261785	102.292 ug/l	100
61) Tetrachloroethene	9.269	164	38724	19.466 ug/l	100
62) Toluene	8.714	91	218070	19.970 ug/l	100
64) Chlorobenzene	10.073	112	136037	20.059 ug/l	100
65) 1,1,1,2-Tetrachloroethane	10.159	131	49228	20.207 ug/l	100
66) Ethyl Benzene	10.189	91	241177	20.238 ug/l	100
67) m/p-Xylenes	10.299	106	180626	41.233 ug/l	100
68) o-Xylene	10.640	106	90982	20.694 ug/l	100
69) Styrene	10.652	104	150095	20.793 ug/l	100
70) Isopropylbenzene	10.957	105	226317	20.476 ug/l	100
71) 1,1,2,2-Tetrachloroethane	11.207	83	75650	20.326 ug/l	100
72) 1,2,3-Trichloropropane	11.238	75	64385m	20.597 ug/l	
73) Bromobenzene	11.195	156	52618	20.435 ug/l	100
74) n-propylbenzene	11.299	91	255513	20.339 ug/l	100
75) 2-Chlorotoluene	11.360	91	162457	20.573 ug/l	100
76) 1,3,5-Trimethylbenzene	11.451	105	185378	20.653 ug/l	100
77) t-1,4-Dichloro-2-butene	11.018	75	29516	19.959 ug/l	100
78) 4-Chlorotoluene	11.451	91	177891	20.455 ug/l	100
79) tert-butylbenzene	11.713	119	191290	20.745 ug/l	100
80) 1,2,4-Trimethylbenzene	11.750	105	186763	20.623 ug/l	100
81) sec-Butylbenzene	11.890	105	224992	20.434 ug/l	100
82) p-Isopropyltoluene	12.006	119	186107	20.537 ug/l	100
83) 1,3-Dichlorobenzene	11.969	146	92976	20.330 ug/l	100
84) 1,4-Dichlorobenzene	12.036	146	92092	20.540 ug/l	100
85) n-Butylbenzene	12.329	91	156896	19.973 ug/l	100
86) Hexachloroethane	12.536	117	39754	19.941 ug/l	100
87) 1,2-Dichlorobenzene	12.335	146	94144	20.614 ug/l	100
88) 1,2-Dibromo-3-Chloropr...	12.939	75	17538	19.597 ug/l	100
89) 1,2,4-Trichlorobenzene	13.585	180	54885	19.338 ug/l	100
90) Hexachlorobutadiene	13.725	225	21996	20.036 ug/l	100
91) Naphthalene	13.774	128	214309	20.183 ug/l	100
92) 1,2,3-Trichlorobenzene	13.957	180	58101	20.127 ug/l	100

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

ICAL Form

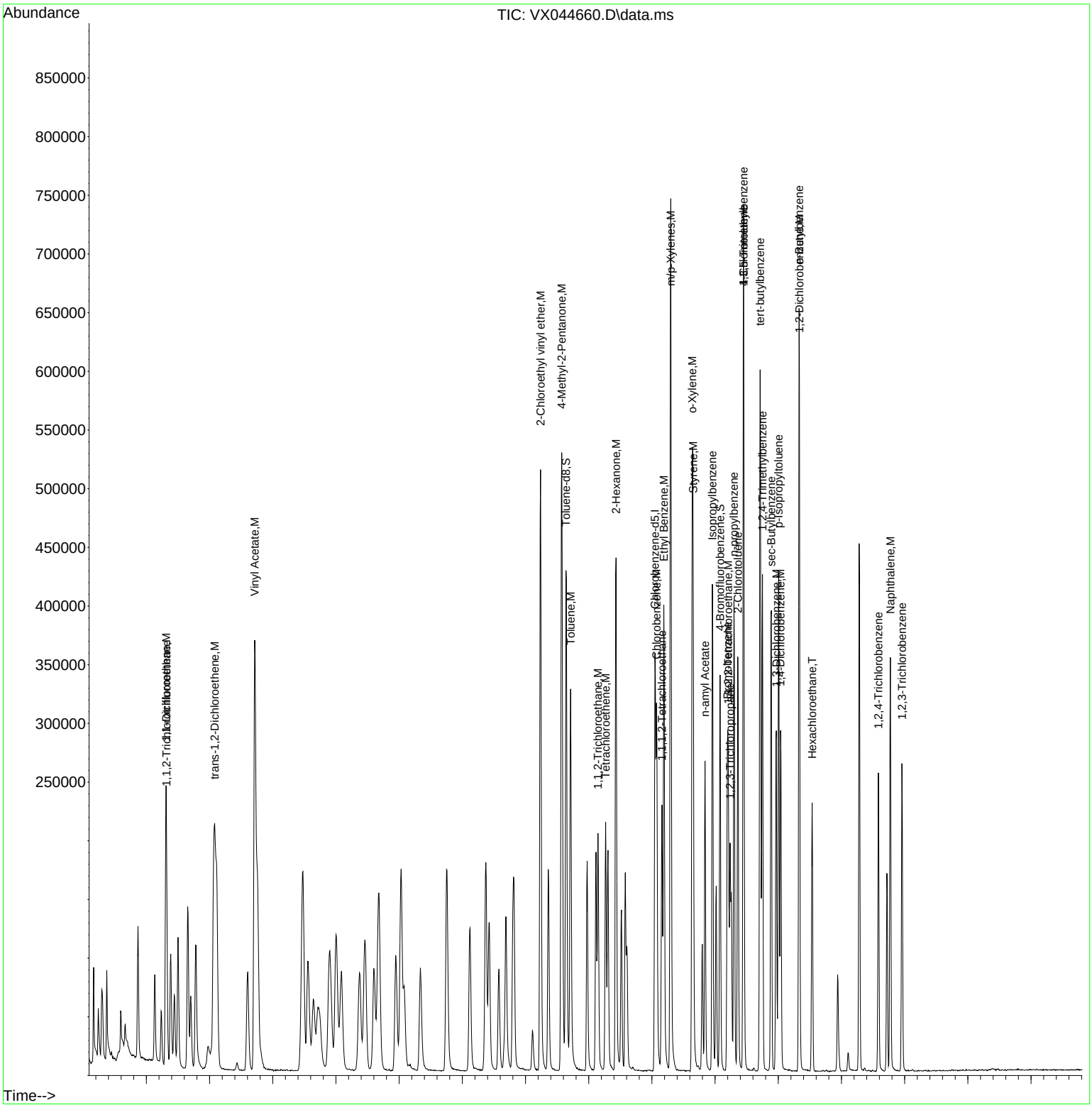
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044660.D
Acq On : 16 Jan 2025 09:02
Operator :
Sample : VSTDICCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 17 01:00:56 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICCC020

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044661.D
Acq On : 16 Jan 2025 09:25
Operator :
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:01:44 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	31946	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	176401	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	156058	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.952	65	92806	30.092	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 100.300%			
60) 4-Bromofluorobenzene	11.079	95	91788	30.281	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 100.933%			
63) Toluene-d8	8.647	98	253105	29.819	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 99.400%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	136053	53.031	ug/l	99
3) Chloromethane	1.294	50	147748	49.450	ug/l	98
4) Vinyl Chloride	1.374	62	141110	48.270	ug/l	98
5) Bromomethane	1.593	94	32943	46.667	ug/l	100
6) Chloroethane	1.660	64	23580	49.950	ug/l	98
7) Trichlorofluoromethane	1.867	101	151253	47.245	ug/l	100
8) Diethyl Ether	2.136	74	59325	48.034	ug/l	99
9) 1,1,2-Trichlorotrifluo...	2.319	101	106998	46.650	ug/l	99
10) 1,1-Dichloroethene	2.306	96	112301	47.590	ug/l	94
11) Methyl Iodide	2.441	142	163230	49.919	ug/l	98
12) Methyl Acetate	2.703	43	170946	49.623	ug/l	100
13) Acrolein	2.233	56	86575	227.272	ug/l	99
14) Acrylonitrile	3.062	53	309583	246.621	ug/l	100
15) Acetone	2.386	58	81812	242.884	ug/l	94
16) Carbon Disulfide	2.501	76	320132	48.818	ug/l	100
17) Allyl chloride	2.654	41	209402	49.209	ug/l	99
18) Methylene Chloride	2.782	84	129192	48.907	ug/l	99
19) trans-1,2-Dichloroethene	3.081	96	114074	48.618	ug/l	98
20) Diisopropyl ether	3.757	45	379943	49.191	ug/l	97
21) 1,1-Dichloroethane	3.605	63	225092	49.127	ug/l	97
22) cis-1,2-Dichloroethene	4.477	96	141413	48.695	ug/l	98
23) tert-Butyl Alcohol	2.977	59	144322m	265.008	ug/l	
24) Methyl tert-Butyl Ether	3.111	73	396412	48.485	ug/l	99
25) Chloroform	5.086	83	222532	48.880	ug/l	96
26) Cyclohexane	5.458	56	180292	46.819	ug/l #	99
29) 1,1-Dichloropropene	5.684	75	148511	48.402	ug/l	99
30) 2-Butanone	4.556	43	419491	248.886	ug/l	99
31) 2,2-Dichloropropane	4.465	77	203849	48.011	ug/l	99
32) 1,1,1-Trichloroethane	5.373	97	195383	48.051	ug/l	99
33) Carbon Tetrachloride	5.672	117	164089	47.839	ug/l	98
34) Benzene	6.031	78	480821	49.118	ug/l	99
35) Methacrylonitrile	4.916	41	93262	49.509	ug/l	98
36) 1,2-Dichloroethane	6.080	62	170346	48.671	ug/l	99
37) Trichloroethene	7.116	130	115805	48.998	ug/l	95
38) Methylcyclohexane	7.373	83	196645	47.170	ug/l	99
39) 1,2-Dichloropropane	7.427	63	121901	49.937	ug/l	97
40) Dibromomethane	7.574	93	88733	48.894	ug/l	99
41) Bromodichloromethane	7.818	83	184753	49.303	ug/l	99
42) Vinyl Acetate	3.715	43	1646712	246.012	ug/l	100

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044661.D
Acq On : 16 Jan 2025 09:25
Operator :
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:01:44 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.708	43	162349	49.103 ug/l #	94
44) Isopropyl Acetate	6.336	43	293976	49.493 ug/l	98
45) 1,4-Dioxane	7.671	88	56732	1003.041 ug/l	98
46) Methyl methacrylate	7.690	41	145468	50.033 ug/l	99
47) n-amyl Acetate	10.841	43	248981	49.948 ug/l	99
48) t-1,3-Dichloropropene	8.976	75	198307	50.138 ug/l	99
49) cis-1,3-Dichloropropene	8.360	75	211446	49.856 ug/l	99
50) 1,1,2-Trichloroethane	9.147	97	117115	50.024 ug/l	97
51) Ethyl methacrylate	9.116	69	206891	50.954 ug/l	99
52) 1,3-Dichloropropane	9.305	76	199192	49.275 ug/l	98
53) Dibromochloromethane	9.518	129	137982	49.404 ug/l	98
54) 1,2-Dibromoethane	9.604	107	122664	49.646 ug/l	100
55) 2-Chloroethyl vinyl ether	8.238	63	496129	252.154 ug/l	100
56) Bromoform	10.799	173	92355	49.868 ug/l	99
58) 4-Methyl-2-Pentanone	8.574	43	804113	244.450 ug/l	99
59) 2-Hexanone	9.433	43	586563	243.566 ug/l	99
61) Tetrachloroethene	9.269	164	90750	48.479 ug/l	98
62) Toluene	8.714	91	503289	48.978 ug/l	98
64) Chlorobenzene	10.073	112	316113	49.533 ug/l	98
65) 1,1,1,2-Tetrachloroethane	10.159	131	112521	49.083 ug/l	99
66) Ethyl Benzene	10.189	91	552973	49.310 ug/l	99
67) m/p-Xylenes	10.299	106	405714	98.422 ug/l	99
68) o-Xylene	10.640	106	204604	49.454 ug/l	100
69) Styrene	10.652	104	335834	49.440 ug/l	100
70) Isopropylbenzene	10.957	105	505061	48.560 ug/l	100
71) 1,1,2,2-Tetrachloroethane	11.213	83	168965	48.244 ug/l	100
72) 1,2,3-Trichloropropane	11.238	75	145534m	49.476 ug/l	
73) Bromobenzene	11.195	156	119195	49.194 ug/l	99
74) n-propylbenzene	11.299	91	581862	49.219 ug/l	100
75) 2-Chlorotoluene	11.360	91	364136	49.004 ug/l	100
76) 1,3,5-Trimethylbenzene	11.451	105	416769	49.342 ug/l	100
77) t-1,4-Dichloro-2-butene	11.018	75	67311	48.369 ug/l	97
78) 4-Chlorotoluene	11.451	91	403646	49.323 ug/l	100
79) tert-butylbenzene	11.713	119	422625	48.705 ug/l	100
80) 1,2,4-Trimethylbenzene	11.750	105	416772	48.906 ug/l	99
81) sec-Butylbenzene	11.890	105	506286	48.863 ug/l	100
82) p-Isopropyltoluene	12.006	119	416615	48.855 ug/l	100
83) 1,3-Dichlorobenzene	11.969	146	213035	49.501 ug/l	100
84) 1,4-Dichlorobenzene	12.036	146	207367	49.151 ug/l	100
85) n-Butylbenzene	12.329	91	365981	49.510 ug/l	98
86) Hexachloroethane	12.536	117	89957	47.953 ug/l	99
87) 1,2-Dichlorobenzene	12.335	146	212294	49.399 ug/l	99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	39899	47.378 ug/l	100
89) 1,2,4-Trichlorobenzene	13.585	180	131622	49.284 ug/l	99
90) Hexachlorobutadiene	13.725	225	49464	47.882 ug/l	98
91) Naphthalene	13.774	128	495557	49.597 ug/l	99
92) 1,2,3-Trichlorobenzene	13.957	180	134623	49.560 ug/l	99

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

ICAL Form

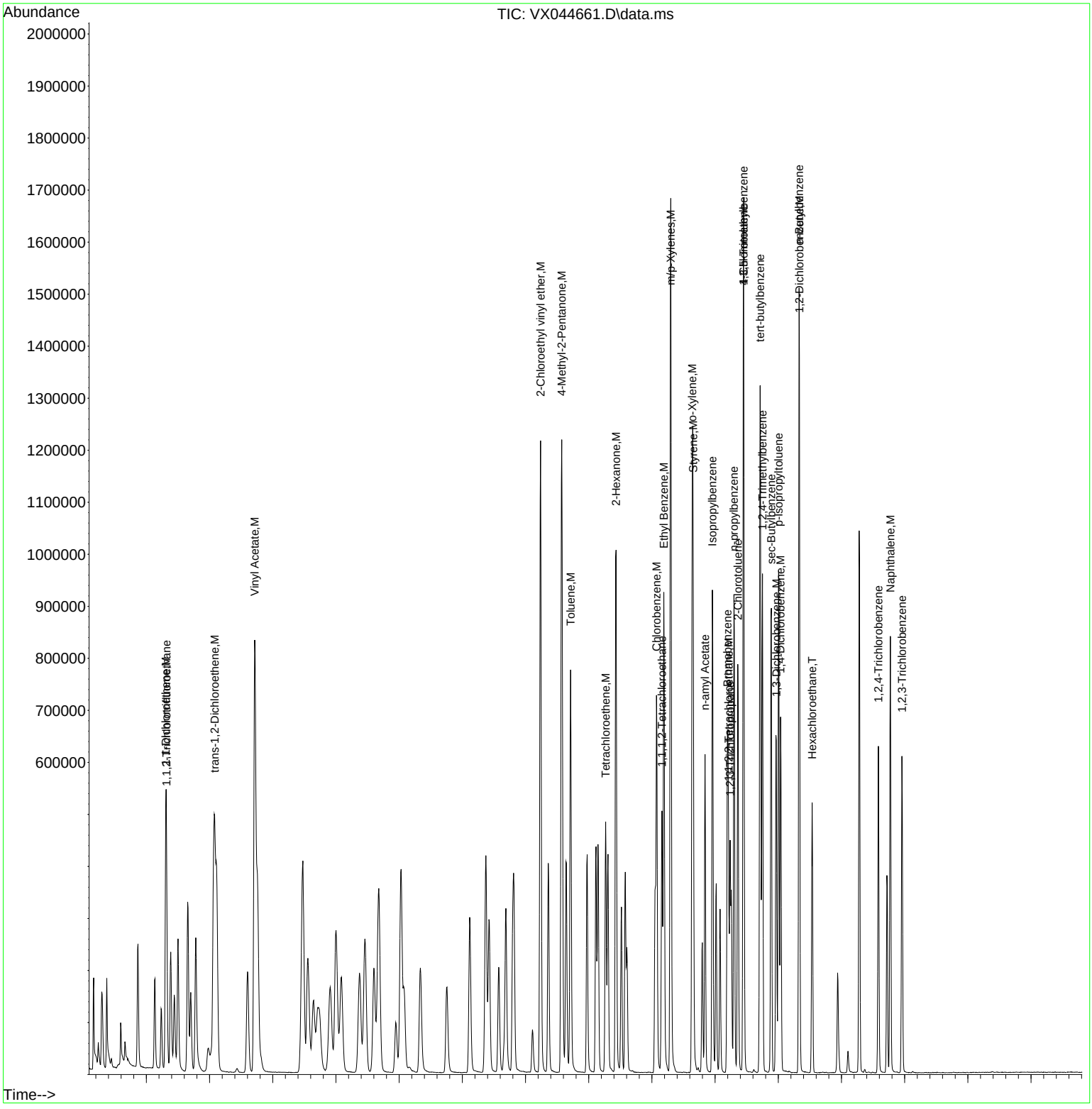
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044661.D
Acq On : 16 Jan 2025 09:25
Operator :
Sample : VSTDICC050
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 17 01:01:44 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC050

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025



ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044662.D
Acq On : 16 Jan 2025 09:49
Operator :
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:02:40 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	26822	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	152295	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	129735	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.946	65	78213	30.205	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 100.700%			
60) 4-Bromofluorobenzene	11.079	95	76025	30.170	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 100.567%			
63) Toluene-d8	8.647	98	211985	30.042	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 100.133%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	267360m	124.121	ug/l	
3) Chloromethane	1.294	50	260185	103.718	ug/l	100
4) Vinyl Chloride	1.374	62	264006	107.561	ug/l	97
5) Bromomethane	1.593	94	61090	103.072	ug/l	97
6) Chloroethane	1.660	64	45219	114.088	ug/l	95
7) Trichlorofluoromethane	1.861	101	293373	109.142	ug/l	98
8) Diethyl Ether	2.136	74	108527	104.658	ug/l	99
9) 1,1,2-Trichlorotrifluo...	2.313	101	216700	112.529	ug/l	98
10) 1,1-Dichloroethene	2.307	96	210933	106.464	ug/l	96
11) Methyl Iodide	2.441	142	283426	103.236	ug/l	98
12) Methyl Acetate	2.703	43	316480	109.420	ug/l	99
13) Acrolein	2.239	56	157728	493.161	ug/l	99
14) Acrylonitrile	3.062	53	551693	523.451	ug/l	100
15) Acetone	2.386	58	149940	530.181	ug/l	94
16) Carbon Disulfide	2.495	76	590082	107.175	ug/l	100
17) Allyl chloride	2.654	41	382410	107.032	ug/l	99
18) Methylene Chloride	2.782	84	228084	102.839	ug/l	98
19) trans-1,2-Dichloroethene	3.081	96	206160	104.651	ug/l	97
20) Diisopropyl ether	3.757	45	662597	102.175	ug/l	95
21) 1,1-Dichloroethane	3.599	63	406465	105.660	ug/l	98
22) cis-1,2-Dichloroethene	4.477	96	255966	104.980	ug/l	98
23) tert-Butyl Alcohol	3.044	59	253812m	555.091	ug/l	
24) Methyl tert-Butyl Ether	3.111	73	712903	103.853	ug/l	99
25) Chloroform	5.086	83	399572	104.534	ug/l	96
26) Cyclohexane	5.458	56	351156	108.611	ug/l #	100
29) 1,1-Dichloropropene	5.684	75	279081	105.354	ug/l	99
30) 2-Butanone	4.556	43	740025	508.557	ug/l	100
31) 2,2-Dichloropropane	4.465	77	376371	102.674	ug/l	98
32) 1,1,1-Trichloroethane	5.373	97	359473	102.399	ug/l	99
33) Carbon Tetrachloride	5.666	117	306978	103.662	ug/l	97
34) Benzene	6.025	78	853368	100.973	ug/l	99
35) Methacrylonitrile	4.916	41	168983	103.905	ug/l	98
36) 1,2-Dichloroethane	6.080	62	308254	102.014	ug/l	100
37) Trichloroethene	7.117	130	215237	105.483	ug/l	95
38) Methylcyclohexane	7.373	83	393920	109.448	ug/l	99
39) 1,2-Dichloropropane	7.421	63	214812	101.928	ug/l	98
40) Dibromomethane	7.574	93	159130	101.563	ug/l	99
41) Bromodichloromethane	7.818	83	324068	100.170	ug/l	98
42) Vinyl Acetate	3.715	43	2899515	501.741	ug/l	100

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044662.D
Acq On : 16 Jan 2025 09:49
Operator :
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:02:40 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.708	43	301278	105.547 ug/l #	94
44) Isopropyl Acetate	6.336	43	524207	102.223 ug/l	99
45) 1,4-Dioxane	7.671	88	95678	1959.377 ug/l	96
46) Methyl methacrylate	7.690	41	254259	101.293 ug/l	99
47) n-amyl Acetate	10.842	43	426497	99.102 ug/l	99
48) t-1,3-Dichloropropene	8.976	75	347499	101.765 ug/l	98
49) cis-1,3-Dichloropropene	8.360	75	370879	101.289 ug/l	99
50) 1,1,2-Trichloroethane	9.147	97	198320	98.117 ug/l	99
51) Ethyl methacrylate	9.116	69	349309	99.647 ug/l	98
52) 1,3-Dichloropropane	9.305	76	345352	98.954 ug/l	99
53) Dibromochloromethane	9.519	129	237742	98.596 ug/l	98
54) 1,2-Dibromoethane	9.604	107	210275	98.575 ug/l	99
55) 2-Chloroethyl vinyl ether	8.238	63	784090	461.586 ug/l	100
56) Bromoform	10.799	173	157528	98.522 ug/l	100
58) 4-Methyl-2-Pentanone	8.574	43	1379048	504.291 ug/l	99
59) 2-Hexanone	9.433	43	1016466	507.718 ug/l	99
61) Tetrachloroethene	9.269	164	167502	107.635 ug/l	98
62) Toluene	8.714	91	874711	102.394 ug/l	99
64) Chlorobenzene	10.073	112	543310	102.407 ug/l	99
65) 1,1,1,2-Tetrachloroethane	10.159	131	193974	101.781 ug/l	100
66) Ethyl Benzene	10.189	91	963283	103.326 ug/l	98
67) m/p-Xylenes	10.299	106	698697	203.888 ug/l	99
68) o-Xylene	10.640	106	346159	100.645 ug/l	100
69) Styrene	10.653	104	571513	101.207 ug/l	99
70) Isopropylbenzene	10.957	105	882679	102.087 ug/l	99
71) 1,1,2,2-Tetrachloroethane	11.213	83	290188	99.668 ug/l	98
72) 1,2,3-Trichloropropane	11.238	75	248182m	101.490 ug/l	
73) Bromobenzene	11.195	156	203263	100.912 ug/l	98
74) n-propylbenzene	11.305	91	1025231	104.320 ug/l	100
75) 2-Chlorotoluene	11.360	91	621611	100.627 ug/l	100
76) 1,3,5-Trimethylbenzene	11.451	105	709035	100.977 ug/l	99
77) t-1,4-Dichloro-2-butene	11.018	75	120113	103.824 ug/l	98
78) 4-Chlorotoluene	11.451	91	692856	101.840 ug/l	99
79) tert-butylbenzene	11.713	119	724166	100.390 ug/l	99
80) 1,2,4-Trimethylbenzene	11.750	105	717847	101.327 ug/l	99
81) sec-Butylbenzene	11.890	105	885682	102.823 ug/l	100
82) p-Isopropyltoluene	12.006	119	730972	103.112 ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	371118	103.731 ug/l	99
84) 1,4-Dichlorobenzene	12.036	146	363763	103.715 ug/l	99
85) n-Butylbenzene	12.329	91	664449	108.125 ug/l	99
86) Hexachloroethane	12.536	117	158825	101.842 ug/l	99
87) 1,2-Dichlorobenzene	12.335	146	361432	101.166 ug/l	99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	70386	100.538 ug/l	99
89) 1,2,4-Trichlorobenzene	13.585	180	243086	109.487 ug/l	99
90) Hexachlorobutadiene	13.725	225	89590	104.321 ug/l	96
91) Naphthalene	13.774	128	872913	105.089 ug/l	100
92) 1,2,3-Trichlorobenzene	13.957	180	239785	106.185 ug/l	99

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

ICAL Form

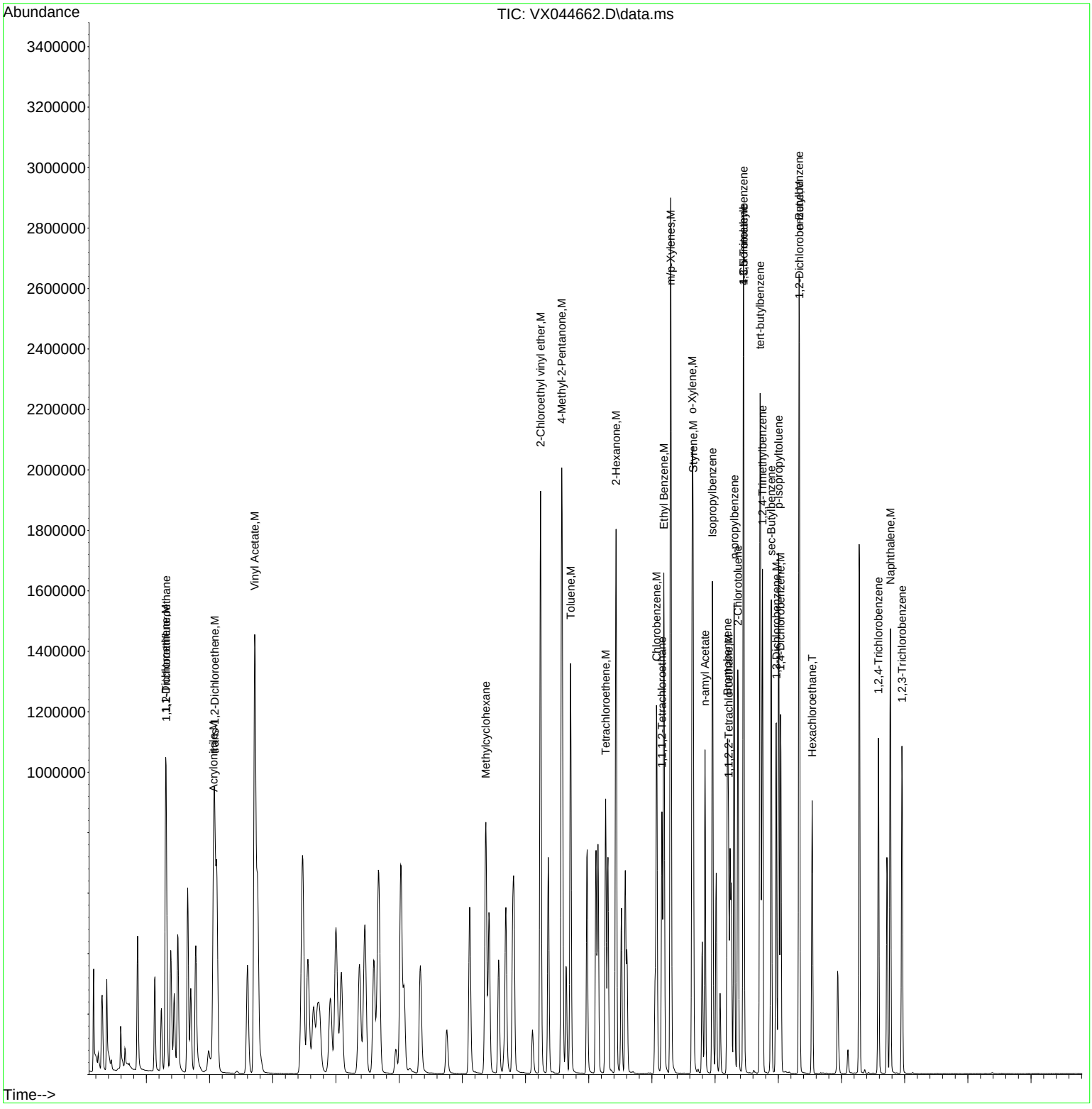
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044662.D
Acq On : 16 Jan 2025 09:49
Operator :
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jan 17 01:02:40 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC100

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044663.D
Acq On : 16 Jan 2025 10:12
Operator :
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:03:33 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Bromochloromethane	4.891	128	30265	30.000	ug/l		0.00
28) 1,4-Difluorobenzene	6.757	114	168670	30.000	ug/l		0.00
57) Chlorobenzene-d5	10.049	117	142579	30.000	ug/l		0.00
System Monitoring Compounds							
27) 1,2-Dichloroethane-d4	5.952	65	86477	29.598	ug/l		0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 98.667%				
60) 4-Bromofluorobenzene	11.079	95	83031	29.982	ug/l		0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 99.933%				
63) Toluene-d8	8.647	98	229453	29.588	ug/l		0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 98.633%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.166	85	395126	162.568	ug/l		98
3) Chloromethane	1.301	50	398267	140.701	ug/l		99
4) Vinyl Chloride	1.374	62	401934	145.127	ug/l		98
5) Bromomethane	1.593	94	97919	146.415	ug/l		99
6) Chloroethane	1.660	64	69505	155.413	ug/l		94
7) Trichlorofluoromethane	1.867	101	443749	146.306	ug/l		98
8) Diethyl Ether	2.136	74	171385	146.474	ug/l		99
9) 1,1,2-Trichlorotrifluo...	2.319	101	319509	147.041	ug/l		99
10) 1,1-Dichloroethene	2.306	96	322881	144.428	ug/l		93
11) Methyl Iodide	2.441	142	448651	144.827	ug/l		96
12) Methyl Acetate	2.703	43	477398	146.278	ug/l		100
13) Acrolein	2.239	56	253627	702.790	ug/l		98
14) Acrylonitrile	3.068	53	815430	685.671	ug/l		100
15) Acetone	2.386	58	221043	692.682	ug/l		91
16) Carbon Disulfide	2.502	76	918806	147.895	ug/l		100
17) Allyl chloride	2.654	41	585850	145.319	ug/l		99
18) Methylene Chloride	2.782	84	359344	143.590	ug/l		97
19) trans-1,2-Dichloroethene	3.081	96	316848	142.541	ug/l		98
20) Diisopropyl ether	3.764	45	1015552	138.787	ug/l	#	87
21) 1,1-Dichloroethane	3.599	63	630418	145.234	ug/l		98
22) cis-1,2-Dichloroethene	4.477	96	396803	144.228	ug/l		98
23) tert-Butyl Alcohol	3.044	59	372252m	721.506	ug/l		
24) Methyl tert-Butyl Ether	3.111	73	1099111	141.899	ug/l		98
25) Chloroform	5.086	83	618756	143.460	ug/l		97
26) Cyclohexane	5.458	56	512956	140.607	ug/l	#	99
29) 1,1-Dichloropropene	5.684	75	422203	143.910	ug/l		99
30) 2-Butanone	4.556	43	1096527	680.393	ug/l		100
31) 2,2-Dichloropropane	4.465	77	574023	141.392	ug/l		99
32) 1,1,1-Trichloroethane	5.373	97	551364	141.813	ug/l		98
33) Carbon Tetrachloride	5.666	117	464930	141.758	ug/l		99
34) Benzene	6.031	78	1317009	140.704	ug/l		99
35) Methacrylonitrile	4.922	41	252183	140.009	ug/l		97
36) 1,2-Dichloroethane	6.080	62	475153	141.982	ug/l		99
37) Trichloroethene	7.117	130	331784	146.814	ug/l		96
38) Methylcyclohexane	7.373	83	573341	143.834	ug/l		100
39) 1,2-Dichloropropane	7.421	63	331963	142.224	ug/l		99
40) Dibromomethane	7.574	93	248648	143.290	ug/l		99
41) Bromodichloromethane	7.818	83	504431	140.783	ug/l		99
42) Vinyl Acetate	3.721	43	4362962	681.685	ug/l		100

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044663.D
Acq On : 16 Jan 2025 10:12
Operator :
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:03:33 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.708	43	450860	142.615 ug/l #	94
44) Isopropyl Acetate	6.336	43	808776	142.404 ug/l	99
45) 1,4-Dioxane	7.671	88	138476	2560.521 ug/l	97
46) Methyl methacrylate	7.690	41	389600	140.143 ug/l	98
47) n-amyl Acetate	10.841	43	646879	135.718 ug/l	99
48) t-1,3-Dichloropropene	8.976	75	535738	141.659 ug/l	99
49) cis-1,3-Dichloropropene	8.360	75	565857	139.536 ug/l	99
50) 1,1,2-Trichloroethane	9.147	97	299288	133.695 ug/l	99
51) Ethyl methacrylate	9.116	69	531002	136.772 ug/l	98
52) 1,3-Dichloropropane	9.305	76	526192	136.132 ug/l	99
53) Dibromochloromethane	9.519	129	360540	135.007 ug/l	97
54) 1,2-Dibromoethane	9.604	107	320334	135.590 ug/l	99
55) 2-Chloroethyl vinyl ether	8.238	63	1273435	676.879 ug/l	99
56) Bromoform	10.799	173	241837	136.568 ug/l	99
58) 4-Methyl-2-Pentanone	8.574	43	2037971	678.112 ug/l	100
59) 2-Hexanone	9.433	43	1486312	675.525 ug/l	100
61) Tetrachloroethene	9.269	164	247777	144.876 ug/l	98
62) Toluene	8.714	91	1318975	140.491 ug/l	99
64) Chlorobenzene	10.073	112	824684	141.439 ug/l	100
65) 1,1,1,2-Tetrachloroethane	10.159	131	297569	142.074 ug/l	99
66) Ethyl Benzene	10.189	91	1447790	141.307 ug/l	99
67) m/p-Xylenes	10.299	106	1025226	272.222 ug/l	100
68) o-Xylene	10.640	106	517475	136.901 ug/l	99
69) Styrene	10.653	104	852764	137.409 ug/l	98
70) Isopropylbenzene	10.957	105	1303283	137.153 ug/l	99
71) 1,1,2,2-Tetrachloroethane	11.213	83	432603	135.197 ug/l	98
72) 1,2,3-Trichloropropane	11.238	75	369195m	137.376 ug/l	
73) Bromobenzene	11.195	156	311401	140.672 ug/l	99
74) n-propylbenzene	11.305	91	1515701	140.333 ug/l	100
75) 2-Chlorotoluene	11.360	91	939369	138.367 ug/l	99
76) 1,3,5-Trimethylbenzene	11.451	105	1038367	134.557 ug/l	99
77) t-1,4-Dichloro-2-butene	11.018	75	178978	140.770 ug/l	98
78) 4-Chlorotoluene	11.451	91	1032107	138.039 ug/l	100
79) tert-butylbenzene	11.713	119	1066193	134.489 ug/l	98
80) 1,2,4-Trimethylbenzene	11.750	105	1063526	136.597 ug/l	99
81) sec-Butylbenzene	11.890	105	1304251	137.776 ug/l	100
82) p-Isopropyltoluene	12.006	119	1083858	139.117 ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	562506	143.062 ug/l	100
84) 1,4-Dichlorobenzene	12.043	146	552693	143.387 ug/l	100
85) n-Butylbenzene	12.329	91	983220	145.585 ug/l	99
86) Hexachloroethane	12.536	117	238874	139.374 ug/l	99
87) 1,2-Dichlorobenzene	12.335	146	537434	136.879 ug/l	99
88) 1,2-Dibromo-3-Chloropr...	12.939	75	106892	138.929 ug/l	100
89) 1,2,4-Trichlorobenzene	13.585	180	374862	153.630 ug/l	100
90) Hexachlorobutadiene	13.725	225	138461	146.704 ug/l	98
91) Naphthalene	13.774	128	1323609	144.994 ug/l	99
92) 1,2,3-Trichlorobenzene	13.957	180	371865	149.840 ug/l	99

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

Quantitation Report (QT Reviewed)

ICAL Form

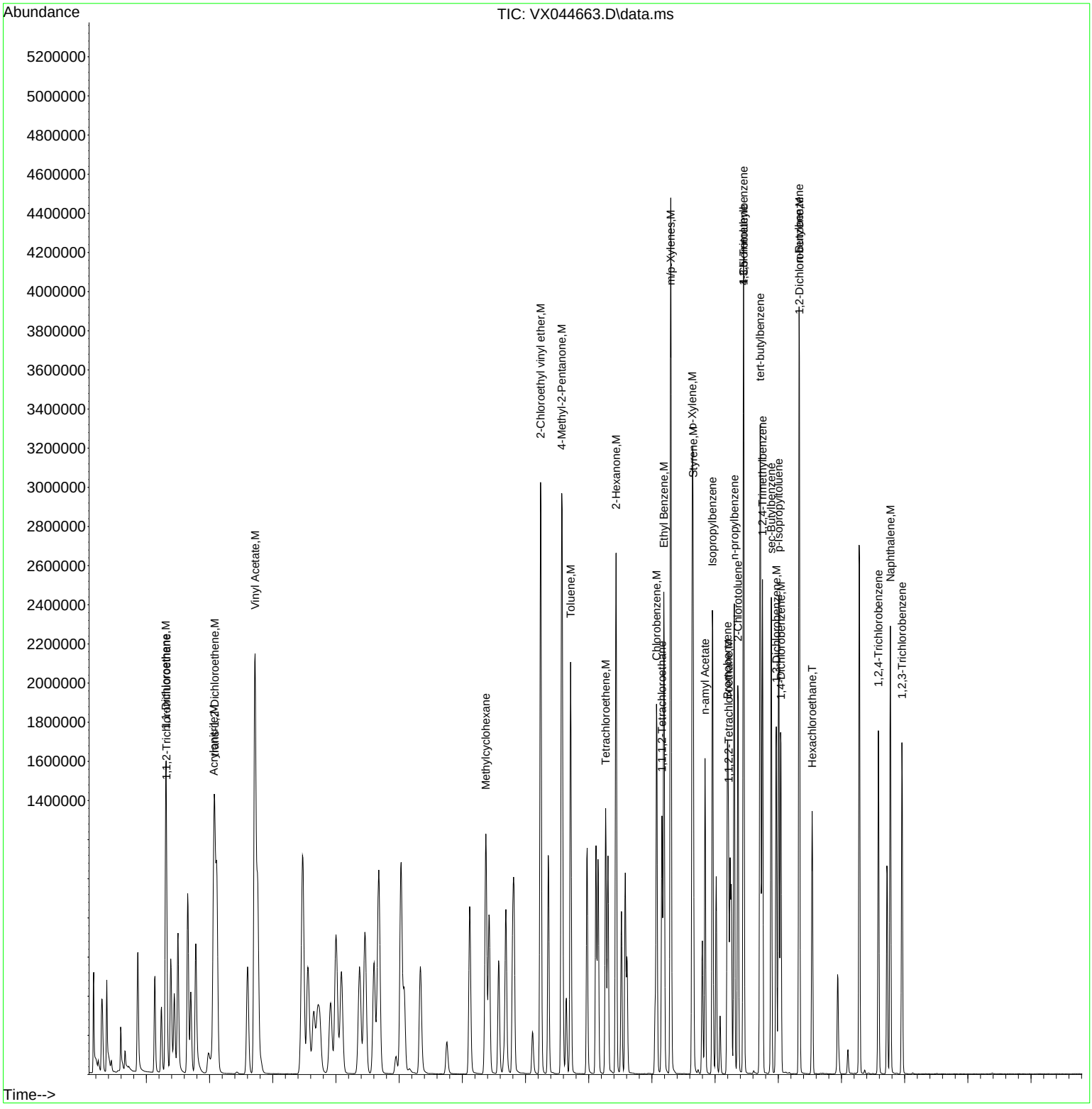
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044663.D
Acq On : 16 Jan 2025 10:12
Operator :
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jan 17 01:03:33 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 00:59:31 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDICC150

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025



Quantitation Report (QT Reviewed)

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044665.D
Acq On : 16 Jan 2025 11:45
Operator :
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX011625

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:23:46 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.885	128	29298	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.751	114	160571	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	139330	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.946	65	84347	29.821	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 99.400%			
60) 4-Bromofluorobenzene	11.079	95	80701	29.820	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 99.400%			
63) Toluene-d8	8.641	98	232185	30.639	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 102.133%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	53424	20.509	ug/l	100
3) Chloromethane	1.295	50	52336	19.100	ug/l	98
4) Vinyl Chloride	1.374	62	54565	20.352	ug/l	96
5) Bromomethane	1.593	94	12546	19.362	ug/l	96
6) Chloroethane	1.660	64	8061	18.963	ug/l	90
7) Trichlorofluoromethane	1.868	101	62375	21.244	ug/l	98
8) Diethyl Ether	2.130	74	23504	20.751	ug/l	99
9) 1,1,2-Trichlorotrifluo...	2.319	101	45499	21.630	ug/l	97
10) 1,1-Dichloroethene	2.307	96	44362	20.500	ug/l	94
11) Methyl Iodide	2.441	142	59655	19.893	ug/l	99
12) Methyl Acetate	2.703	43	66878	21.168	ug/l	99
13) Acrolein	2.233	56	35040	100.289	ug/l	95
14) Acrylonitrile	3.063	53	122153	106.105	ug/l	99
15) Acetone	2.380	58	35259	114.138	ug/l	96
16) Carbon Disulfide	2.502	76	124187	20.650	ug/l	98
17) Allyl chloride	2.654	41	81222	20.812	ug/l	98
18) Methylene Chloride	2.782	84	47896	19.777	ug/l	97
19) trans-1,2-Dichloroethene	3.081	96	44022	20.458	ug/l	98
20) Diisopropyl ether	3.751	45	149298	21.077	ug/l	91
21) 1,1-Dichloroethane	3.599	63	86579	20.604	ug/l	97
22) cis-1,2-Dichloroethene	4.477	96	54227	20.361	ug/l	97
23) tert-Butyl Alcohol	2.977	59	58148m	104.428	ug/l	
24) Methyl tert-Butyl Ether	3.111	73	154776	20.642	ug/l	100
25) Chloroform	5.087	83	85547	20.489	ug/l	100
26) Cyclohexane	5.452	56	75766	21.454	ug/l #	99
29) 1,1-Dichloropropene	5.684	75	58948	21.106	ug/l	98
30) 2-Butanone	4.550	43	164211	107.032	ug/l	99
31) 2,2-Dichloropropane	4.459	77	80657	20.869	ug/l	98
32) 1,1,1-Trichloroethane	5.367	97	75959	20.522	ug/l	98
33) Carbon Tetrachloride	5.666	117	65248	20.898	ug/l	98
34) Benzene	6.025	78	186228	20.899	ug/l	99
35) Methacrylonitrile	4.916	41	35936	20.958	ug/l	97
36) 1,2-Dichloroethane	6.074	62	65234	20.476	ug/l	99
37) Trichloroethene	7.117	130	44428	20.651	ug/l	96
38) Methylcyclohexane	7.367	83	82917	21.851	ug/l	99
39) 1,2-Dichloropropane	7.421	63	46323	20.847	ug/l	99
40) Dibromomethane	7.574	93	33792	20.456	ug/l	98
41) Bromodichloromethane	7.812	83	69184	20.283	ug/l	99
42) Vinyl Acetate	3.715	43	653209	107.208	ug/l	100

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044665.D
Acq On : 16 Jan 2025 11:45
Operator :
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX011625

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025

Quant Time: Jan 17 01:23:46 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.709	43	63189	20.996 ug/l #	94
44) Isopropyl Acetate	6.330	43	112593	20.825 ug/l	99
45) 1,4-Dioxane	7.665	88	20798	403.967 ug/l	98
46) Methyl methacrylate	7.690	41	52648	19.893 ug/l	97
47) n-amyl Acetate	10.842	43	94494	20.825 ug/l	100
48) t-1,3-Dichloropropene	8.976	75	72357	20.098 ug/l	97
49) cis-1,3-Dichloropropene	8.360	75	78714	20.389 ug/l	98
50) 1,1,2-Trichloroethane	9.147	97	44166	20.759 ug/l	96
51) Ethyl methacrylate	9.116	69	75458	20.416 ug/l	99
52) 1,3-Dichloropropane	9.305	76	75839	20.610 ug/l	99
53) Dibromochloromethane	9.519	129	50936	20.035 ug/l	97
54) 1,2-Dibromoethane	9.604	107	46228	20.554 ug/l	100
55) 2-Chloroethyl vinyl ether	8.238	63	186582	104.044 ug/l	99
56) Bromoform	10.799	173	33539	19.895 ug/l	99
58) 4-Methyl-2-Pentanone	8.568	43	319324	108.729 ug/l	100
59) 2-Hexanone	9.427	43	234903	109.252 ug/l	100
61) Tetrachloroethene	9.269	164	34875	20.867 ug/l	98
62) Toluene	8.714	91	189672	20.674 ug/l	98
64) Chlorobenzene	10.073	112	116597	20.464 ug/l	97
65) 1,1,1,2-Tetrachloroethane	10.159	131	42670	20.848 ug/l	99
66) Ethyl Benzene	10.189	91	208544	20.829 ug/l	99
67) m/p-Xylenes	10.299	106	155664	42.296 ug/l	99
68) o-Xylene	10.640	106	78615	21.283 ug/l	98
69) Styrene	10.653	104	128207	21.140 ug/l	99
70) Isopropylbenzene	10.957	105	195561	21.060 ug/l	99
71) 1,1,2,2-Tetrachloroethane	11.207	83	67246	21.542 ug/l	97
72) 1,2,3-Trichloropropane	11.238	75	56182m	21.393 ug/l	
73) Bromobenzene	11.195	156	44149	20.409 ug/l	99
74) n-propylbenzene	11.299	91	222144	21.062 ug/l	100
75) 2-Chlorotoluene	11.360	91	141333	21.314 ug/l	98
76) 1,3,5-Trimethylbenzene	11.451	105	158538	21.023 ug/l	100
77) t-1,4-Dichloro-2-butene	11.018	75	25324	20.382 ug/l	100
78) 4-Chlorotoluene	11.451	91	151852	20.783 ug/l	99
79) tert-butylbenzene	11.713	119	164869	21.282 ug/l	99
80) 1,2,4-Trimethylbenzene	11.750	105	159250	20.931 ug/l	99
81) sec-Butylbenzene	11.890	105	198156	21.421 ug/l	99
82) p-Isopropyltoluene	12.006	119	159684	20.974 ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	79203	20.613 ug/l	99
84) 1,4-Dichlorobenzene	12.036	146	78388	20.811 ug/l	99
85) n-Butylbenzene	12.329	91	137083	20.771 ug/l	99
86) Hexachloroethane	12.536	117	34558	20.633 ug/l	98
87) 1,2-Dichlorobenzene	12.335	146	81365	21.206 ug/l	98
88) 1,2-Dibromo-3-Chloropr...	12.939	75	15325	20.383 ug/l	100
89) 1,2,4-Trichlorobenzene	13.585	180	47882	20.081 ug/l	99
90) Hexachlorobutadiene	13.725	225	18952	20.548 ug/l	97
91) Naphthalene	13.774	128	188608	21.143 ug/l	99
92) 1,2,3-Trichlorobenzene	13.957	180	48948	20.183 ug/l	100

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

ICAL Form

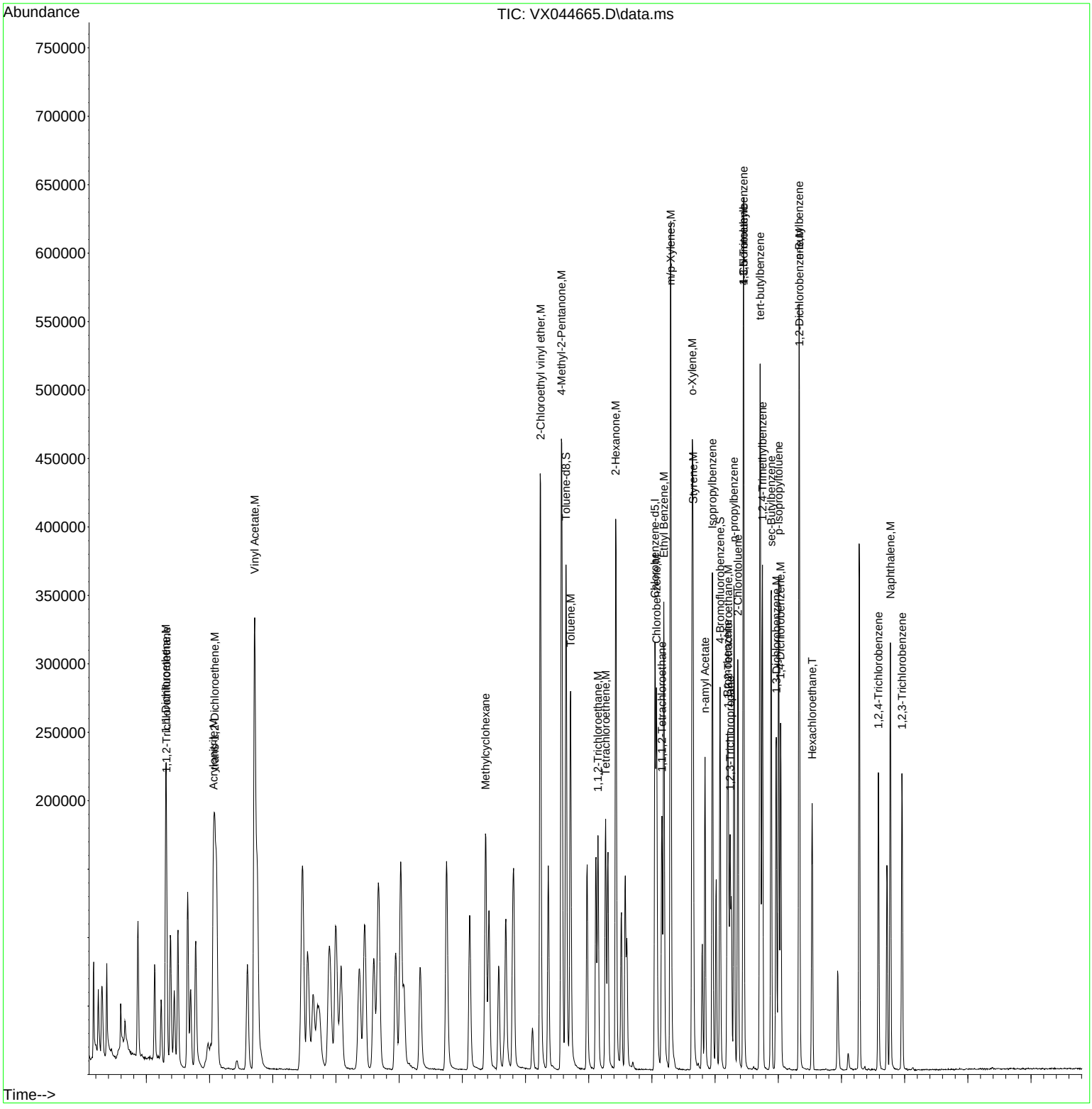
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044665.D
Acq On : 16 Jan 2025 11:45
Operator :
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jan 17 01:23:46 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
ICVVX011625

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 01/17/2025
Supervised By :Semsettin Yesilyurt 01/17/2025



Evaluate Continuing Calibration Report

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044665.D
Acq On : 16 Jan 2025 11:45
Operator :
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX011625

Quant Time: Jan 17 01:23:46 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 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	88	0.00
2	M	Dichlorodifluoromethane	2.667	2.735	-2.5	91	0.00
3	M	Chloromethane	2.806	2.680	4.5	81	0.00
4	M	Vinyl Chloride	2.745	2.794	-1.8	89	0.00
5	M	Bromomethane	0.663	0.642	3.2	87	0.00
6	M	Chloroethane	0.435	0.413	5.1	84	0.00
7	M	Trichlorofluoromethane	3.006	3.193	-6.2	94	0.00
8	T	Diethyl Ether	1.160	1.203	-3.7	92	0.00
9		1,1,2-Trichlorotrifluoroeth	2.154	2.329	-8.1	98	0.00
10	M	1,1-Dichloroethene	2.216	2.271	-2.5	92	0.00
11		Methyl Iodide	3.071	3.054	0.6	86	0.00
12		Methyl Acetate	3.235	3.424	-5.8	96	0.00
13	M	Acrolein	0.358	0.359	-0.3	107	0.00
14	M	Acrylonitrile	1.179	1.251	-6.1	92	0.00
15	M	Acetone	0.316	0.361	-14.2	102	0.00
16	M	Carbon Disulfide	6.158	6.358	-3.2	91	0.00
17		Allyl chloride	3.996	4.158	-4.1	90	0.00
18	M	Methylene Chloride	2.480	2.452	1.1	85	0.00
19	M	trans-1,2-Dichloroethene	2.203	2.254	-2.3	90	0.00
20	T	Diisopropyl ether	7.253	7.644	-5.4	90	0.00
21	M	1,1-Dichloroethane	4.303	4.433	-3.0	90	0.00
22	M	cis-1,2-Dichloroethene	2.727	2.776	-1.8	86	0.00
23	M	tert-Butyl Alcohol	0.570	0.595	-4.4	89	0.00
24	M	Methyl tert-Butyl Ether	7.678	7.924	-3.2	89	0.00
25	M	Chloroform	4.275	4.380	-2.5	88	0.00
26		Cyclohexane	3.616	3.879	-7.3	95	0.00
27	s	1,2-Dichloroethane-d4	2.896	2.879	0.6	88	0.00
28	I	1,4-Difluorobenzene	1.000	1.000	0.0	88	0.00
29		1,1-Dichloropropene	0.522	0.551	-5.6	93	0.00
30	M	2-Butanone	0.287	0.307	-7.0	91	0.00
31		2,2-Dichloropropane	0.722	0.753	-4.3	91	-0.01
32	M	1,1,1-Trichloroethane	0.692	0.710	-2.6	89	0.00
33	M	Carbon Tetrachloride	0.583	0.610	-4.6	91	0.00
34	M	Benzene	1.665	1.740	-4.5	88	0.00
35		Methacrylonitrile	0.320	0.336	-5.0	91	0.00
36	M	1,2-Dichloroethane	0.595	0.609	-2.4	87	0.00
37	M	Trichloroethene	0.402	0.415	-3.2	90	0.00
38		Methylcyclohexane	0.709	0.775	-9.3	98	0.00
39	M	1,2-Dichloropropane	0.415	0.433	-4.3	89	0.00
40		Dibromomethane	0.309	0.316	-2.3	88	0.00
41	M	Bromodichloromethane	0.637	0.646	-1.4	86	0.00
42	M	Vinyl Acetate	1.138	1.220	-7.2	90	0.00
43		Ethyl Acetate	0.562	0.590	-5.0	87	0.00
44		Isopropyl Acetate	1.010	1.052	-4.2	88	0.00
45	T	1,4-Dioxane	0.010	0.010	0.0	83	-0.01
46		Methyl methacrylate	0.494	0.492	0.4	85	0.00
47		n-amyl Acetate	0.848	0.883	-4.1	86	0.00
48	M	t-1,3-Dichloropropene	0.673	0.676	-0.4	85	0.00

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044665.D
Acq On : 16 Jan 2025 11:45
Operator :
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX011625

Quant Time: Jan 17 01:23:46 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 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	0.721	0.735	-1.9	86	0.00
50	M	1,1,2-Trichloroethane	0.397	0.413	-4.0	86	0.00
51		Ethyl methacrylate	0.691	0.705	-2.0	86	0.00
52		1,3-Dichloropropane	0.687	0.708	-3.1	86	0.00
53	M	Dibromochloromethane	0.475	0.476	-0.2	83	0.00
54	M	1,2-Dibromoethane	0.420	0.432	-2.9	86	0.00
55	M	2-Chloroethyl vinyl ether	0.335	0.349	-4.2	87	0.00
56	M	Bromoform	0.315	0.313	0.6	85	0.00
57	I	Chlorobenzene-d5	1.000	1.000	0.0	84	0.00
58	M	4-Methyl-2-Pentanone	0.632	0.688	-8.9	89	0.00
59	M	2-Hexanone	0.463	0.506	-9.3	90	0.00
60	S	4-Bromofluorobenzene	0.583	0.579	0.7	84	0.00
61	M	Tetrachloroethene	0.360	0.375	-4.2	90	0.00
62	M	Toluene	1.975	2.042	-3.4	87	0.00
63	S	Toluene-d8	1.632	1.666	-2.1	86	0.00
64	M	Chlorobenzene	1.227	1.255	-2.3	86	0.00
65		1,1,1,2-Tetrachloroethane	0.441	0.459	-4.1	87	0.00
66	M	Ethyl Benzene	2.156	2.245	-4.1	86	0.00
67	M	m/p-Xylenes	0.792	0.838	-5.8	86	0.00
68	M	o-Xylene	0.795	0.846	-6.4	86	0.00
69	M	Styrene	1.306	1.380	-5.7	85	0.00
70		Isopropylbenzene	1.999	2.105	-5.3	86	0.00
71	M	1,1,2,2-Tetrachloroethane	0.672	0.724	-7.7	89	0.00
72		1,2,3-Trichloropropane	0.565	0.605	-7.1	87	0.00
73		Bromobenzene	0.466	0.475	-1.9	84	0.00
74		n-propylbenzene	2.271	2.392	-5.3	87	0.00
75		2-Chlorotoluene	1.428	1.522	-6.6	87	0.00
76		1,3,5-Trimethylbenzene	1.624	1.707	-5.1	86	0.00
77		t-1,4-Dichloro-2-butene	0.268	0.273	-1.9	86	0.00
78		4-Chlorotoluene	1.573	1.635	-3.9	85	0.00
79		tert-butylbenzene	1.668	1.775	-6.4	86	0.00
80		1,2,4-Trimethylbenzene	1.638	1.714	-4.6	85	0.00
81		sec-Butylbenzene	1.992	2.133	-7.1	88	0.00
82		p-Isopropyltoluene	1.639	1.719	-4.9	86	0.00
83	M	1,3-Dichlorobenzene	0.827	0.853	-3.1	85	0.00
84	M	1,4-Dichlorobenzene	0.811	0.844	-4.1	85	0.00
85		n-Butylbenzene	1.421	1.476	-3.9	87	0.00
86	T	Hexachloroethane	0.361	0.372	-3.0	87	0.00
87	M	1,2-Dichlorobenzene	0.826	0.876	-6.1	86	0.00
88		1,2-Dibromo-3-Chloropropane	0.162	0.165	-1.9	87	0.00
89		1,2,4-Trichlorobenzene	0.513	0.515	-0.4	87	0.00
90		Hexachlorobutadiene	0.199	0.204	-2.5	86	0.00
91	M	Naphthalene	1.921	2.031	-5.7	88	0.00
92		1,2,3-Trichlorobenzene	0.522	0.527	-1.0	84	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\VX011625\
Data File : VX044665.D
Acq On : 16 Jan 2025 11:45
Operator :
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX011625

Quant Time: Jan 17 01:23:46 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 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	88	0.00
2	M	Dichlorodifluoromethane	20.000	20.509	-2.5	91	0.00
3	M	Chloromethane	20.000	19.100	4.5	81	0.00
4	M	Vinyl Chloride	20.000	20.352	-1.8	89	0.00
5	M	Bromomethane	20.000	19.362	3.2	87	0.00
6	M	Chloroethane	20.000	18.963	5.2	84	0.00
7	M	Trichlorofluoromethane	20.000	21.244	-6.2	94	0.00
8	T	Diethyl Ether	20.000	20.751	-3.8	92	0.00
9		1,1,2-Trichlorotrifluoroeth	20.000	21.630	-8.1	98	0.00
10	M	1,1-Dichloroethene	20.000	20.500	-2.5	92	0.00
11		Methyl Iodide	20.000	19.893	0.5	86	0.00
12		Methyl Acetate	20.000	21.168	-5.8	96	0.00
13	M	Acrolein	100.000	100.289	-0.3	107	0.00
14	M	Acrylonitrile	100.000	106.105	-6.1	92	0.00
15	M	Acetone	100.000	114.138	-14.1	102	0.00
16	M	Carbon Disulfide	20.000	20.650	-3.2	91	0.00
17		Allyl chloride	20.000	20.812	-4.1	90	0.00
18	M	Methylene Chloride	20.000	19.777	1.1	85	0.00
19	M	trans-1,2-Dichloroethene	20.000	20.458	-2.3	90	0.00
20	T	Diisopropyl ether	20.000	21.077	-5.4	90	0.00
21	M	1,1-Dichloroethane	20.000	20.604	-3.0	90	0.00
22	M	cis-1,2-Dichloroethene	20.000	20.361	-1.8	86	0.00
23	M	tert-Butyl Alcohol	100.000	104.428	-4.4	89	0.00
24	M	Methyl tert-Butyl Ether	20.000	20.642	-3.2	89	0.00
25	M	Chloroform	20.000	20.489	-2.4	88	0.00
26		Cyclohexane	20.000	21.454	-7.3	95	0.00
27	s	1,2-Dichloroethane-d4	30.000	29.821	0.6	88	0.00
28	I	1,4-Difluorobenzene	30.000	30.000	0.0	88	0.00
29		1,1-Dichloropropene	20.000	21.106	-5.5	93	0.00
30	M	2-Butanone	100.000	107.032	-7.0	91	0.00
31		2,2-Dichloropropane	20.000	20.869	-4.3	91	-0.01
32	M	1,1,1-Trichloroethane	20.000	20.522	-2.6	89	0.00
33	M	Carbon Tetrachloride	20.000	20.898	-4.5	91	0.00
34	M	Benzene	20.000	20.899	-4.5	88	0.00
35		Methacrylonitrile	20.000	20.958	-4.8	91	0.00
36	M	1,2-Dichloroethane	20.000	20.476	-2.4	87	0.00
37	M	Trichloroethene	20.000	20.651	-3.3	90	0.00
38		Methylcyclohexane	20.000	21.851	-9.3	98	0.00
39	M	1,2-Dichloropropane	20.000	20.847	-4.2	89	0.00
40		Dibromomethane	20.000	20.456	-2.3	88	0.00
41	M	Bromodichloromethane	20.000	20.283	-1.4	86	0.00
42	M	Vinyl Acetate	100.000	107.208	-7.2	90	0.00
43		Ethyl Acetate	20.000	20.996	-5.0	87	0.00
44		Isopropyl Acetate	20.000	20.825	-4.1	88	0.00
45	T	1,4-Dioxane	400.000	403.967	-1.0	83	-0.01
46		Methyl methacrylate	20.000	19.893	0.5	85	0.00
47		n-amyl Acetate	20.000	20.825	-4.1	86	0.00
48	M	t-1,3-Dichloropropene	20.000	20.098	-0.5	85	0.00

ICAL Form

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044665.D
Acq On : 16 Jan 2025 11:45
Operator :
Sample : VSTDICV020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
ICVVX011625

Quant Time: Jan 17 01:23:46 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 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	20.389	-1.9	86	0.00
50	M	1,1,2-Trichloroethane	20.000	20.759	-3.8	86	0.00
51		Ethyl methacrylate	20.000	20.416	-2.1	86	0.00
52		1,3-Dichloropropane	20.000	20.610	-3.0	86	0.00
53	M	Dibromochloromethane	20.000	20.035	-0.2	83	0.00
54	M	1,2-Dibromoethane	20.000	20.554	-2.8	86	0.00
55	M	2-Chloroethyl vinyl ether	100.000	104.044	-4.0	87	0.00
56	M	Bromoform	20.000	19.895	0.5	85	0.00
57	I	Chlorobenzene-d5	30.000	30.000	0.0	84	0.00
58	M	4-Methyl-2-Pentanone	100.000	108.729	-8.7	89	0.00
59	M	2-Hexanone	100.000	109.252	-9.3	90	0.00
60	S	4-Bromofluorobenzene	30.000	29.820	0.6	84	0.00
61	M	Tetrachloroethene	20.000	20.867	-4.3	90	0.00
62	M	Toluene	20.000	20.674	-3.4	87	0.00
63	S	Toluene-d8	30.000	30.639	-2.1	86	0.00
64	M	Chlorobenzene	20.000	20.464	-2.3	86	0.00
65		1,1,1,2-Tetrachloroethane	20.000	20.848	-4.2	87	0.00
66	M	Ethyl Benzene	20.000	20.829	-4.1	86	0.00
67	M	m/p-Xylenes	40.000	42.296	-5.7	86	0.00
68	M	o-Xylene	20.000	21.283	-6.4	86	0.00
69	M	Styrene	20.000	21.140	-5.7	85	0.00
70		Isopropylbenzene	20.000	21.060	-5.3	86	0.00
71	M	1,1,2,2-Tetrachloroethane	20.000	21.542	-7.7	89	0.00
72		1,2,3-Trichloropropane	20.000	21.393	-7.0	87	0.00
73		Bromobenzene	20.000	20.409	-2.0	84	0.00
74		n-propylbenzene	20.000	21.062	-5.3	87	0.00
75		2-Chlorotoluene	20.000	21.314	-6.6	87	0.00
76		1,3,5-Trimethylbenzene	20.000	21.023	-5.1	86	0.00
77		t-1,4-Dichloro-2-butene	20.000	20.382	-1.9	86	0.00
78		4-Chlorotoluene	20.000	20.783	-3.9	85	0.00
79		tert-butylbenzene	20.000	21.282	-6.4	86	0.00
80		1,2,4-Trimethylbenzene	20.000	20.931	-4.7	85	0.00
81		sec-Butylbenzene	20.000	21.421	-7.1	88	0.00
82		p-Isopropyltoluene	20.000	20.974	-4.9	86	0.00
83	M	1,3-Dichlorobenzene	20.000	20.613	-3.1	85	0.00
84	M	1,4-Dichlorobenzene	20.000	20.811	-4.1	85	0.00
85		n-Butylbenzene	20.000	20.771	-3.9	87	0.00
86	T	Hexachloroethane	20.000	20.633	-3.2	87	0.00
87	M	1,2-Dichlorobenzene	20.000	21.206	-6.0	86	0.00
88		1,2-Dibromo-3-Chloropropane	20.000	20.383	-1.9	87	0.00
89		1,2,4-Trichlorobenzene	20.000	20.081	-0.4	87	0.00
90		Hexachlorobutadiene	20.000	20.548	-2.7	86	0.00
91	M	Naphthalene	20.000	21.143	-5.7	88	0.00
92		1,2,3-Trichlorobenzene	20.000	20.183	-0.9	84	0.00

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

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: TULL01

Lab Code: CHEM Case No.: Q1212 SAS No.: Q1212 SDG No.: Q1212

Instrument ID: MSVOA_X Calibration Date/Time: 01/30/2025 09:23

Lab File ID: VX044769.D Init. Calib. Date(s): 01/16/2025 01/16/2025

Heated Purge: (Y/N) N Init. Calib. Time(s): 08:39 10:12

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

COMPOUND	RRF	RRF020	MIN RRF	%D	MAX%D
Benzene	1.665	1.815	0.5	9.01	
Toluene	1.975	2.085	0.4	5.57	
Ethyl Benzene	2.156	2.256	0.1	4.64	
m/p-Xylenes	0.792	0.878	0.3	10.86	
o-Xylene	0.795	0.860	0.3	8.18	
1,2-Dichloroethane-d4	2.896	2.548	0.01	-12.02	
Toluene-d8	1.632	1.603	0.01	-1.78	
4-Bromofluorobenzene	0.583	0.559	0.2	-4.12	

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

Sample Results: **VX044769.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044769.D
Acq On : 30 Jan 2025 09:23
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 30 12:08:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.885	128	29832	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.751	114	163814	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	150220	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.946	65	76004	26.391	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 87.967%#			
60) 4-Bromofluorobenzene	11.079	95	84010	28.793	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 95.967%			
63) Toluene-d8	8.641	98	240747	29.466	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 98.233%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	52103	19.644	ug/l	98
3) Chloromethane	1.300	50	60083	21.534	ug/l	100
4) Vinyl Chloride	1.374	62	58555	21.449	ug/l	98
5) Bromomethane	1.593	94	14886	22.562	ug/l	95
6) Chloroethane	1.666	64	19092	44.108	ug/l	92
7) Trichlorofluoromethane	1.867	101	69133	23.124	ug/l	100
8) Diethyl Ether	2.130	74	22458	19.472	ug/l	89
9) 1,1,2-Trichlorotrifluo...	2.319	101	49250	22.994	ug/l	99
10) 1,1-Dichloroethene	2.312	96	47633	21.617	ug/l	98
11) Methyl Iodide	2.440	142	63536	20.807	ug/l	99
12) Methyl Acetate	2.697	43	71655	22.274	ug/l	98
13) Acrolein	2.233	56	37951	106.677	ug/l	100
14) Acrylonitrile	3.056	53	130976	111.732	ug/l	99
15) Acetone	2.380	58	38443	122.217	ug/l	92
16) Carbon Disulfide	2.501	76	125491	20.493	ug/l	100
17) Allyl chloride	2.654	41	84961	21.380	ug/l	94
18) Methylene Chloride	2.782	84	53119	21.541	ug/l	98
19) trans-1,2-Dichloroethene	3.081	96	46748	21.336	ug/l	98
20) Diisopropyl ether	3.757	45	161574	22.401	ug/l	94
21) 1,1-Dichloroethane	3.599	63	91287	21.336	ug/l	97
22) cis-1,2-Dichloroethene	4.477	96	57883	21.344	ug/l	99
23) tert-Butyl Alcohol	2.977	59	56235	99.185	ug/l #	100
24) Methyl tert-Butyl Ether	3.111	73	153130	20.057	ug/l	99
25) Chloroform	5.086	83	86026	20.235	ug/l	100
26) Cyclohexane	5.452	56	82905	23.055	ug/l #	97
29) 1,1-Dichloropropene	5.678	75	60395	21.196	ug/l	97
30) 2-Butanone	4.550	43	176273	112.619	ug/l	100
31) 2,2-Dichloropropane	4.458	77	76791	19.476	ug/l	99
32) 1,1,1-Trichloroethane	5.373	97	74051	19.611	ug/l	96
33) Carbon Tetrachloride	5.659	117	63101	19.810	ug/l	97
34) Benzene	6.025	78	198175	21.800	ug/l	97
35) Methacrylonitrile	4.916	41	36109	20.642	ug/l	97
36) 1,2-Dichloroethane	6.080	62	59514	18.311	ug/l	97
37) Trichloroethene	7.116	130	46534	21.202	ug/l	95
38) Methylcyclohexane	7.372	83	85204	22.009	ug/l	99
39) 1,2-Dichloropropane	7.421	63	47781	21.078	ug/l	98
40) Dibromomethane	7.574	93	33318	19.770	ug/l	98
41) Bromodichloromethane	7.818	83	68688	19.739	ug/l	100
42) Vinyl Acetate	3.715	43	660882	106.320	ug/l	99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044769.D
Acq On : 30 Jan 2025 09:23
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 30 12:08:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.702	43	67620	22.024 ug/l #	94
44) Isopropyl Acetate	6.330	43	112378	20.373 ug/l	99
45) 1,4-Dioxane	7.659	88	24038	457.656 ug/l	95
46) Methyl methacrylate	7.690	41	54603	20.223 ug/l	98
47) n-amyl Acetate	10.841	43	99874	21.575 ug/l	99
48) t-1,3-Dichloropropene	8.976	75	71397	19.438 ug/l	99
49) cis-1,3-Dichloropropene	8.360	75	79025	20.065 ug/l	96
50) 1,1,2-Trichloroethane	9.147	97	47302	21.793 ug/l	97
51) Ethyl methacrylate	9.110	69	77875	20.653 ug/l	99
52) 1,3-Dichloropropane	9.305	76	81376	21.677 ug/l	99
53) Dibromochloromethane	9.518	129	52690	20.315 ug/l	100
54) 1,2-Dibromoethane	9.604	107	48266	21.036 ug/l	99
55) 2-Chloroethyl vinyl ether	8.232	63	233333	127.538 ug/l	98
56) Bromoform	10.799	173	34306	19.947 ug/l	99
58) 4-Methyl-2-Pentanone	8.567	43	339513	107.223 ug/l	99
59) 2-Hexanone	9.427	43	249683	107.708 ug/l	99
61) Tetrachloroethene	9.268	164	37755	20.953 ug/l	98
62) Toluene	8.714	91	208807	21.110 ug/l	99
64) Chlorobenzene	10.073	112	131027	21.329 ug/l	99
65) 1,1,1,2-Tetrachloroethane	10.159	131	42864	19.424 ug/l	98
66) Ethyl Benzene	10.189	91	225942	20.931 ug/l	97
67) m/p-Xylenes	10.299	106	175917	44.334 ug/l	94
68) o-Xylene	10.640	106	86089	21.617 ug/l	97
69) Styrene	10.652	104	142158	21.741 ug/l	99
70) Isopropylbenzene	10.957	105	219191	21.894 ug/l	100
71) 1,1,2,2-Tetrachloroethane	11.207	83	72490	21.538 ug/l	99
72) 1,2,3-Trichloropropane	11.238	75	57752m	20.396 ug/l	
73) Bromobenzene	11.195	156	50866	21.809 ug/l	94
74) n-propylbenzene	11.299	91	252990	22.248 ug/l	99
75) 2-Chlorotoluene	11.360	91	150507	21.052 ug/l	99
76) 1,3,5-Trimethylbenzene	11.451	105	181381	22.309 ug/l	99
77) t-1,4-Dichloro-2-butene	11.018	75	25474	19.017 ug/l	92
78) 4-Chlorotoluene	11.451	91	168899	21.440 ug/l	97
79) tert-butylbenzene	11.713	119	185558	22.216 ug/l	97
80) 1,2,4-Trimethylbenzene	11.750	105	176588	21.527 ug/l	97
81) sec-Butylbenzene	11.884	105	233927	23.454 ug/l	100
82) p-Isopropyltoluene	12.006	119	187942	22.896 ug/l	98
83) 1,3-Dichlorobenzene	11.969	146	90729	21.901 ug/l	97
84) 1,4-Dichlorobenzene	12.036	146	91517	22.535 ug/l	98
85) n-Butylbenzene	12.329	91	166628	23.418 ug/l	100
86) Hexachloroethane	12.536	117	36829	20.395 ug/l	99
87) 1,2-Dichlorobenzene	12.335	146	92167	22.280 ug/l	98
88) 1,2-Dibromo-3-Chloropr...	12.939	75	13700	16.900 ug/l	93
89) 1,2,4-Trichlorobenzene	13.585	180	55884	21.738 ug/l	99
90) Hexachlorobutadiene	13.719	225	22719	22.847 ug/l	98
91) Naphthalene	13.774	128	199347	20.727 ug/l	100
92) 1,2,3-Trichlorobenzene	13.957	180	56235	21.507 ug/l	99

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

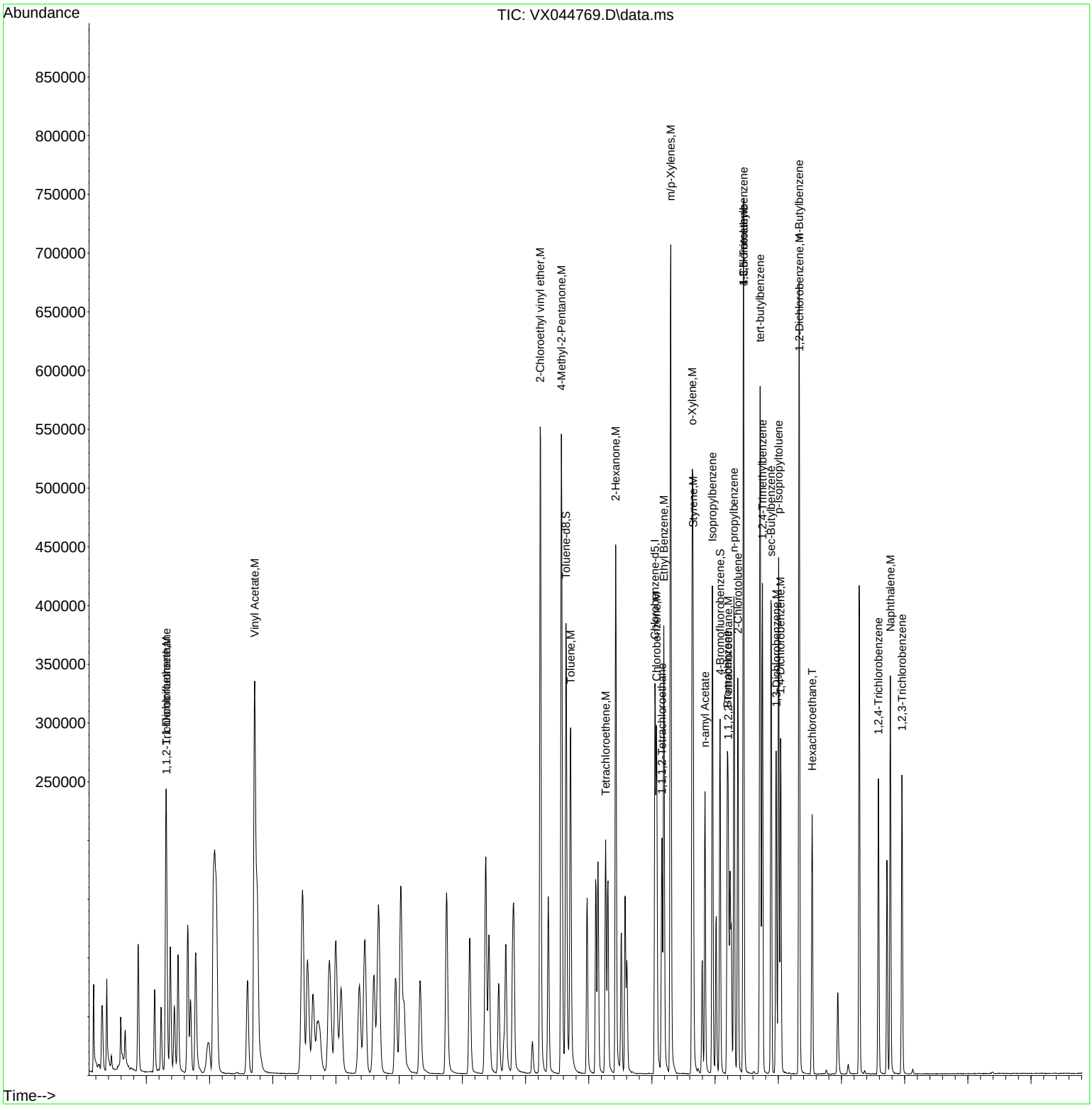
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044769.D
Acq On : 30 Jan 2025 09:23
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jan 30 12:08:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VSTDCCC020

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025



Sample Results: **VX044769.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044769.D
Acq On : 30 Jan 2025 09:23
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Jan 30 12:08:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 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	89	0.00
2	M	Dichlorodifluoromethane	2.667	2.620	1.8	88	0.00
3	M	Chloromethane	2.806	3.021	-7.7	93	0.00
4	M	Vinyl Chloride	2.745	2.944	-7.2	96	0.00
5	M	Bromomethane	0.663	0.748	-12.8	103	0.00
6	M	Chloroethane	0.435	0.960	-120.7#	199#	0.00
7	M	Trichlorofluoromethane	3.006	3.476	-15.6	105	0.00
8	T	Diethyl Ether	1.160	1.129	2.7	87	0.00
9		1,1,2-Trichlorotrifluoroeth	2.154	2.476	-14.9	106	0.00
10	M	1,1-Dichloroethene	2.216	2.395	-8.1	99	0.00
11		Methyl Iodide	3.071	3.195	-4.0	91	0.00
12		Methyl Acetate	3.235	3.603	-11.4	102	0.00
13	M	Acrolein	0.358	0.382	-6.7	116	0.00
14	M	Acrylonitrile	1.179	1.317	-11.7	98	0.00
15	M	Acetone	0.316	0.387	-22.5	111	0.00
16	M	Carbon Disulfide	6.158	6.310	-2.5	92	0.00
17		Allyl chloride	3.996	4.272	-6.9	94	0.00
18	M	Methylene Chloride	2.480	2.671	-7.7	94	0.00
19	M	trans-1,2-Dichloroethene	2.203	2.351	-6.7	95	0.00
20	T	Diisopropyl ether	7.253	8.124	-12.0	97	0.00
21	M	1,1-Dichloroethane	4.303	4.590	-6.7	94	0.00
22	M	cis-1,2-Dichloroethene	2.727	2.910	-6.7	92	0.00
23	M	tert-Butyl Alcohol	0.570	0.566	0.7	86	0.00
24	M	Methyl tert-Butyl Ether	7.678	7.700	-0.3	88	0.00
25	M	Chloroform	4.275	4.326	-1.2	89	0.00
26		Cyclohexane	3.616	4.169	-15.3	104	0.00
27	s	1,2-Dichloroethane-d4	2.896	2.548	12.0	79	0.00
28	I	1,4-Difluorobenzene	1.000	1.000	0.0	89	0.00
29		1,1-Dichloropropene	0.522	0.553	-5.9	95	0.00
30	M	2-Butanone	0.287	0.323	-12.5	98	0.00
31		2,2-Dichloropropane	0.722	0.703	2.6	86	-0.01
32	M	1,1,1-Trichloroethane	0.692	0.678	2.0	86	0.00
33	M	Carbon Tetrachloride	0.583	0.578	0.9	88	0.00
34	M	Benzene	1.665	1.815	-9.0	94	0.00
35		Methacrylonitrile	0.320	0.331	-3.4	91	0.00
36	M	1,2-Dichloroethane	0.595	0.545	8.4	79	0.00
37	M	Trichloroethene	0.402	0.426	-6.0	94	0.00
38		Methylcyclohexane	0.709	0.780	-10.0	101	0.00
39	M	1,2-Dichloropropane	0.415	0.438	-5.5	91	0.00
40		Dibromomethane	0.309	0.305	1.3	87	0.00
41	M	Bromodichloromethane	0.637	0.629	1.3	86	0.00
42	M	Vinyl Acetate	1.138	1.210	-6.3	91	0.00
43		Ethyl Acetate	0.562	0.619	-10.1	93	-0.01
44		Isopropyl Acetate	1.010	1.029	-1.9	88	0.00
45	T	1,4-Dioxane	0.010	0.011	-10.0	96	-0.02
46		Methyl methacrylate	0.494	0.500	-1.2	88	0.00
47		n-amyl Acetate	0.848	0.915	-7.9	91	0.00
48	M	t-1,3-Dichloropropene	0.673	0.654	2.8	84	0.00

Sample Results: **VX044769.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044769.D
Acq On : 30 Jan 2025 09:23
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Jan 30 12:08:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 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	0.721	0.724	-0.4	86	0.00
50	M	1,1,2-Trichloroethane	0.397	0.433	-9.1	92	0.00
51		Ethyl methacrylate	0.691	0.713	-3.2	88	0.00
52		1,3-Dichloropropane	0.687	0.745	-8.4	93	0.00
53	M	Dibromochloromethane	0.475	0.482	-1.5	86	0.00
54	M	1,2-Dibromoethane	0.420	0.442	-5.2	90	0.00
55	M	2-Chloroethyl vinyl ether	0.335	0.427	-27.5#	109	0.00
56	M	Bromoform	0.315	0.314	0.3	87	0.00
57	I	Chlorobenzene-d5	1.000	1.000	0.0	91	0.00
58	M	4-Methyl-2-Pentanone	0.632	0.678	-7.3	95	0.00
59	M	2-Hexanone	0.463	0.499	-7.8	95	0.00
60	S	4-Bromofluorobenzene	0.583	0.559	4.1	88	0.00
61	M	Tetrachloroethene	0.360	0.377	-4.7	97	0.00
62	M	Toluene	1.975	2.085	-5.6	96	0.00
63	S	Toluene-d8	1.632	1.603	1.8	90	0.00
64	M	Chlorobenzene	1.227	1.308	-6.6	96	0.00
65		1,1,1,2-Tetrachloroethane	0.441	0.428	2.9	87	0.00
66	M	Ethyl Benzene	2.156	2.256	-4.6	94	0.00
67	M	m/p-Xylenes	0.792	0.878	-10.9	97	0.00
68	M	o-Xylene	0.795	0.860	-8.2	95	0.00
69	M	Styrene	1.306	1.419	-8.7	95	0.00
70		Isopropylbenzene	1.999	2.189	-9.5	97	0.00
71	M	1,1,2,2-Tetrachloroethane	0.672	0.724	-7.7	96	0.00
72		1,2,3-Trichloropropane	0.565	0.577	-2.1	90	0.00
73		Bromobenzene	0.466	0.508	-9.0	97	0.00
74		n-propylbenzene	2.271	2.526	-11.2	99	0.00
75		2-Chlorotoluene	1.428	1.503	-5.3	93	0.00
76		1,3,5-Trimethylbenzene	1.624	1.811	-11.5	98	0.00
77		t-1,4-Dichloro-2-butene	0.268	0.254	5.2	86	0.00
78		4-Chlorotoluene	1.573	1.687	-7.2	95	0.00
79		tert-butylbenzene	1.668	1.853	-11.1	97	0.00
80		1,2,4-Trimethylbenzene	1.638	1.763	-7.6	95	0.00
81		sec-Butylbenzene	1.992	2.336	-17.3	104	0.00
82		p-Isopropyltoluene	1.639	1.877	-14.5	101	0.00
83	M	1,3-Dichlorobenzene	0.827	0.906	-9.6	98	0.00
84	M	1,4-Dichlorobenzene	0.811	0.914	-12.7	99	0.00
85		n-Butylbenzene	1.421	1.664	-17.1	106	0.00
86	T	Hexachloroethane	0.361	0.368	-1.9	93	0.00
87	M	1,2-Dichlorobenzene	0.826	0.920	-11.4	98	0.00
88		1,2-Dibromo-3-Chloropropane	0.162	0.137	15.4	78	0.00
89		1,2,4-Trichlorobenzene	0.513	0.558	-8.8	102	0.00
90		Hexachlorobutadiene	0.199	0.227	-14.1	103	0.00
91	M	Naphthalene	1.921	1.991	-3.6	93	0.00
92		1,2,3-Trichlorobenzene	0.522	0.562	-7.7	97	0.00

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

Sample Results: **VX044769.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044769.D
Acq On : 30 Jan 2025 09:23
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Jan 30 12:08:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 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	89	0.00
2	M	Dichlorodifluoromethane	20.000	19.644	1.8	88	0.00
3	M	Chloromethane	20.000	21.534	-7.7	93	0.00
4	M	Vinyl Chloride	20.000	21.449	-7.2	96	0.00
5	M	Bromomethane	20.000	22.562	-12.8	103	0.00
6	M	Chloroethane	20.000	44.108	-120.5#	199	0.00
7	M	Trichlorofluoromethane	20.000	23.124	-15.6	105	0.00
8	T	Diethyl Ether	20.000	19.472	2.6	87	0.00
9		1,1,2-Trichlorotrifluoroeth	20.000	22.994	-15.0	106	0.00
10	M	1,1-Dichloroethene	20.000	21.617	-8.1	99	0.00
11		Methyl Iodide	20.000	20.807	-4.0	91	0.00
12		Methyl Acetate	20.000	22.274	-11.4	102	0.00
13	M	Acrolein	100.000	106.677	-6.7	116	0.00
14	M	Acrylonitrile	100.000	111.732	-11.7	98	0.00
15	M	Acetone	100.000	122.217	-22.2	111	0.00
16	M	Carbon Disulfide	20.000	20.493	-2.5	92	0.00
17		Allyl chloride	20.000	21.380	-6.9	94	0.00
18	M	Methylene Chloride	20.000	21.541	-7.7	94	0.00
19	M	trans-1,2-Dichloroethene	20.000	21.336	-6.7	95	0.00
20	T	Diisopropyl ether	20.000	22.401	-12.0	97	0.00
21	M	1,1-Dichloroethane	20.000	21.336	-6.7	94	0.00
22	M	cis-1,2-Dichloroethene	20.000	21.344	-6.7	92	0.00
23	M	tert-Butyl Alcohol	100.000	99.185	0.8	86	0.00
24	M	Methyl tert-Butyl Ether	20.000	20.057	-0.3	88	0.00
25	M	Chloroform	20.000	20.235	-1.2	89	0.00
26		Cyclohexane	20.000	23.055	-15.3	104	0.00
27	s	1,2-Dichloroethane-d4	30.000	26.391	12.0	79	0.00
28	I	1,4-Difluorobenzene	30.000	30.000	0.0	89	0.00
29		1,1-Dichloropropene	20.000	21.196	-6.0	95	0.00
30	M	2-Butanone	100.000	112.619	-12.6	98	0.00
31		2,2-Dichloropropane	20.000	19.476	2.6	86	-0.01
32	M	1,1,1-Trichloroethane	20.000	19.611	1.9	86	0.00
33	M	Carbon Tetrachloride	20.000	19.810	1.0	88	0.00
34	M	Benzene	20.000	21.800	-9.0	94	0.00
35		Methacrylonitrile	20.000	20.642	-3.2	91	0.00
36	M	1,2-Dichloroethane	20.000	18.311	8.4	79	0.00
37	M	Trichloroethene	20.000	21.202	-6.0	94	0.00
38		Methylcyclohexane	20.000	22.009	-10.0	101	0.00
39	M	1,2-Dichloropropane	20.000	21.078	-5.4	91	0.00
40		Dibromomethane	20.000	19.770	1.2	87	0.00
41	M	Bromodichloromethane	20.000	19.739	1.3	86	0.00
42	M	Vinyl Acetate	100.000	106.320	-6.3	91	0.00
43		Ethyl Acetate	20.000	22.024	-10.1	93	-0.01
44		Isopropyl Acetate	20.000	20.373	-1.9	88	0.00
45	T	1,4-Dioxane	400.000	457.656	-14.4	96	-0.02
46		Methyl methacrylate	20.000	20.223	-1.1	88	0.00
47		n-amyl Acetate	20.000	21.575	-7.9	91	0.00
48	M	t-1,3-Dichloropropene	20.000	19.438	2.8	84	0.00

Sample Results: **VX044769.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044769.D
Acq On : 30 Jan 2025 09:23
Operator : JC/MD
Sample : VSTDCCC020
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_X
LabSampleId :
VSTDCCC020

Quant Time: Jan 30 12:08:28 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 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	20.065	-0.3	86	0.00
50	M	1,1,2-Trichloroethane	20.000	21.793	-9.0	92	0.00
51		Ethyl methacrylate	20.000	20.653	-3.3	88	0.00
52		1,3-Dichloropropane	20.000	21.677	-8.4	93	0.00
53	M	Dibromochloromethane	20.000	20.315	-1.6	86	0.00
54	M	1,2-Dibromoethane	20.000	21.036	-5.2	90	0.00
55	M	2-Chloroethyl vinyl ether	100.000	127.538	-27.5#	109	0.00
56	M	Bromoform	20.000	19.947	0.3	87	0.00
57	I	Chlorobenzene-d5	30.000	30.000	0.0	91	0.00
58	M	4-Methyl-2-Pentanone	100.000	107.223	-7.2	95	0.00
59	M	2-Hexanone	100.000	107.708	-7.7	95	0.00
60	S	4-Bromofluorobenzene	30.000	28.793	4.0	88	0.00
61	M	Tetrachloroethene	20.000	20.953	-4.8	97	0.00
62	M	Toluene	20.000	21.110	-5.5	96	0.00
63	S	Toluene-d8	30.000	29.466	1.8	90	0.00
64	M	Chlorobenzene	20.000	21.329	-6.6	96	0.00
65		1,1,1,2-Tetrachloroethane	20.000	19.424	2.9	87	0.00
66	M	Ethyl Benzene	20.000	20.931	-4.7	94	0.00
67	M	m/p-Xylenes	40.000	44.334	-10.8	97	0.00
68	M	o-Xylene	20.000	21.617	-8.1	95	0.00
69	M	Styrene	20.000	21.741	-8.7	95	0.00
70		Isopropylbenzene	20.000	21.894	-9.5	97	0.00
71	M	1,1,2,2-Tetrachloroethane	20.000	21.538	-7.7	96	0.00
72		1,2,3-Trichloropropane	20.000	20.396	-2.0	90	0.00
73		Bromobenzene	20.000	21.809	-9.0	97	0.00
74		n-propylbenzene	20.000	22.248	-11.2	99	0.00
75		2-Chlorotoluene	20.000	21.052	-5.3	93	0.00
76		1,3,5-Trimethylbenzene	20.000	22.309	-11.5	98	0.00
77		t-1,4-Dichloro-2-butene	20.000	19.017	4.9	86	0.00
78		4-Chlorotoluene	20.000	21.440	-7.2	95	0.00
79		tert-butylbenzene	20.000	22.216	-11.1	97	0.00
80		1,2,4-Trimethylbenzene	20.000	21.527	-7.6	95	0.00
81		sec-Butylbenzene	20.000	23.454	-17.3	104	0.00
82		p-Isopropyltoluene	20.000	22.896	-14.5	101	0.00
83	M	1,3-Dichlorobenzene	20.000	21.901	-9.5	98	0.00
84	M	1,4-Dichlorobenzene	20.000	22.535	-12.7	99	0.00
85		n-Butylbenzene	20.000	23.418	-17.1	106	0.00
86	T	Hexachloroethane	20.000	20.395	-2.0	93	0.00
87	M	1,2-Dichlorobenzene	20.000	22.280	-11.4	98	0.00
88		1,2-Dibromo-3-Chloropropane	20.000	16.900	15.5	78	0.00
89		1,2,4-Trichlorobenzene	20.000	21.738	-8.7	102	0.00
90		Hexachlorobutadiene	20.000	22.847	-14.2	103	0.00
91	M	Naphthalene	20.000	20.727	-3.6	93	0.00
92		1,2,3-Trichlorobenzene	20.000	21.507	-7.5	97	0.00

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

QC SAMPLE DATA

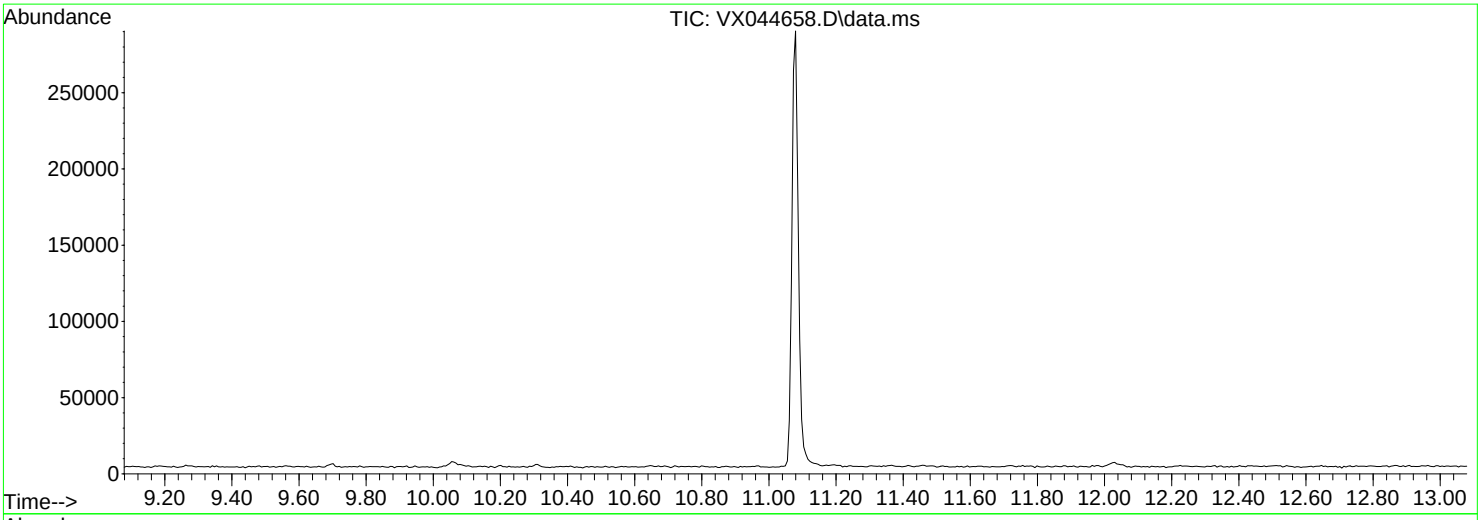
Sample Results: **VX044658.D**

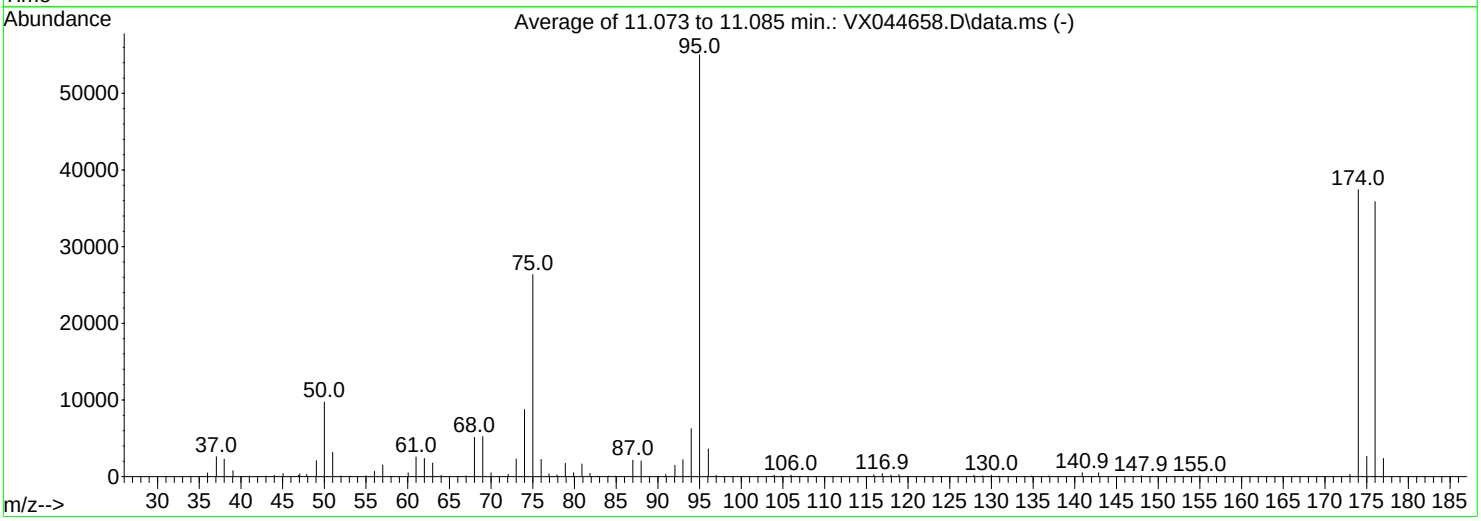
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX011625\
Data File : VX044658.D
Acq On : 16 Jan 2025 08:02
Operator :
Sample : BFB
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
BFB

Integration File: RTEINT.P

Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\82X102824W.M
Title : SW846 8260
Last Update : Mon Oct 28 13:41:34 2024





AutoFind: Scans 1638, 1639, 1640; Background Corrected with Scan 1630

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	9723	PASS
75	95	30	60	47.9	26357	PASS
95	95	100	100	100.0	55021	PASS
96	95	5	9	6.6	3607	PASS
173	174	0.00	2	0.8	316	PASS
174	95	50	100	68.1	37445	PASS
175	174	5	9	7.1	2650	PASS
176	174	95	101	95.8	35883	PASS
177	176	5	9	6.6	2384	PASS

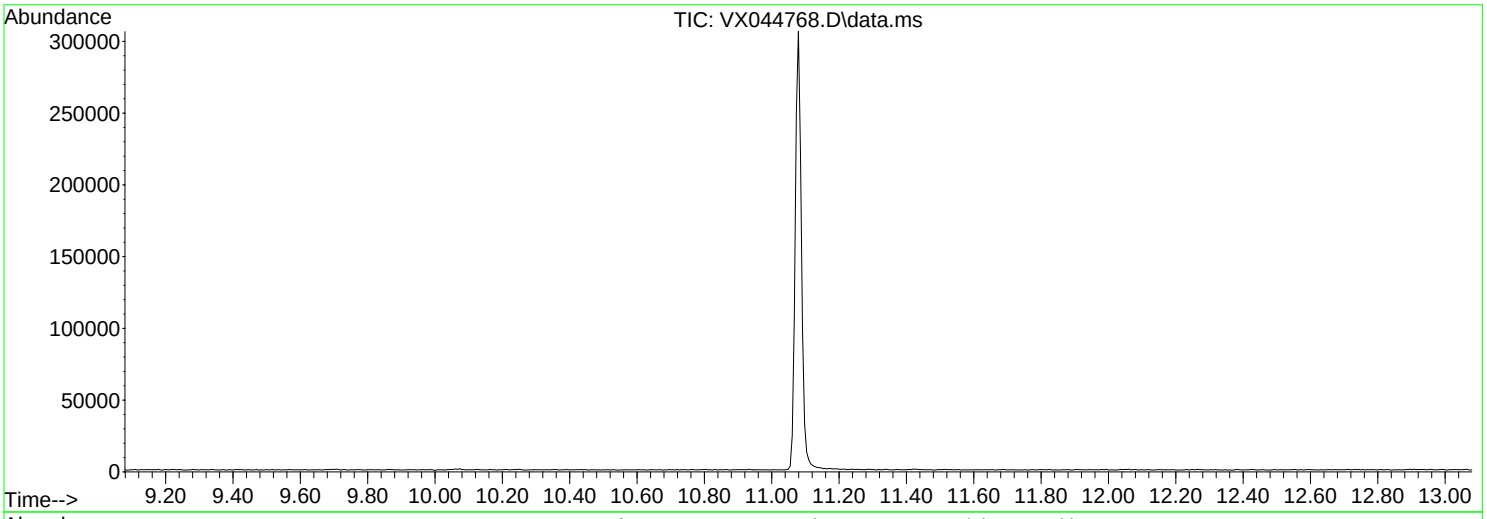
Sample Results: **VX044768.D**

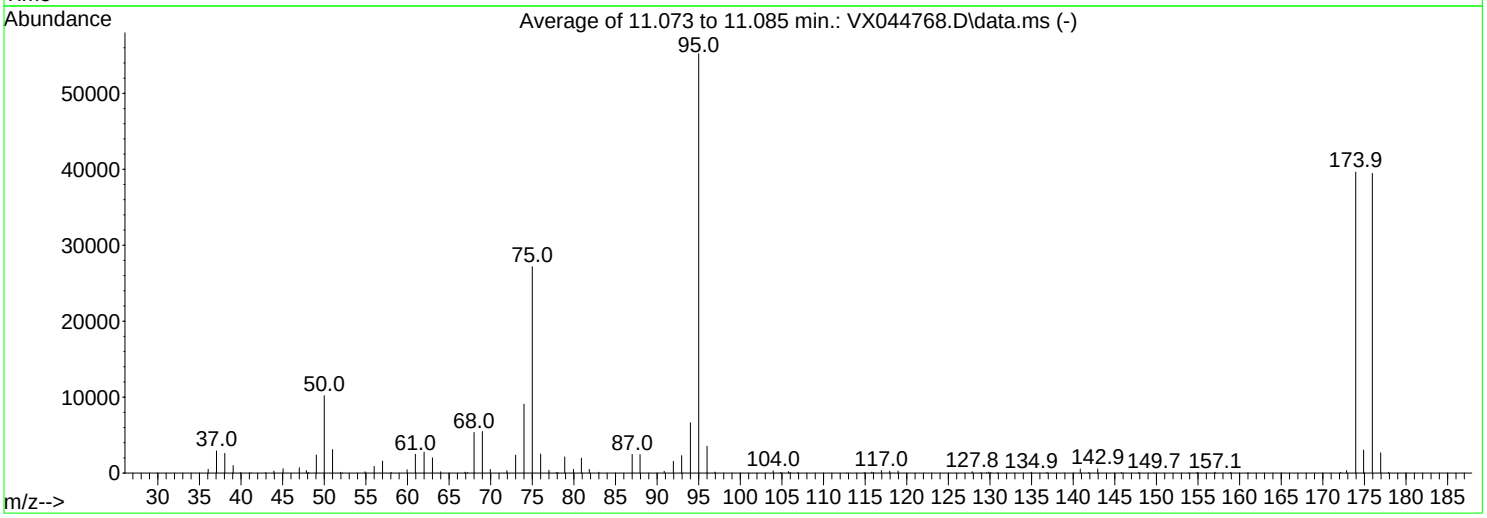
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044768.D
Acq On : 30 Jan 2025 08:49
Operator : JC/MD
Sample : BFB
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
BFB

Integration File: RTEINT3.P

Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
Last Update : Fri Jan 17 01:21:41 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	18.5	10194	PASS
75	95	30	60	49.2	27179	PASS
95	95	100	100	100.0	55216	PASS
96	95	5	9	6.4	3536	PASS
173	174	0.00	2	0.8	330	PASS
174	95	50	100	71.8	39645	PASS
175	174	5	9	7.7	3034	PASS
176	174	95	101	99.6	39472	PASS
177	176	5	9	6.8	2669	PASS

Raw Data: **VX044772.D**

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

Report of Analysis

Client:	Tully Environmental, Inc		Date Collected:		
Project:	Transfer Station-SPDES		Date Received:		
Client Sample ID:	VX0130WBL01		SDG No.:	Q1212	
Lab Sample ID:	VX0130WBL01		Matrix:	Water	
Analytical Method:	E624.1		% Solid:	0	
Sample Wt/Vol:	5 Units: mL		Final Vol:	5000	uL
Soil Aliquot Vol:	uL		Test:	VOC-BTEX	
GC Column:	DB-624UI ID : 0.18		Level :	LOW	
Prep Method :					

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX044772.D	1		01/30/25 10:44	VX013025

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
71-43-2	Benzene	0.69	U	0.69	5.00	ug/L
108-88-3	Toluene	0.72	U	0.72	5.00	ug/L
100-41-4	Ethyl Benzene	0.73	U	0.73	5.00	ug/L
179601-23-1	m/p-Xylenes	1.70	U	1.70	10.0	ug/L
95-47-6	o-Xylene	0.82	U	0.82	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	28.3		91 - 110	94%	SPK: 30
2037-26-5	Toluene-d8	30.1		91 - 112	100%	SPK: 30
460-00-4	4-Bromofluorobenzene	27.3		63 - 112	91%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	24500	4.891			
540-36-3	1,4-Difluorobenzene	137000	6.757			
3114-55-4	Chlorobenzene-d5	123000	10.049			

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: **VX044772.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044772.D
Acq On : 30 Jan 2025 10:44
Operator : JC/MD
Sample : VX0130WBL01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBL01

Quant Time: Jan 30 12:09:36 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

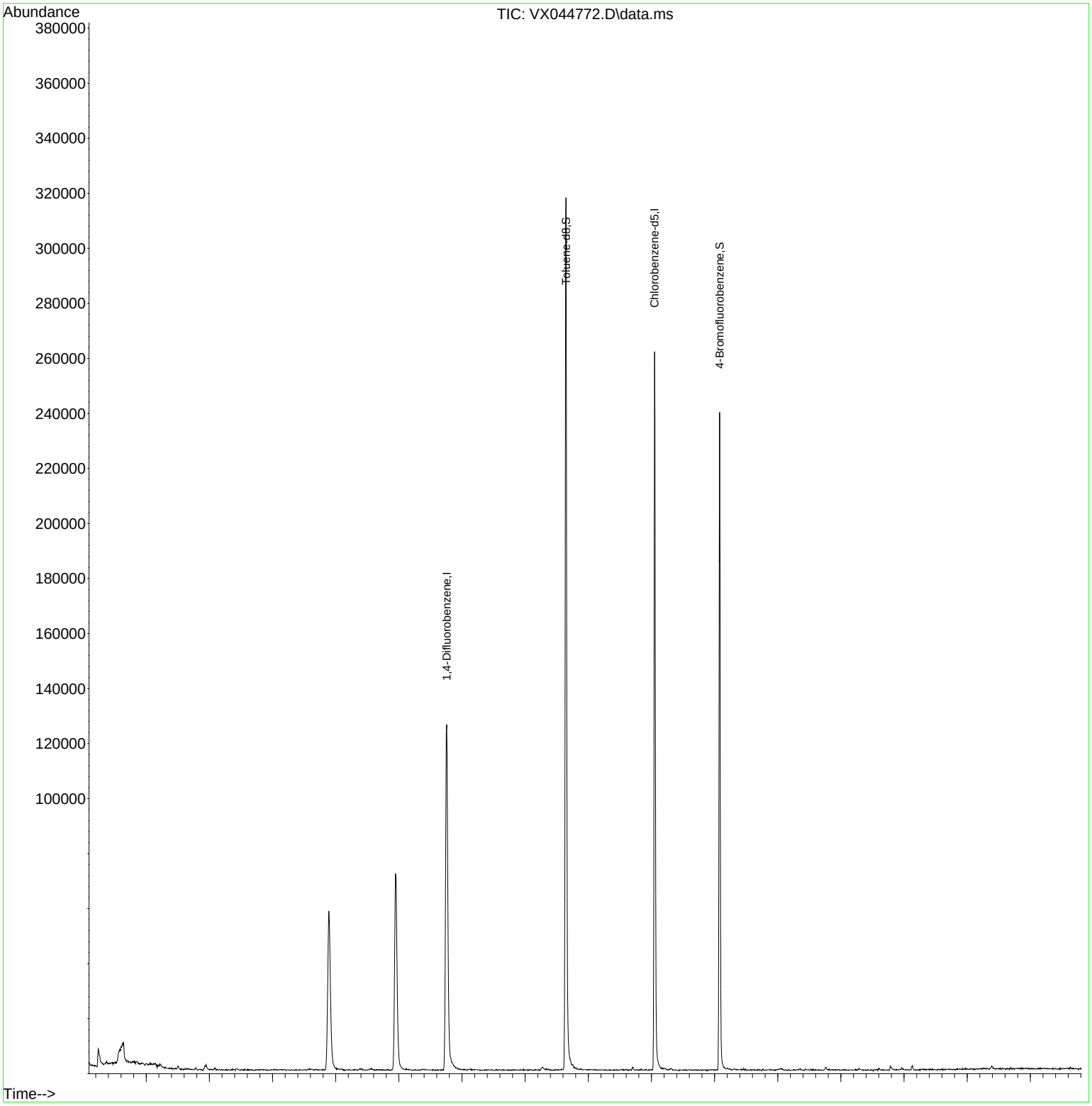
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	24468	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	137072	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	123214	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.946	65	66920	28.330	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 94.433%			
60) 4-Bromofluorobenzene	11.079	95	65331	27.298	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 91.000%			
63) Toluene-d8	8.647	98	201766	30.107	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 100.367%			
Target Compounds						Qvalue

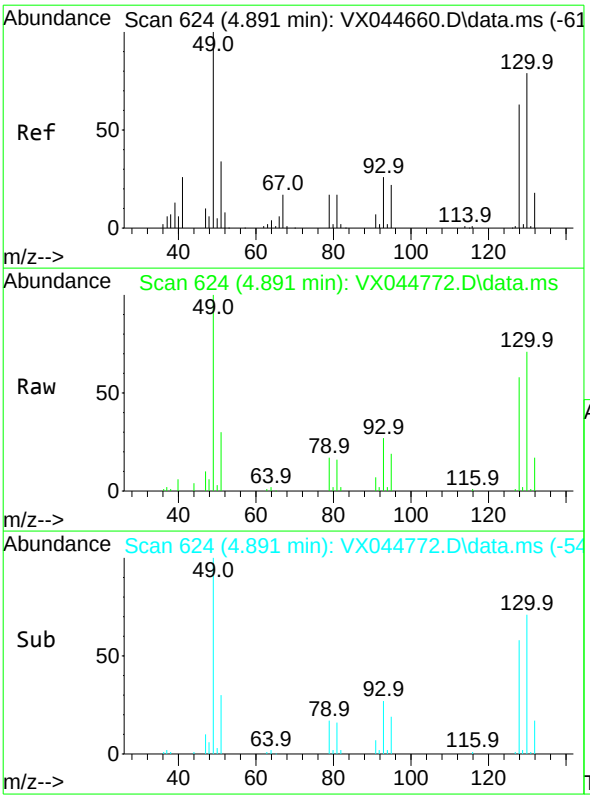
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044772.D
Acq On : 30 Jan 2025 10:44
Operator : JC/MD
Sample : VX0130WBL01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBL01

Quant Time: Jan 30 12:09:36 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration



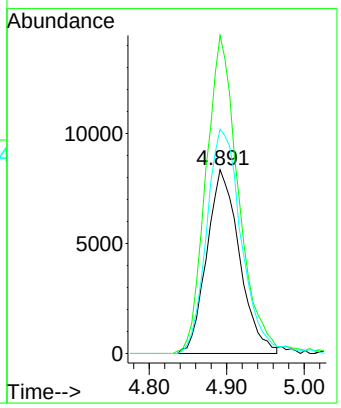


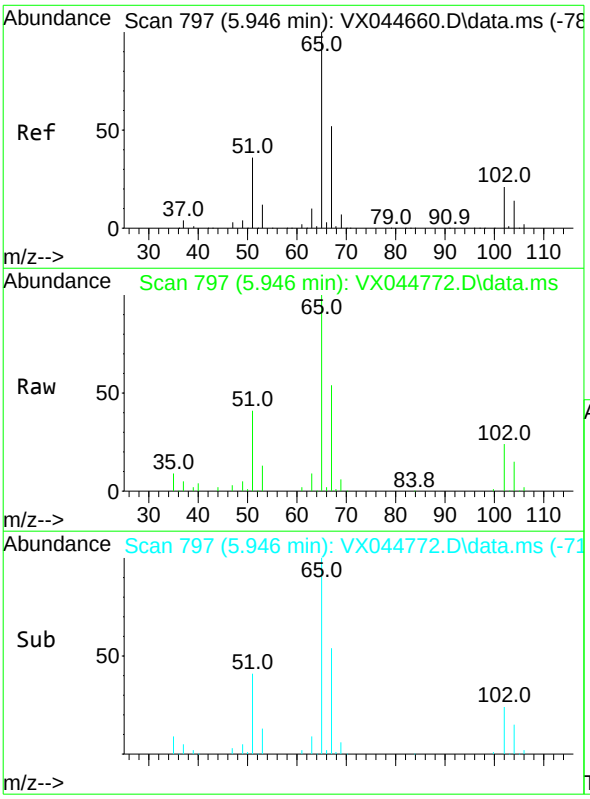
#1
Bromochloromethane
Concen: 30.000 ug/l
RT: 4.891 min Scan# 62
Delta R.T. 0.000 min
Lab File: VX044772.D
Acq: 30 Jan 2025 10:44

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBL01

Tgt Ion:128 Resp: 24468

Ion	Ratio	Lower	Upper
128	100		
49	170.7	0.0	411.5
130	129.0	0.0	324.3

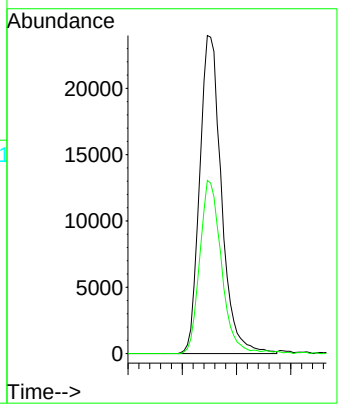


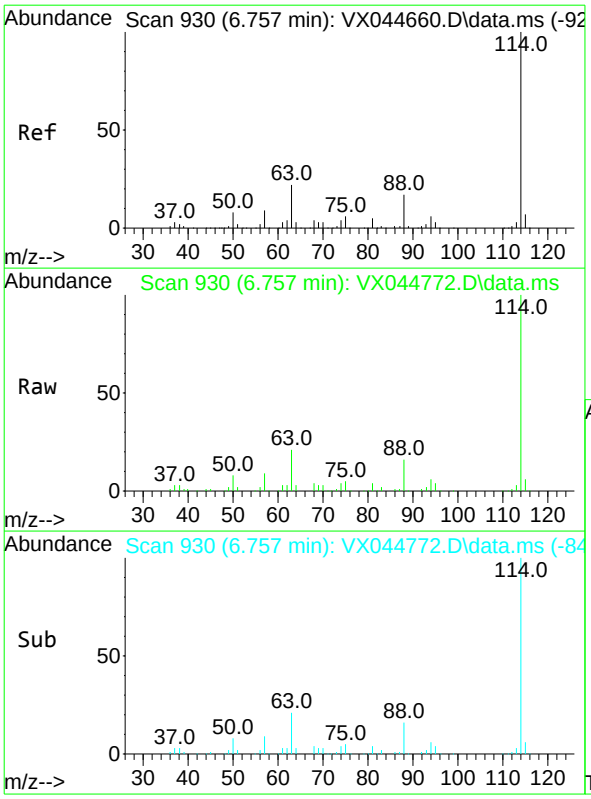


#27
1,2-Dichloroethane-d4
Concen: 28.330 ug/l
RT: 5.946 min Scan# 797
Delta R.T. 0.000 min
Lab File: VX044772.D
Acq: 30 Jan 2025 10:44

Tgt Ion: 65 Resp: 66920

Ion	Ratio	Lower	Upper
65	100		
67	53.4	41.4	62.2



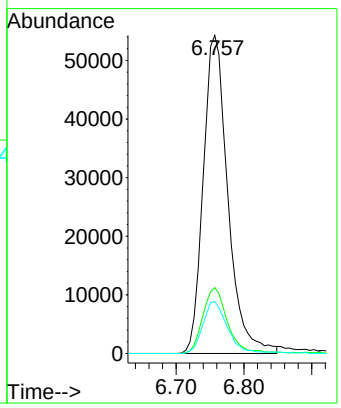


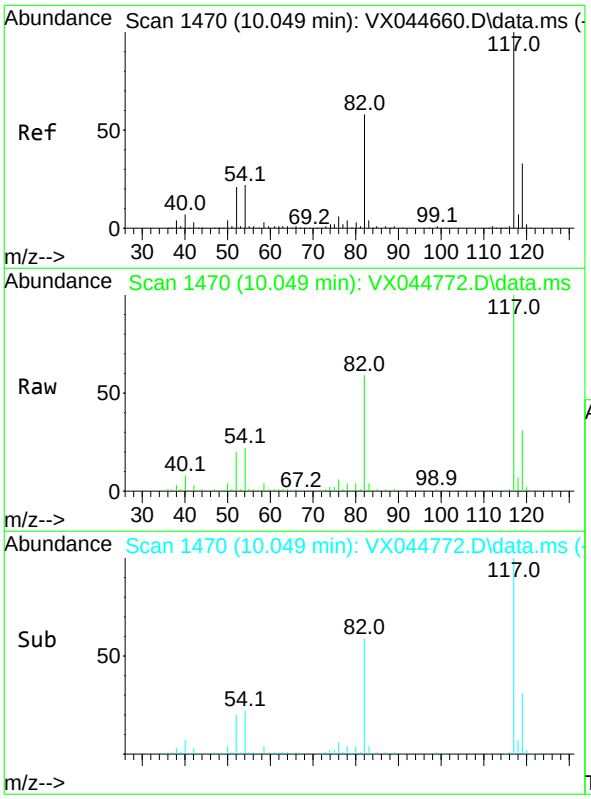
#28
1,4-Difluorobenzene
Concen: 30.000 ug/l
RT: 6.757 min Scan# 93
Delta R.T. 0.000 min
Lab File: VX044772.D
Acq: 30 Jan 2025 10:44

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBL01

Tgt Ion:114 Resp: 137072

Ion	Ratio	Lower	Upper
114	100		
63	20.1	16.6	24.8
88	16.3	13.4	20.2

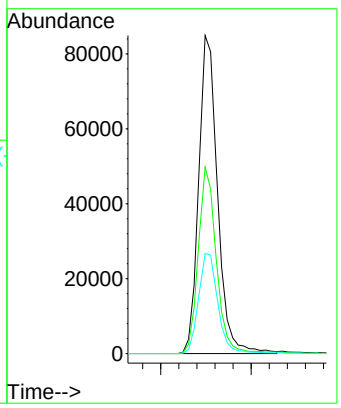


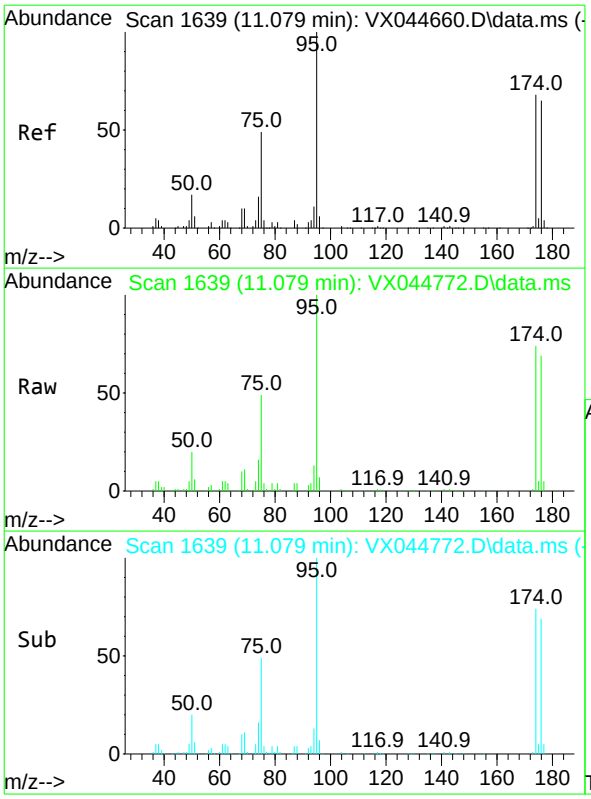


#57
Chlorobenzene-d5
Concen: 30.000 ug/l
RT: 10.049 min Scan# 1470
Delta R.T. 0.000 min
Lab File: VX044772.D
Acq: 30 Jan 2025 10:44

Tgt Ion:117 Resp: 123214

Ion	Ratio	Lower	Upper
117	100		
82	55.5	45.8	68.6
119	32.3	25.8	38.6



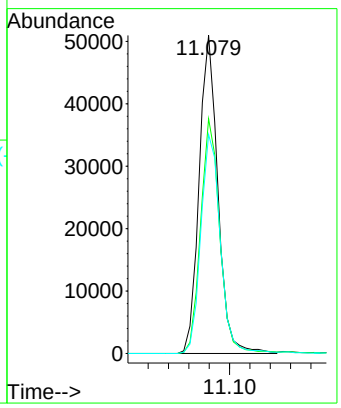


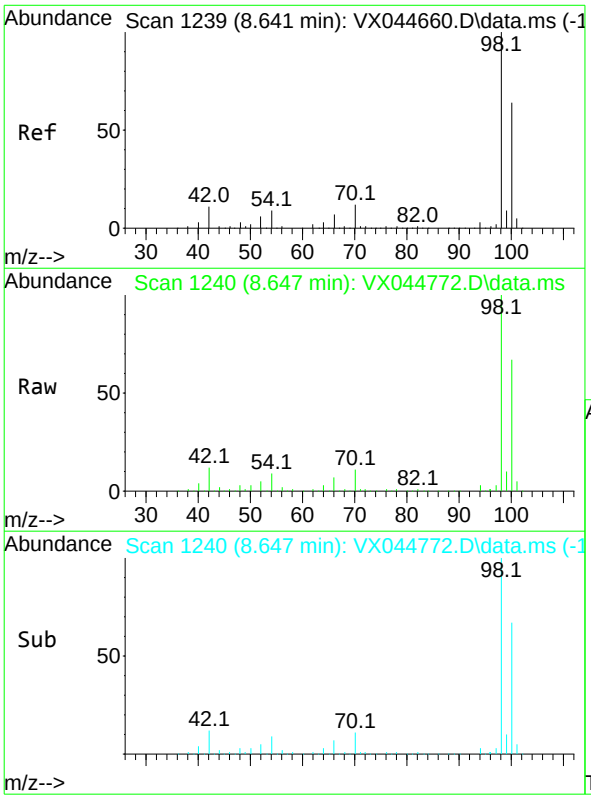
#60
4-Bromofluorobenzene
Concen: 27.298 ug/l
RT: 11.079 min Scan# 16
Delta R.T. 0.000 min
Lab File: VX044772.D
Acq: 30 Jan 2025 10:44

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBL01

Tgt Ion: 95 Resp: 65331

Ion	Ratio	Lower	Upper
95	100		
174	74.3	54.6	81.8
176	71.3	52.8	79.2

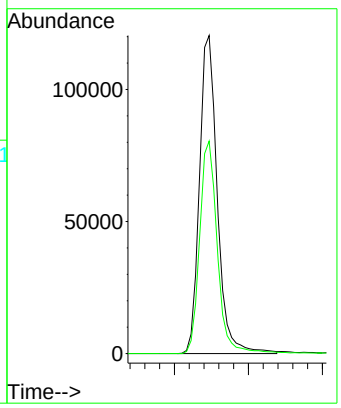




#63
Toluene-d8
Concen: 30.107 ug/l
RT: 8.647 min Scan# 1240
Delta R.T. 0.006 min
Lab File: VX044772.D
Acq: 30 Jan 2025 10:44

Tgt Ion: 98 Resp: 201766

Ion	Ratio	Lower	Upper
98	100		
100	66.1	53.6	80.4



Raw Data: **VX044770.D**

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

Report of Analysis

Client:	Tully Environmental, Inc	Date Collected:	
Project:	Transfer Station-SPDES	Date Received:	
Client Sample ID:	VX0130WBS01	SDG No.:	Q1212
Lab Sample ID:	VX0130WBS01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-BTEX
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX044770.D	1		01/30/25 09:55	VX013025

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
71-43-2	Benzene	20.7		0.69	5.00	ug/L
108-88-3	Toluene	20.5		0.72	5.00	ug/L
100-41-4	Ethyl Benzene	20.3		0.73	5.00	ug/L
179601-23-1	m/p-Xylenes	42.7		1.70	10.0	ug/L
95-47-6	o-Xylene	21.2		0.82	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	27.3		91 - 110	91%	SPK: 30
2037-26-5	Toluene-d8	29.8		91 - 112	99%	SPK: 30
460-00-4	4-Bromofluorobenzene	29.4		63 - 112	98%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	25800	4.885			
540-36-3	1,4-Difluorobenzene	146000	6.751			
3114-55-4	Chlorobenzene-d5	137000	10.049			

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: **VX044770.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044770.D
Acq On : 30 Jan 2025 09:55
Operator : JC/MD
Sample : VX0130WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 30 12:08:49 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.885	128	25818	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.751	114	146320	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	136752	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.946	65	67999	27.282	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 90.933%#			
60) 4-Bromofluorobenzene	11.079	95	78155	29.424	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 98.067%			
63) Toluene-d8	8.641	98	221796	29.820	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 99.400%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.166	85	42788	18.640	ug/l	99
3) Chloromethane	1.307	50	50898	21.079	ug/l	100
4) Vinyl Chloride	1.374	62	49323	20.877	ug/l	95
5) Bromomethane	1.593	94	12935	22.653	ug/l	90
6) Chloroethane	1.666	64	21953	58.603	ug/l	92
7) Trichlorofluoromethane	1.874	101	61058	23.598	ug/l	100
8) Diethyl Ether	2.130	74	18627	18.662	ug/l	89
9) 1,1,2-Trichlorotrifluo...	2.319	101	37645	20.309	ug/l	96
10) 1,1-Dichloroethene	2.313	96	35406	18.566	ug/l	93
11) Methyl Iodide	2.447	142	48100	18.201	ug/l	92
12) Methyl Acetate	2.697	43	55817	20.049	ug/l	92
13) Acrolein	2.233	56	37438	121.596	ug/l	100
14) Acrylonitrile	3.056	53	92738	91.412	ug/l	98
15) Acetone	2.380	58	26088	95.833	ug/l	84
16) Carbon Disulfide	2.502	76	91412	17.249	ug/l	100
17) Allyl chloride	2.654	41	65296	18.986	ug/l	95
18) Methylene Chloride	2.782	84	37987	17.800	ug/l	98
19) trans-1,2-Dichloroethene	3.081	96	34149	18.009	ug/l	94
20) Diisopropyl ether	3.757	45	120496	19.304	ug/l	98
21) 1,1-Dichloroethane	3.599	63	69887	18.874	ug/l	98
22) cis-1,2-Dichloroethene	4.477	96	48899	20.835	ug/l	100
23) tert-Butyl Alcohol	2.977	59	43878	89.422	ug/l #	100
24) Methyl tert-Butyl Ether	3.111	73	123065	18.625	ug/l	94
25) Chloroform	5.080	83	74290	20.191	ug/l	99
26) Cyclohexane	5.458	56	69851	22.445	ug/l #	97
29) 1,1-Dichloropropene	5.684	75	51501	20.236	ug/l	98
30) 2-Butanone	4.550	43	154784	110.714	ug/l	99
31) 2,2-Dichloropropane	4.459	77	65716	18.659	ug/l	100
32) 1,1,1-Trichloroethane	5.373	97	63139	18.720	ug/l	97
33) Carbon Tetrachloride	5.666	117	53246	18.715	ug/l	99
34) Benzene	6.025	78	167850	20.672	ug/l	99
35) Methacrylonitrile	4.916	41	34143	21.851	ug/l	96
36) 1,2-Dichloroethane	6.080	62	52562	18.105	ug/l	99
37) Trichloroethene	7.117	130	38469	19.623	ug/l	97
38) Methylcyclohexane	7.373	83	73517	21.260	ug/l	98
39) 1,2-Dichloropropane	7.421	63	41771	20.630	ug/l	97
40) Dibromomethane	7.574	93	29408	19.536	ug/l	97
41) Bromodichloromethane	7.818	83	59751	19.223	ug/l	98
42) Vinyl Acetate	3.715	43	513765	92.534	ug/l	98

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044770.D
Acq On : 30 Jan 2025 09:55
Operator : JC/MD
Sample : VX0130WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 30 12:08:49 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.709	43	56770	20.700 ug/l #	93
44) Isopropyl Acetate	6.330	43	99533	20.202 ug/l	99
45) 1,4-Dioxane	7.659	88	20119	428.839 ug/l	96
46) Methyl methacrylate	7.690	41	48131	19.958 ug/l	98
47) n-amyl Acetate	10.842	43	89525	21.652 ug/l	99
48) t-1,3-Dichloropropene	8.976	75	62622	19.088 ug/l	99
49) cis-1,3-Dichloropropene	8.360	75	71139	20.222 ug/l	97
50) 1,1,2-Trichloroethane	9.147	97	41359	21.333 ug/l	97
51) Ethyl methacrylate	9.110	69	69275	20.569 ug/l	97
52) 1,3-Dichloropropane	9.305	76	71019	21.180 ug/l	98
53) Dibromochloromethane	9.519	129	45847	19.790 ug/l	98
54) 1,2-Dibromoethane	9.604	107	42560	20.766 ug/l	99
55) 2-Chloroethyl vinyl ether	8.232	63	190226	116.407 ug/l	99
56) Bromoform	10.799	173	30300	19.724 ug/l	99
58) 4-Methyl-2-Pentanone	8.568	43	309380	107.329 ug/l	99
59) 2-Hexanone	9.427	43	226620	107.387 ug/l	99
61) Tetrachloroethene	9.269	164	33435	20.382 ug/l	95
62) Toluene	8.714	91	184763	20.519 ug/l	97
64) Chlorobenzene	10.073	112	115580	20.667 ug/l	98
65) 1,1,1,2-Tetrachloroethane	10.159	131	38028	18.930 ug/l	98
66) Ethyl Benzene	10.189	91	199600	20.311 ug/l	97
67) m/p-Xylenes	10.299	106	154088	42.657 ug/l	95
68) o-Xylene	10.640	106	76914	21.215 ug/l	95
69) Styrene	10.653	104	126099	21.185 ug/l	97
70) Isopropylbenzene	10.957	105	194267	21.315 ug/l	99
71) 1,1,2,2-Tetrachloroethane	11.207	83	64268	20.976 ug/l	98
72) 1,2,3-Trichloropropane	11.238	75	52333m	20.303 ug/l	
73) Bromobenzene	11.195	156	43859	20.657 ug/l	97
74) n-propylbenzene	11.299	91	227698	21.995 ug/l	99
75) 2-Chlorotoluene	11.360	91	136192	20.926 ug/l	97
76) 1,3,5-Trimethylbenzene	11.451	105	158914	21.470 ug/l	99
77) t-1,4-Dichloro-2-butene	11.018	75	22197	18.202 ug/l	95
78) 4-Chlorotoluene	11.451	91	149972	20.913 ug/l	95
79) tert-butylbenzene	11.713	119	162335	21.349 ug/l	98
80) 1,2,4-Trimethylbenzene	11.750	105	156912	21.012 ug/l	98
81) sec-Butylbenzene	11.890	105	202851	22.341 ug/l	99
82) p-Isopropyltoluene	12.006	119	164454	22.008 ug/l	99
83) 1,3-Dichlorobenzene	11.969	146	78935	20.931 ug/l	99
84) 1,4-Dichlorobenzene	12.036	146	79469	21.495 ug/l	99
85) n-Butylbenzene	12.329	91	145814	22.511 ug/l	99
86) Hexachloroethane	12.536	117	32730	19.910 ug/l	99
87) 1,2-Dichlorobenzene	12.335	146	80690	21.427 ug/l	98
88) 1,2-Dibromo-3-Chloropr...	12.939	75	12199	16.531 ug/l	91
89) 1,2,4-Trichlorobenzene	13.585	180	48084	20.546 ug/l	99
90) Hexachlorobutadiene	13.719	225	20062	22.162 ug/l	100
91) Naphthalene	13.774	128	177451	20.267 ug/l	99
92) 1,2,3-Trichlorobenzene	13.957	180	49129	20.640 ug/l	99

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

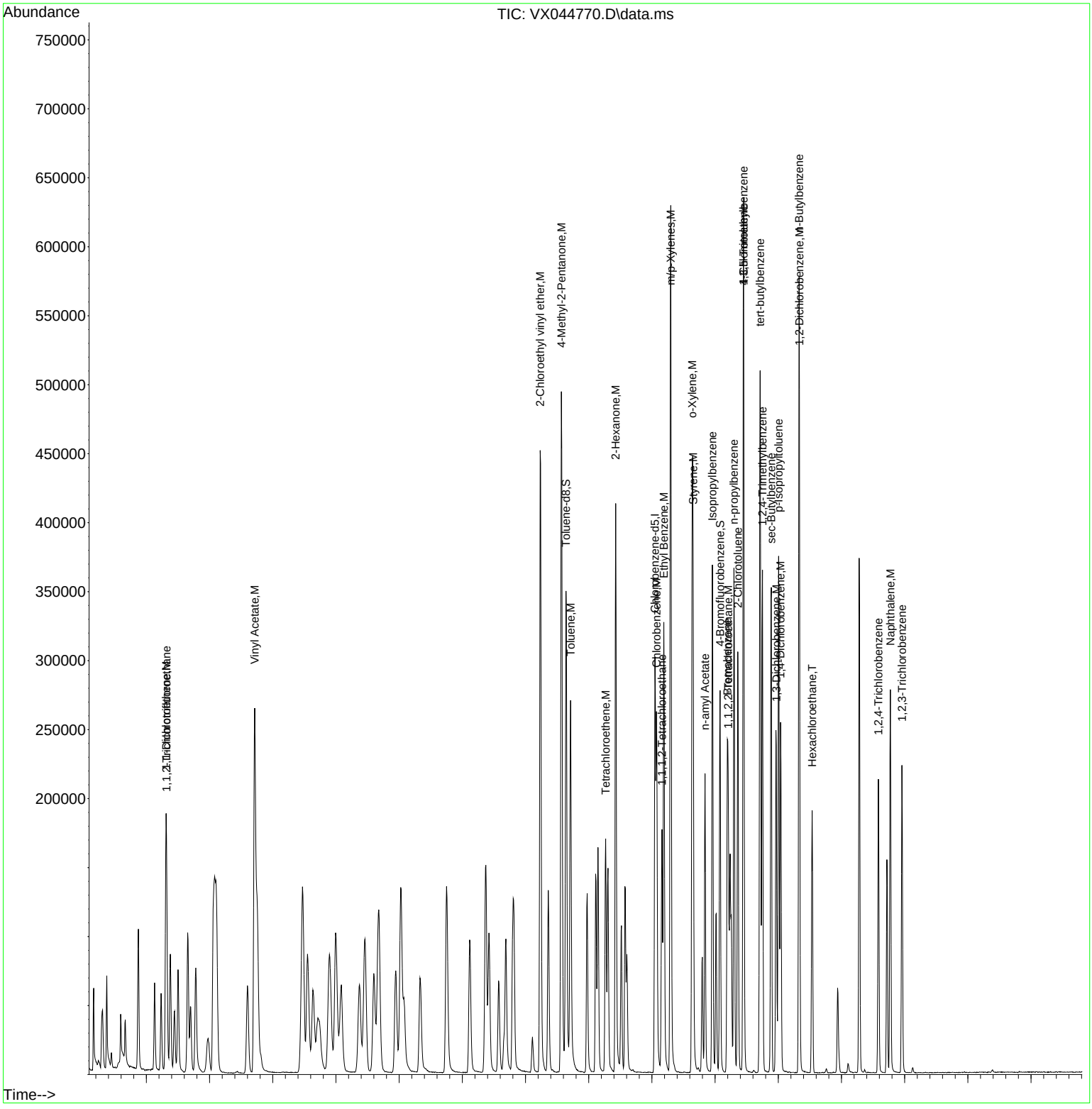
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044770.D
Acq On : 30 Jan 2025 09:55
Operator : JC/MD
Sample : VX0130WBS01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jan 30 12:08:49 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBS01

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025



Raw Data: **VX044771.D**

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

Report of Analysis

Client:	Tully Environmental, Inc	Date Collected:	
Project:	Transfer Station-SPDES	Date Received:	
Client Sample ID:	VX0130WBSD01	SDG No.:	Q1212
Lab Sample ID:	VX0130WBSD01	Matrix:	Water
Analytical Method:	E624.1	% Solid:	0
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOC-BTEX
GC Column:	DB-624UI ID : 0.18	Level :	LOW
Prep Method :			

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX044771.D	1		01/30/25 10:21	VX013025

CAS Number	Parameter	Conc.	Qualifier	MDL	LOQ / CRQL	Units
TARGETS						
71-43-2	Benzene	19.4		0.69	5.00	ug/L
108-88-3	Toluene	18.6		0.72	5.00	ug/L
100-41-4	Ethyl Benzene	18.6		0.73	5.00	ug/L
179601-23-1	m/p-Xylenes	38.7		1.70	10.0	ug/L
95-47-6	o-Xylene	19.2		0.82	5.00	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	27.5		91 - 110	92%	SPK: 30
2037-26-5	Toluene-d8	29.0		91 - 112	97%	SPK: 30
460-00-4	4-Bromofluorobenzene	29.0		63 - 112	97%	SPK: 30
INTERNAL STANDARDS						
74-97-5	Bromochloromethane	25400	4.891			
540-36-3	1,4-Difluorobenzene	142000	6.757			
3114-55-4	Chlorobenzene-d5	132000	10.049			

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: **VX044771.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044771.D
Acq On : 30 Jan 2025 10:21
Operator : JC/MD
Sample : VX0130WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 30 12:09:12 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Bromochloromethane	4.891	128	25350	30.000	ug/l	0.00
28) 1,4-Difluorobenzene	6.757	114	141556	30.000	ug/l	0.00
57) Chlorobenzene-d5	10.049	117	132262	30.000	ug/l	0.00
System Monitoring Compounds						
27) 1,2-Dichloroethane-d4	5.946	65	67372	27.529	ug/l	0.00
Spiked Amount 30.000	Range 91 - 110		Recovery = 91.767%			
60) 4-Bromofluorobenzene	11.079	95	74422	28.970	ug/l	0.00
Spiked Amount 30.000	Range 63 - 112		Recovery = 96.567%			
63) Toluene-d8	8.647	98	208299	28.956	ug/l	0.00
Spiked Amount 30.000	Range 91 - 112		Recovery = 96.533%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.167	85	37286	16.543	ug/l	98
3) Chloromethane	1.307	50	45004	18.982	ug/l	100
4) Vinyl Chloride	1.374	62	41410	17.851	ug/l	98
5) Bromomethane	1.593	94	11074	19.752	ug/l	97
6) Chloroethane	1.666	64	19196	52.189	ug/l	95
7) Trichlorofluoromethane	1.874	101	54133	21.308	ug/l	98
8) Diethyl Ether	2.130	74	20117	20.526	ug/l	96
9) 1,1,2-Trichlorotrifluo...	2.319	101	36098	19.834	ug/l	97
10) 1,1-Dichloroethene	2.313	96	35600	19.013	ug/l	99
11) Methyl Iodide	2.447	142	47979	18.491	ug/l	96
12) Methyl Acetate	2.697	43	60095	21.984	ug/l	99
13) Acrolein	2.233	56	45356	150.033	ug/l	98
14) Acrylonitrile	3.063	53	107433	107.852	ug/l	99
15) Acetone	2.380	58	27986	104.703	ug/l	95
16) Carbon Disulfide	2.502	76	95567	18.365	ug/l	100
17) Allyl chloride	2.654	41	64361	19.060	ug/l	98
18) Methylene Chloride	2.782	84	39704	18.948	ug/l	97
19) trans-1,2-Dichloroethene	3.087	96	36011	19.341	ug/l	88
20) Diisopropyl ether	3.758	45	124642	20.336	ug/l	95
21) 1,1-Dichloroethane	3.605	63	68693	18.894	ug/l	99
22) cis-1,2-Dichloroethene	4.483	96	43587	18.914	ug/l	98
23) tert-Butyl Alcohol	2.977	59	46821m	97.182	ug/l	
24) Methyl tert-Butyl Ether	3.111	73	120275	18.539	ug/l	98
25) Chloroform	5.087	83	67225	18.608	ug/l	92
26) Cyclohexane	5.458	56	62482	20.448	ug/l #	97
29) 1,1-Dichloropropene	5.684	75	46248	18.783	ug/l	98
30) 2-Butanone	4.550	43	143258	105.918	ug/l	99
31) 2,2-Dichloropropane	4.465	77	58266	17.101	ug/l	98
32) 1,1,1-Trichloroethane	5.373	97	57162	17.518	ug/l	99
33) Carbon Tetrachloride	5.666	117	47217	17.154	ug/l	99
34) Benzene	6.032	78	152377	19.397	ug/l	99
35) Methacrylonitrile	4.916	41	30198	19.977	ug/l	96
36) 1,2-Dichloroethane	6.080	62	48140	17.140	ug/l	98
37) Trichloroethene	7.123	130	34962	18.434	ug/l	95
38) Methylcyclohexane	7.373	83	64376	19.243	ug/l	98
39) 1,2-Dichloropropane	7.422	63	37099	18.939	ug/l	96
40) Dibromomethane	7.580	93	26557	18.236	ug/l	100
41) Bromodichloromethane	7.818	83	52359	17.412	ug/l	99
42) Vinyl Acetate	3.715	43	520076	96.823	ug/l	99

Sample Results: **VX044771.D**

Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044771.D
Acq On : 30 Jan 2025 10:21
Operator : JC/MD
Sample : VX0130WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 30 12:09:12 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) Ethyl Acetate	4.709	43	52682	19.856 ug/l #	93
44) Isopropyl Acetate	6.336	43	93220	19.557 ug/l	100
45) 1,4-Dioxane	7.659	88	19709	434.238 ug/l	96
46) Methyl methacrylate	7.690	41	42177	18.077 ug/l	96
47) n-amyl Acetate	10.842	43	81371	20.342 ug/l	98
48) t-1,3-Dichloropropene	8.976	75	56055	17.661 ug/l	99
49) cis-1,3-Dichloropropene	8.360	75	62701	18.423 ug/l	96
50) 1,1,2-Trichloroethane	9.147	97	37380	19.930 ug/l	100
51) Ethyl methacrylate	9.116	69	62446	19.165 ug/l	97
52) 1,3-Dichloropropane	9.305	76	64164	19.780 ug/l	98
53) Dibromochloromethane	9.519	129	41220	18.392 ug/l	100
54) 1,2-Dibromoethane	9.604	107	38976	19.658 ug/l	98
55) 2-Chloroethyl vinyl ether	8.238	63	152336	96.358 ug/l	99
56) Bromoform	10.799	173	27467	18.482 ug/l	97
58) 4-Methyl-2-Pentanone	8.568	43	289527	103.852 ug/l	98
59) 2-Hexanone	9.427	43	209519	102.654 ug/l	99
61) Tetrachloroethene	9.269	164	28728	18.108 ug/l	95
62) Toluene	8.714	91	161738	18.571 ug/l	97
64) Chlorobenzene	10.073	112	100732	18.624 ug/l	99
65) 1,1,1,2-Tetrachloroethane	10.159	131	34248	17.627 ug/l	98
66) Ethyl Benzene	10.189	91	176723	18.594 ug/l	99
67) m/p-Xylenes	10.299	106	135074	38.663 ug/l	96
68) o-Xylene	10.640	106	67389	19.219 ug/l	97
69) Styrene	10.653	104	110448	19.185 ug/l	97
70) Isopropylbenzene	10.957	105	172248	19.541 ug/l	98
71) 1,1,2,2-Tetrachloroethane	11.207	83	58923	19.884 ug/l	99
72) 1,2,3-Trichloropropane	11.238	75	47716m	19.140 ug/l	
73) Bromobenzene	11.195	156	39168	19.074 ug/l	96
74) n-propylbenzene	11.299	91	199273	19.903 ug/l	99
75) 2-Chlorotoluene	11.360	91	120706	19.176 ug/l	99
76) 1,3,5-Trimethylbenzene	11.451	105	140553	19.634 ug/l	100
77) t-1,4-Dichloro-2-butene	11.018	75	20146	17.081 ug/l	99
78) 4-Chlorotoluene	11.451	91	132147	19.053 ug/l	96
79) tert-butylbenzene	11.713	119	150228	20.428 ug/l	99
80) 1,2,4-Trimethylbenzene	11.750	105	143875	19.920 ug/l	99
81) sec-Butylbenzene	11.890	105	183361	20.880 ug/l	99
82) p-Isopropyltoluene	12.006	119	149935	20.746 ug/l	99
83) 1,3-Dichlorobenzene	11.970	146	73399	20.124 ug/l	99
84) 1,4-Dichlorobenzene	12.037	146	72312	20.223 ug/l	99
85) n-Butylbenzene	12.329	91	130026	20.755 ug/l	100
86) Hexachloroethane	12.536	117	28642	18.015 ug/l	99
87) 1,2-Dichlorobenzene	12.335	146	74692	20.507 ug/l	100
88) 1,2-Dibromo-3-Chloropr...	12.939	75	11704	16.398 ug/l	95
89) 1,2,4-Trichlorobenzene	13.585	180	42425	18.743 ug/l	99
90) Hexachlorobutadiene	13.725	225	17611	20.115 ug/l	99
91) Naphthalene	13.774	128	161802	19.107 ug/l	99
92) 1,2,3-Trichlorobenzene	13.957	180	44121	19.165 ug/l	99

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

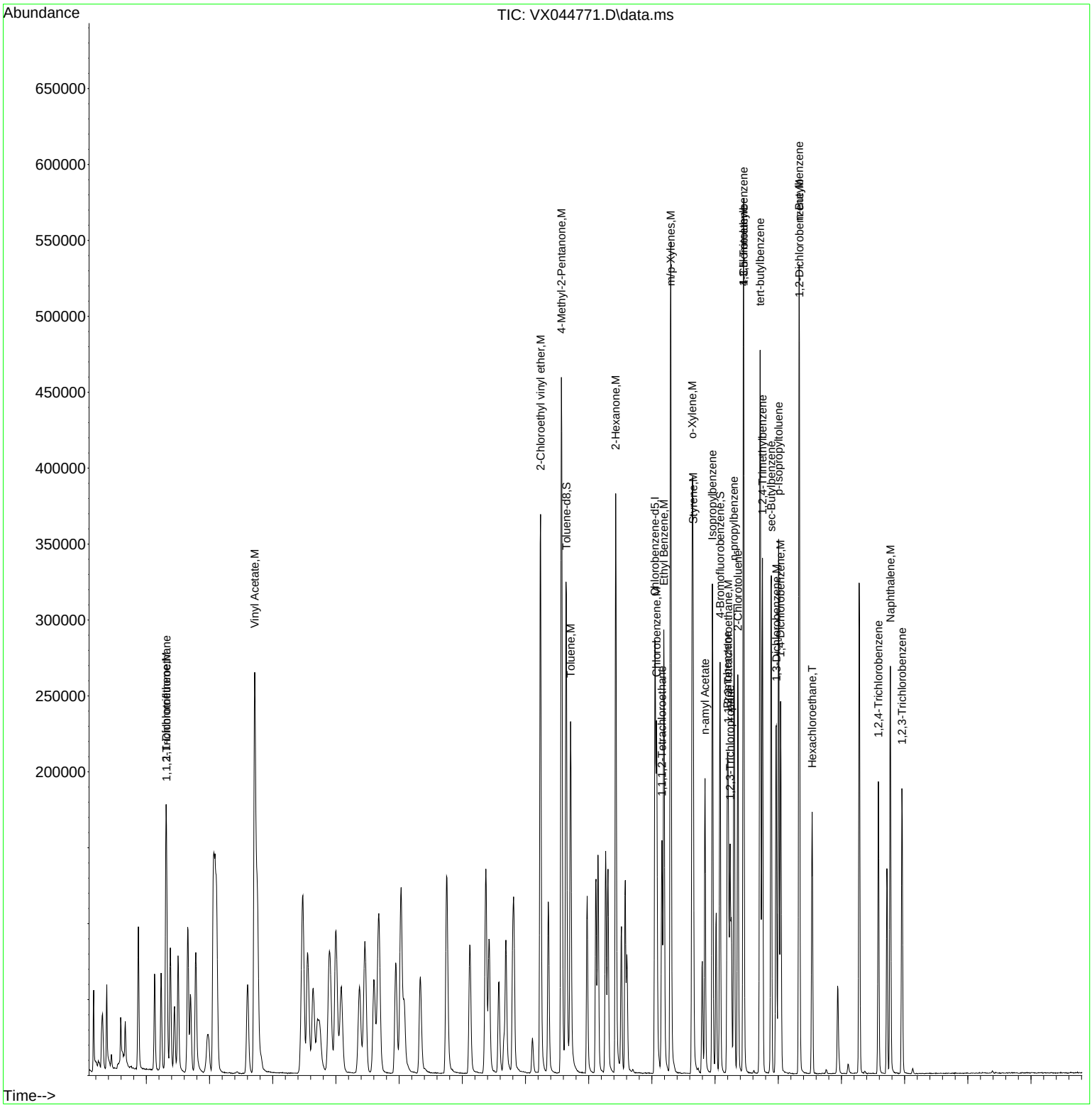
Data Path : Z:\voasrv\HPCHEM1\MSVOA_X\Data\VX013025\
Data File : VX044771.D
Acq On : 30 Jan 2025 10:21
Operator : JC/MD
Sample : VX0130WBSD01
Misc : 5.0mL/MSVOA_X/WATER
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jan 30 12:09:12 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_X\Method\624X011625W.M
Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS
QLast Update : Fri Jan 17 01:21:41 2025
Response via : Initial Calibration

Instrument :
MSVOA_X
ClientSampleId :
VX0130WBSD01

Manual Integrations APPROVED

Reviewed By :John Carlone 01/30/2025
Supervised By :Semsettin Yesilyurt 01/31/2025



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Manual Integration Report

Sequence:	VX011625	Instrument	MSVOA_x

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason

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Manual Integration Report

Sequence:	VX013025	Instrument	MSVOA_x

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC020	VX044769.D	1,2,3-Trichloropropane	JOHN	1/30/2025 12:30:37 PM	SAM	1/31/2025 12:25:24 PM	Peak Integrated by Software
VX0130WBS01	VX044770.D	1,2,3-Trichloropropane	JOHN	1/30/2025 12:30:53 PM	SAM	1/31/2025 12:25:25 PM	Peak Integrated by Software
VX0130WBSD01	VX044771.D	1,2,3-Trichloropropane	JOHN	1/30/2025 12:31:13 PM	SAM	1/31/2025 12:25:27 PM	Peak Integrated by Software
VX0130WBSD01	VX044771.D	tert-Butyl Alcohol	JOHN	1/30/2025 12:31:13 PM	SAM	1/31/2025 12:25:27 PM	Peak Integrated by Software
VSTDCCC020	VX044781.D	1,2,3-Trichloropropane	JOHN	1/31/2025 9:15:38 AM	SAM	1/31/2025 12:25:32 PM	Peak Integrated by Software

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX011625

Review By	Mahesh Dadoda	Review On	1/17/2025 6:39:05 AM		
Supervise By	Semsettin Yesilyurt	Supervise On	1/17/2025 6:41:46 AM		
SubDirectory	VX011625	HP Acquire Method		HP Processing Method	624X011625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP132565
Initial Calibration Stds	VP132567,VP132568,VP132569,VP132570,VP132571
CCC	VP132566,VP132573
Internal Standard/PEM	
ICV/I.BLK	VP132572
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VX044658.D	16 Jan 2025 08:02		Ok
2	VSTDICC005	VX044659.D	16 Jan 2025 08:39		Ok,M
3	VSTDICCC020	VX044660.D	16 Jan 2025 09:02		Ok,M
4	VSTDICC050	VX044661.D	16 Jan 2025 09:25		Ok,M
5	VSTDICC100	VX044662.D	16 Jan 2025 09:49		Ok,M
6	VSTDICC150	VX044663.D	16 Jan 2025 10:12		Ok,M
7	IBLK	VX044664.D	16 Jan 2025 10:35		Ok
8	VSTDICV020	VX044665.D	16 Jan 2025 11:45		Ok,M
9	VX0116WBS01	VX044666.D	16 Jan 2025 12:15		Ok,M
10	VX0116WBSD01	VX044667.D	16 Jan 2025 12:42		Ok,M
11	VX0116WBL01	VX044668.D	16 Jan 2025 13:05		Ok
12	Q1083-01	VX044669.D	16 Jan 2025 13:33		Ok
13	Q1083-02	VX044670.D	16 Jan 2025 13:55		Ok
14	IBLK	VX044671.D	16 Jan 2025 14:18		Ok
15	P4368-09 2.5PPB	VX044672.D	16 Jan 2025 14:46		Ok,M
16	VSTDCCC020	VX044673.D	16 Jan 2025 16:04		Ok,M

M : Manual Integration

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX013025

Review By	John Carlone	Review On	1/30/2025 12:31:40 PM		
Supervise By	Semsettin Yesilyurt	Supervise On	1/31/2025 12:25:37 PM		
SubDirectory	VX013025	HP Acquire Method		HP Processing Method	624X011625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP132770
Initial Calibration Stds	
CCC	VP132771,VP132772
Internal Standard/PEM	
ICV/I.BLK	
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VX044768.D	30 Jan 2025 08:49	JC/MD	Ok
2	VSTDCCC020	VX044769.D	30 Jan 2025 09:23	JC/MD	Ok,M
3	VX0130WBS01	VX044770.D	30 Jan 2025 09:55	JC/MD	Ok,M
4	VX0130WBSD01	VX044771.D	30 Jan 2025 10:21	JC/MD	Ok,M
5	VX0130WBL01	VX044772.D	30 Jan 2025 10:44	JC/MD	Ok
6	Q1212-01	VX044773.D	30 Jan 2025 11:15	JC/MD	ReRun
7	Q1212-02	VX044774.D	30 Jan 2025 11:37	JC/MD	Ok
8	Q1212-01	VX044775.D	30 Jan 2025 12:00	JC/MD	Ok
9	IBLK	VX044776.D	30 Jan 2025 12:23	JC/MD	Ok
10	Q1214-01	VX044777.D	30 Jan 2025 12:46	JC/MD	ReRun
11	IBLK	VX044778.D	30 Jan 2025 13:09	JC/MD	Ok
12	Q1214-01	VX044779.D	30 Jan 2025 13:32	JC/MD	Ok
13	IBLK	VX044780.D	30 Jan 2025 13:55	JC/MD	Ok
14	VSTDCCC020	VX044781.D	30 Jan 2025 16:00	JC/MD	Ok,M

M : Manual Integration

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX011625

Review By	Mahesh Dadoda	Review On	1/17/2025 6:39:05 AM		
Supervise By	Semsettin Yesilyurt	Supervise On	1/17/2025 6:41:46 AM		
SubDirectory	VX011625	HP Acquire Method		HP Processing Method	624X011625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP132565
Initial Calibration Stds	VP132567,VP132568,VP132569,VP132570,VP132571
CCC	VP132566,VP132573
Internal Standard/PEM	
ICV/I.BLK	VP132572
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleId	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VX044658.D	16 Jan 2025 08:02			Ok
2	VSTDICC005	VSTDICC005	VX044659.D	16 Jan 2025 08:39	V13516		Ok,M
3	VSTDICCC020	VSTDICCC020	VX044660.D	16 Jan 2025 09:02			Ok,M
4	VSTDICC050	VSTDICC050	VX044661.D	16 Jan 2025 09:25			Ok,M
5	VSTDICC100	VSTDICC100	VX044662.D	16 Jan 2025 09:49			Ok,M
6	VSTDICC150	VSTDICC150	VX044663.D	16 Jan 2025 10:12			Ok,M
7	IBLK	IBLK	VX044664.D	16 Jan 2025 10:35			Ok
8	VSTDICV020	ICVVX011625	VX044665.D	16 Jan 2025 11:45			Ok,M
9	VX0116WBS01	VX0116WBS01	VX044666.D	16 Jan 2025 12:15			Ok,M
10	VX0116WBSD01	VX0116WBSD01	VX044667.D	16 Jan 2025 12:42			Ok,M
11	VX0116WBL01	VX0116WBL01	VX044668.D	16 Jan 2025 13:05			Ok
12	Q1083-01	001-WILLETS-PT-BLVD	VX044669.D	16 Jan 2025 13:33	vial A pH<2		Ok
13	Q1083-02	002-35TH-AVE(DEC)	VX044670.D	16 Jan 2025 13:55	vial A pH<2		Ok
14	IBLK	IBLK	VX044671.D	16 Jan 2025 14:18			Ok
15	P4368-09 2.5PPB	MDL-WATER-03-QT4-2	VX044672.D	16 Jan 2025 14:46			Ok,M
16	VSTDCCC020	VSTDCCC020EC	VX044673.D	16 Jan 2025 16:04			Ok,M

M : Manual Integration

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Instrument ID: MSVOA_X

Daily Analysis Runlog For Sequence/QCBatch ID # VX013025

Review By	John Carlone	Review On	1/30/2025 12:31:40 PM		
Supervise By	Semsettin Yesilyurt	Supervise On	1/31/2025 12:25:37 PM		
SubDirectory	VX013025	HP Acquire Method		HP Processing Method	624X011625W.M

STD. NAME	STD REF.#
Tune/Reschk	VP132770
Initial Calibration Stds	
CCC	VP132771,VP132772
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	VX044768.D	30 Jan 2025 08:49		JC/MD	Ok
2	VSTDCCC020	VSTDCCC020	VX044769.D	30 Jan 2025 09:23	V13516	JC/MD	Ok,M
3	VX0130WBS01	VX0130WBS01	VX044770.D	30 Jan 2025 09:55		JC/MD	Ok,M
4	VX0130WBSD01	VX0130WBSD01	VX044771.D	30 Jan 2025 10:21		JC/MD	Ok,M
5	VX0130WBL01	VX0130WBL01	VX044772.D	30 Jan 2025 10:44		JC/MD	Ok
6	Q1212-01	001-WILLETS-PT-BLVD	VX044773.D	30 Jan 2025 11:15	vial A pH<2 Surrogate Fail	JC/MD	ReRun
7	Q1212-02	002-35TH-AVE(JAN)	VX044774.D	30 Jan 2025 11:37	vial A pH<2	JC/MD	Ok
8	Q1212-01	001-WILLETS-PT-BLVD	VX044775.D	30 Jan 2025 12:00	vial B pH<2	JC/MD	Ok
9	IBLK	IBLK	VX044776.D	30 Jan 2025 12:23		JC/MD	Ok
10	Q1214-01	PARAMUS-CONDENS/	VX044777.D	30 Jan 2025 12:46	vial A pH<2 Surrogate Fail	JC/MD	ReRun
11	IBLK	IBLK	VX044778.D	30 Jan 2025 13:09		JC/MD	Ok
12	Q1214-01	PARAMUS-CONDENS/	VX044779.D	30 Jan 2025 13:32	vial B pH<2	JC/MD	Ok
13	IBLK	IBLK	VX044780.D	30 Jan 2025 13:55		JC/MD	Ok
14	VSTDCCC020	VSTDCCC020EC	VX044781.D	30 Jan 2025 16:00		JC/MD	Ok,M

M : Manual Integration

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Prep Standard - Chemical Standard Summary

Order ID : Q1212

Test : VOC-BTEX

Prepbatch ID :

Sequence ID/Qc Batch ID: VX013025,

Standard ID :
VP131767,VP132035,VP132403,VP132468,VP132613,VP132770,VP132771,VP132772,

Chemical ID :
V12666,V13391,V13446,V14154,V14175,V14176,V14433,V14439,V14521,V14522,V14580,V14614,V14624,V14627,V14630,V14631,V14632,V14633,V14722,V14723,V14724,V14754,V14756,V14801,V14814,V14830,V14831,V14832,W3112,

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VOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
218	BFB, 25PPM	VP131767	11/22/2024	05/18/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 11/27/2024

FROM 0.50000ml of V13391 + 49.50000ml of V14154 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1810	8260 Working Std(2-CVE)-800ppm	VP132035	12/10/2024	06/10/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 12/12/2024

FROM 1.00000ml of V14630 + 1.00000ml of V14631 + 1.00000ml of V14632 + 1.00000ml of V14633 + 46.00000ml of V14614 = 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
466	624 Internal Standard and Surrogate Mix, 150PPM	VP132403	01/02/2025	02/28/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 01/02/2025

FROM 0.15000ml of V12666 + 0.15000ml of V14580 + 24.70000ml of V14614 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
51	8260 Working STD (Acrolein) -first source, 800PPM	VP132468	01/08/2025	02/07/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 01/17/2025

FROM 1.00000ml of V14832 + 1.50000ml of V14830 + 1.50000ml of V14831 + 21.00000ml of V14627 = 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	VP132613	01/20/2025	02/28/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 01/29/2025

FROM 0.40000ml of V13446 + 1.00000ml of V14175 + 1.00000ml of V14176 + 1.00000ml of V14433 + 1.00000ml of V14439 + 1.00000ml of V14521 + 1.00000ml of V14522 + 1.00000ml of V14722 + 1.00000ml of V14754 + 1.00000ml of V14756 + 1.00000ml of V14801 + 1.00000ml of V14814 + 1.50000ml of V14723 + 1.50000ml of V14724 + 10.60000ml of V14624 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
589	BFB TUNE CHECK	VP132770	01/30/2025	01/31/2025	John Carlone	None	None	Mahesh Dadoda 01/30/2025

FROM 39.98400ml of W3112 + 0.01600ml of VP131767 = 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	VP132771	01/30/2025	01/31/2025	John Carlone	None	None	Mahesh Dadoda 01/30/2025

FROM 39.97000ml of W3112 + 0.00500ml of VP132035 + 0.00500ml of VP132468 + 0.00500ml of VP132613 + 0.00800ml of VP132403 = Final Quantity: 40.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
645	20 PPB CCC, 624	VP132772	01/30/2025	01/31/2025	John Carlone	None	None	Mahesh Dadoda 01/30/2025

FROM 39.97000ml of W3112 + 0.00500ml of VP132035 + 0.00500ml of VP132468 + 0.00500ml of VP132613 + 0.00800ml of VP132403 = 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	555583 / Custom Standard, CLP VOA Internal Std [CS 5179-3]	A0181978	02/28/2025	10/21/2024 / SAM	02/22/2022 / SAM	V12666

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	A0181905	02/28/2025	01/10/2025 / SAM	01/23/2023 / SAM	V13446

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	05/18/2025	11/18/2024 / pedro	02/06/2024 / SAM	V14154

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	07/10/2025	01/10/2025 / SAM	02/20/2024 / SAM	V14175

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	07/10/2025	01/10/2025 / SAM	02/20/2024 / SAM	V14176

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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	07/10/2025	01/10/2025 / SAM	08/15/2024 / SAM	V14433

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	07/10/2025	01/10/2025 / SAM	08/15/2024 / SAM	V14439

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	07/10/2025	01/10/2025 / SAM	09/18/2024 / SAM	V14521

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	07/10/2025	01/10/2025 / SAM	09/18/2024 / SAM	V14522

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

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	06/10/2025	12/10/2024 / SAM	11/26/2024 / SAM	V14614

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

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)	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	07/06/2025	01/06/2025 / SAM	11/26/2024 / SAM	V14627

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/10/2025	12/10/2024 / SAM	12/06/2024 / SAM	V14630

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/10/2025	12/10/2024 / SAM	12/06/2024 / SAM	V14631

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/10/2025	12/10/2024 / SAM	12/06/2024 / SAM	V14632

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/10/2025	12/10/2024 / SAM	12/06/2024 / SAM	V14633

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
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	A02110618	07/10/2025	01/10/2025 / SAM	12/17/2024 / SAM	V14722

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	07/10/2025	01/10/2025 / SAM	12/17/2024 / SAM	V14723

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	07/10/2025	01/10/2025 / SAM	12/17/2024 / SAM	V14724

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	05/31/2031	01/10/2025 / SAM	12/17/2024 / SAM	V14754

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	07/10/2025	01/10/2025 / SAM	12/17/2024 / SAM	V14756

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	01/10/2025 / SAM	01/08/2025 / SAM	V14801

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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	555408 / Custom Standard, Vinyl Acetate Standard w/ Grav [CS 5066-6] TWO SEPARATE LOTS	A0220471	07/10/2025	01/10/2025 / SAM	01/08/2025 / SAM	V14814

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	010725	02/07/2025	01/08/2025 / SAM	01/08/2025 / SAM	V14830

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	010725	02/07/2025	01/08/2025 / SAM	01/08/2025 / SAM	V14831

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	010725	02/07/2025	01/08/2025 / SAM	01/08/2025 / SAM	V14832

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

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

Certified Reference Material CRM

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

Dec 01/08/25

5 vial

V14823-to V14827 V14829

CERTIFIED WEIGHT REPORT

Part Number: 91980
Lot Number: 010725
Description: Acrolein

Expiration Date: 020725
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 5000
NIST Test ID#: 6UTB

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

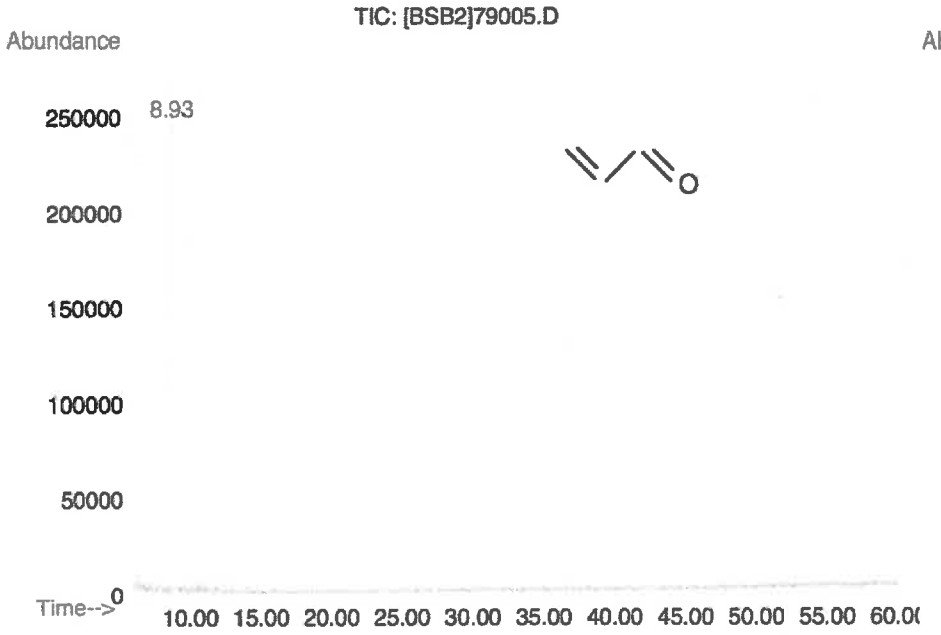
5E-05 Balance Uncertainty
0.001 Flask Uncertainty

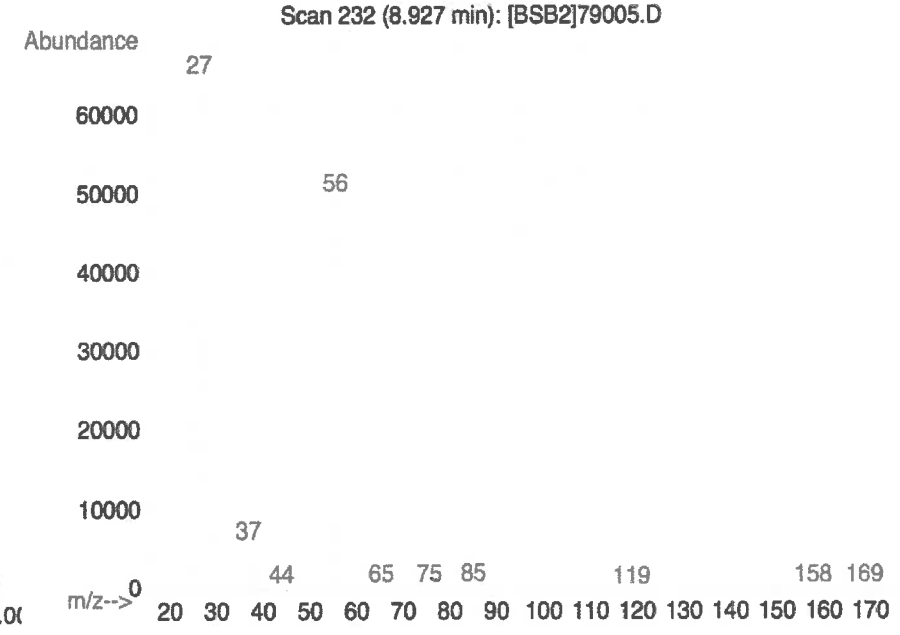
Weight(s) shown below were combined and diluted to (mL): 10.0

	010725
Formulated By: Anthony Mahoney	DATE
	010725
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty	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	0.05178	5011.8	52.6	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 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).

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 WATER**

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

Section II - Hazards Identification

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

P271	**Use in ventilated area**	**H315**	**Causes skin and eye irritation.**
P302,332	**If on skin, wash with soap and water**	**P280**	**Use gloves, eye protection/face sheild**
		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)
Water	CAS#: 7732-18-5	> 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

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.
Hazardous Decomposition products	Carbon oxides

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

Water CAS#: 7732-18-5 TWA: 500 ppm

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	100°C	Specific Gravity (H2O = 1)	1
Vapor Pressure (mm Hg)		Melting Point	

	NA		0°C
Vapor Density (AIR = 1)	NA	Evaporation rate (Butyl Acetate = 1)	NA

Solubility in Water Completely miscible

Appearance and Odor CLEAR, COLORLESS LIQUID WITH SLIGHT CHEMICAL ODOR.

Section X. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions NA
Conditions to avoid NA
Materials to avoid NA
Hazardous decomposition products - No data available

Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - Rat NA
LC50 Inhalation - Rat NA
LD50 Dermal - Guinea pig NA
Causes skin irritation.
Eye irritation

Section XII. ECOLOGICAL INFORMATION

LC50 NA
EC50 NA

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory Solvent Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods
Proper shipping name: Water

IATA
Not dangerous goods
Proper shipping name: Water

Section XV. REGULATORY INFORMATION

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 Material 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

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

Dec 01/08/25

5 vial

V14823-to V14827 V14829

CERTIFIED WEIGHT REPORT

Part Number: 91980
Lot Number: 010725
Description: Acrolein

Expiration Date: 020725
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 5000
NIST Test ID#: 6UTB

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

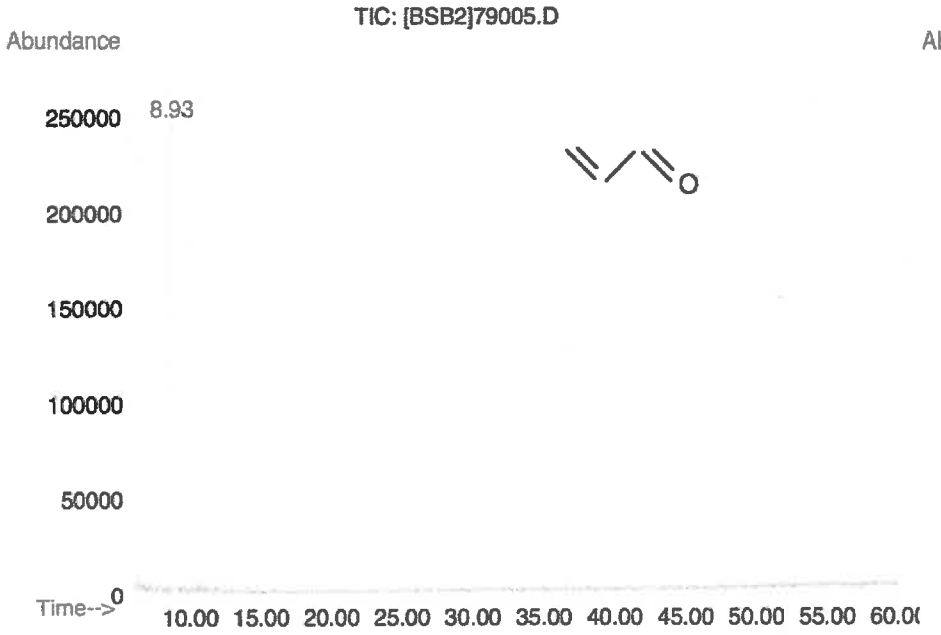
5E-05 Balance Uncertainty
0.001 Flask Uncertainty

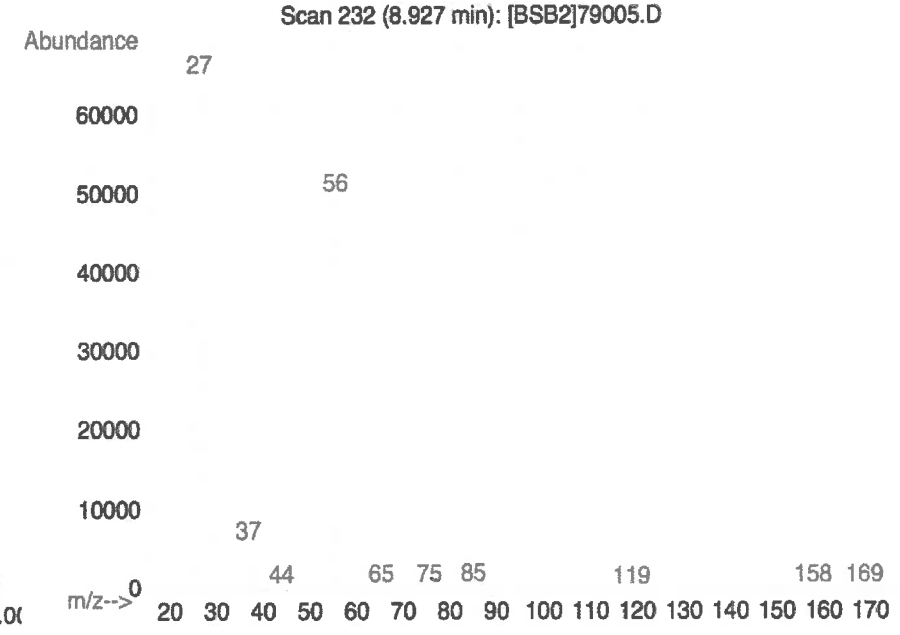
Weight(s) shown below were combined and diluted to (mL): 10.0

	010725
Formulated By: Anthony Mahoney	DATE
	010725
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty	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	0.05178	5011.8	52.6	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 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).

Absolute Standards Inc.

PO Box 5585
Hamden, CT 06518-0585

Phone: 203-281-2917
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Safety Data Sheet (SDS) GHS/OSHA Compliant

Section I Product and Company Identification

IDENTITY **ANALYTICAL STANDARD DISSOLVED IN WATER**

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

Section II - Hazards Identification

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

P271	**Use in ventilated area**	**H315**	**Causes skin and eye irritation.**
P302,332	**If on skin, wash with soap and water**	**P280**	**Use gloves, eye protection/face sheild**
		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)
Water	CAS#: 7732-18-5	> 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

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.
Hazardous Decomposition products	Carbon oxides

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

Water CAS#: 7732-18-5 TWA: 500 ppm

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	100°C	Specific Gravity (H2O = 1)	1
Vapor Pressure (mm Hg)		Melting Point	

	NA		0°C
Vapor Density (AIR = 1)	NA	Evaporation rate (Butyl Acetate = 1)	NA

Solubility in Water Completely miscible

Appearance and Odor CLEAR, COLORLESS LIQUID WITH SLIGHT CHEMICAL ODOR.

Section X. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions NA
Conditions to avoid NA
Materials to avoid NA
Hazardous decomposition products - No data available

Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - Rat NA
LC50 Inhalation - Rat NA
LD50 Dermal - Guinea pig NA
Causes skin irritation.
Eye irritation

Section XII. ECOLOGICAL INFORMATION

LC50 NA
EC50 NA

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory Solvent Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods
Proper shipping name: Water

IATA
Not dangerous goods
Proper shipping name: Water

Section XV. REGULATORY INFORMATION

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 Material 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

ANAB ISO 17034 Accredited
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https://Absolutestandards.com

Dec 01/08/25

5 vial

V14823-to V14827 V14829

CERTIFIED WEIGHT REPORT

Part Number: 91980
Lot Number: 010725
Description: Acrolein

Expiration Date: 020725
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 5000
NIST Test ID#: 6UTB

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

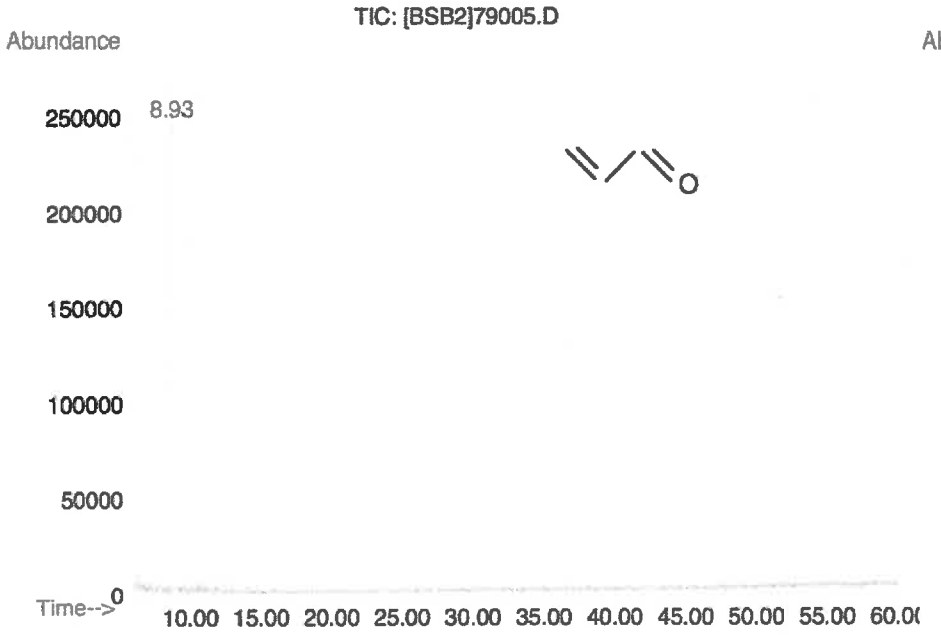
5E-05 Balance Uncertainty
0.001 Flask Uncertainty

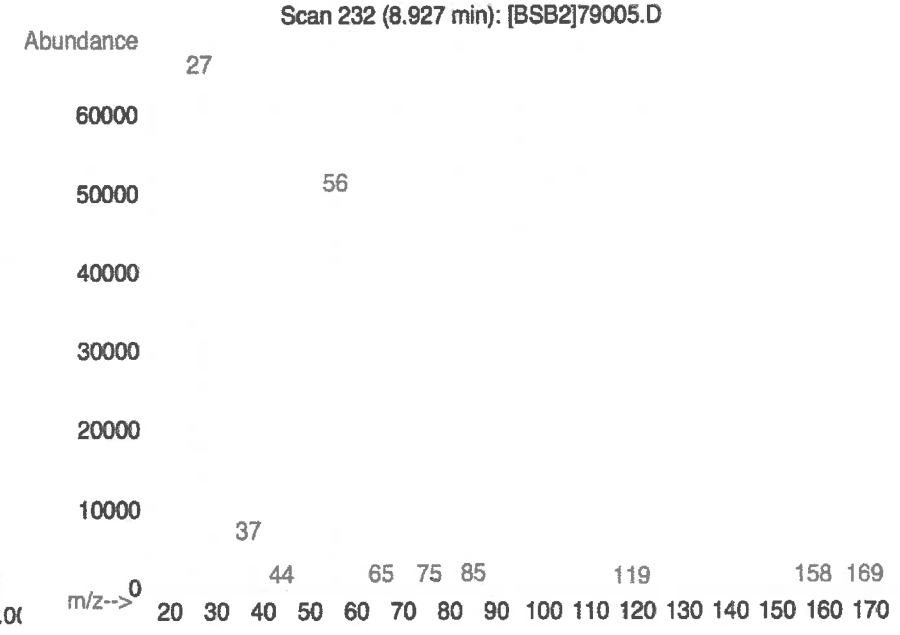
Weight(s) shown below were combined and diluted to (mL): 10.0

	010725
Formulated By: Anthony Mahoney	DATE
	010725
Reviewed By: Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty	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	0.05178	5011.8	52.6	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 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).

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 WATER**

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

Section II - Hazards Identification

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

P271	**Use in ventilated area**	**H315**	**Causes skin and eye irritation.**
P302,332	**If on skin, wash with soap and water**	**P280**	**Use gloves, eye protection/face sheild**
		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)
Water	CAS#: 7732-18-5	> 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

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.
Hazardous Decomposition products	Carbon oxides

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

Water CAS#: 7732-18-5 TWA: 500 ppm

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	100°C	Specific Gravity (H2O = 1)	1
Vapor Pressure (mm Hg)		Melting Point	

	NA		0°C
Vapor Density (AIR = 1)	NA	Evaporation rate (Butyl Acetate = 1)	NA

Solubility in Water Completely miscible

Appearance and Odor CLEAR, COLORLESS LIQUID WITH SLIGHT CHEMICAL ODOR.

Section X. STABILITY AND REACTIVITY

Chemical stability Stable under recommended storage conditions.
Possibility of hazardous reactions NA
Conditions to avoid NA
Materials to avoid NA
Hazardous decomposition products - No data available

Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - Rat NA
LC50 Inhalation - Rat NA
LD50 Dermal - Guinea pig NA
Causes skin irritation.
Eye irritation

Section XII. ECOLOGICAL INFORMATION

LC50 NA
EC50 NA

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory Solvent Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods
Proper shipping name: Water

IATA
Not dangerous goods
Proper shipping name: Water

Section XV. REGULATORY INFORMATION

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 Material Safety Data Sheet. If you have any questions, please call Technical Service at 1-203-281-2917 for assistance.

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

Formulated By: Prashant Chauhan 021624 DATE

Reviewed By: Pedro L. Rentas 021624 DATE

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

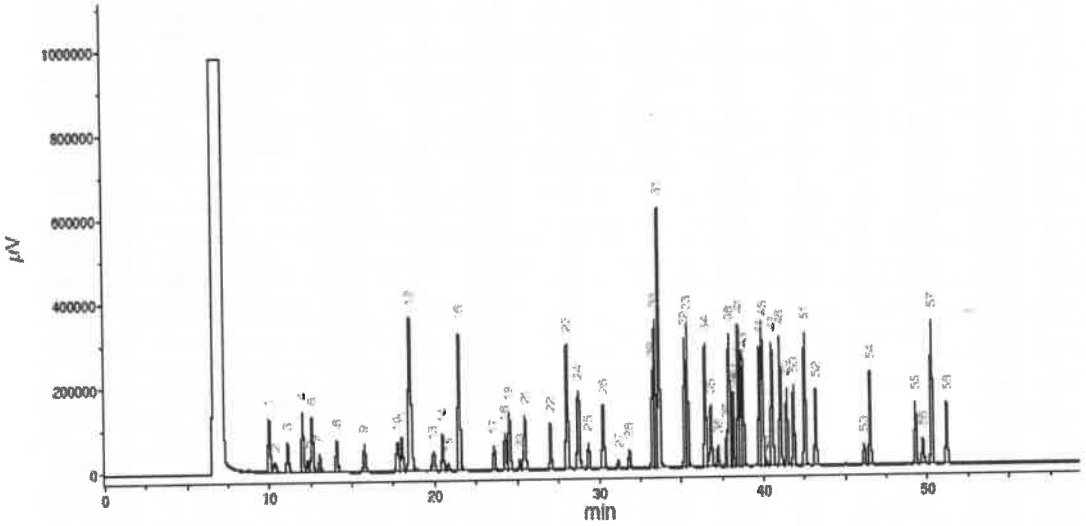
Compound	(RM#) Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Initial Conc.(ug/mL)	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty	Uncertainty Pipette (mL)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached 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	(0486)	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)	IK18CAS000(	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	(0361)	06126PX	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 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	40017.8	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 (46mg/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	1999.6	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 sample, 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 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-1,2,2-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	18.46
13	Isobutanol/1,1,1-Trichloroethane	19.91
14	1,1-Dichloropropene	20.46
15	Carbon tetrachloride	20.79
16	Benzene/1,2-Dichloroethane	21.49
17	Trichloroethene	23.58
18	1,2-Dichloropropane	24.28
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-Dibromoethene	31.84
29	Chlorobenzene	33.26
30	Ethylbenzene/1,1,1,2-Tetrachloroethane	33.40
31	m-Xylene/p-Xylene	33.88
32	o-Xylene	35.22
33	Styrene	35.38
34	Isopropylbenzene/Bromoform	36.18
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	37.93
39	trans-1,4-Dichloro-2-Butene	38.05
40	Bromobenzene	38.14
41	1,3,5-Trimethylbenzene	38.80
42	2-Chlorotoluene	38.82
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	42.53
52	1,2-Dichlorobenzene	43.18
53	1,2-Dibromo-3-chloropropane	46.12
54	Nitrobenzene	46.46
55	1,2,4-Trichlorobenzene	49.26
56	Hexachlorobutadiene	49.72
57	Naphthalene	50.26
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, 2023

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.

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

Formulated By: Prashant Chauhan 021624 DATE

Reviewed By: Pedro L. Rentas 021624 DATE

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

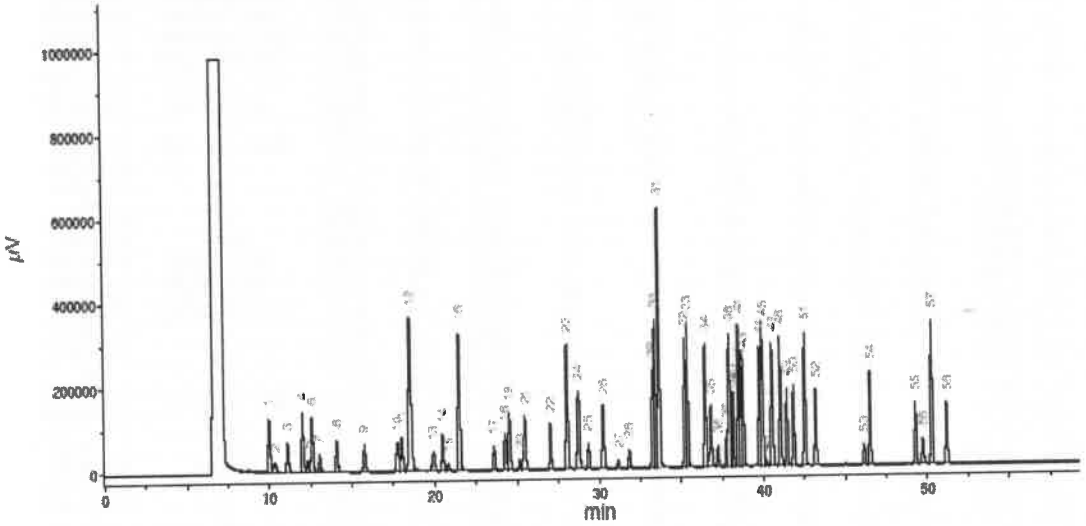
Compound	(RM#) Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Initial Conc.(ug/mL)	Nominal Conc (µg/mL)	Purity (%)	Purity Uncertainty	Uncertainty Pipette (mL)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached 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	(0486)	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)	IK18CAS000(	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	(0361)	06126PX	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 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	40017.8	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 (46mg/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	1999.6	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 sample, 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 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-1,2,2-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	18.46
13	Isobutanol/1,1,1-Trichloroethane	19.91
14	1,1-Dichloropropene	20.46
15	Carbon tetrachloride	20.79
16	Benzene/1,2-Dichloroethane	21.49
17	Trichloroethene	23.58
18	1,2-Dichloropropane	24.28
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-Dibromoethene	31.84
29	Chlorobenzene	33.26
30	Ethylbenzene/1,1,1,2-Tetrachloroethane	33.40
31	m-Xylene/p-Xylene	33.88
32	o-Xylene	35.22
33	Styrene	35.38
34	Isopropylbenzene/Bromoform	36.18
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	37.93
39	trans-1,4-Dichloro-2-Butene	38.05
40	Bromobenzene	38.14
41	1,3,5-Trimethylbenzene	38.80
42	2-Chlorotoluene	38.82
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	42.53
52	1,2-Dichlorobenzene	43.18
53	1,2-Dibromo-3-chloropropane	46.12
54	Nitrobenzene	46.46
55	1,2,4-Trichlorobenzene	49.26
56	Hexachlorobutadiene	49.72
57	Naphthalene	50.26
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, 2023

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 09/16/24 2 Vials

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

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

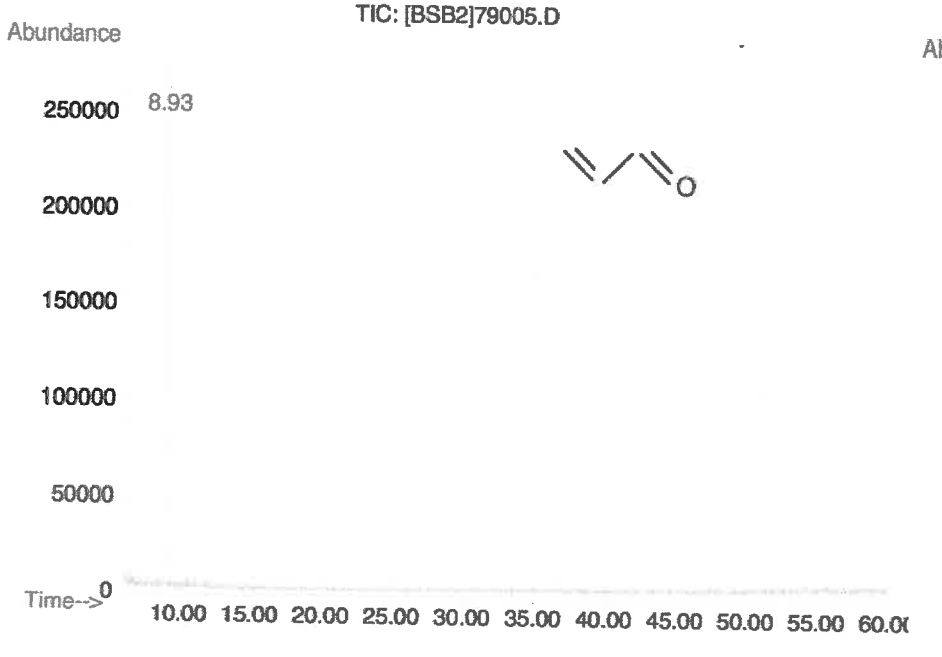
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

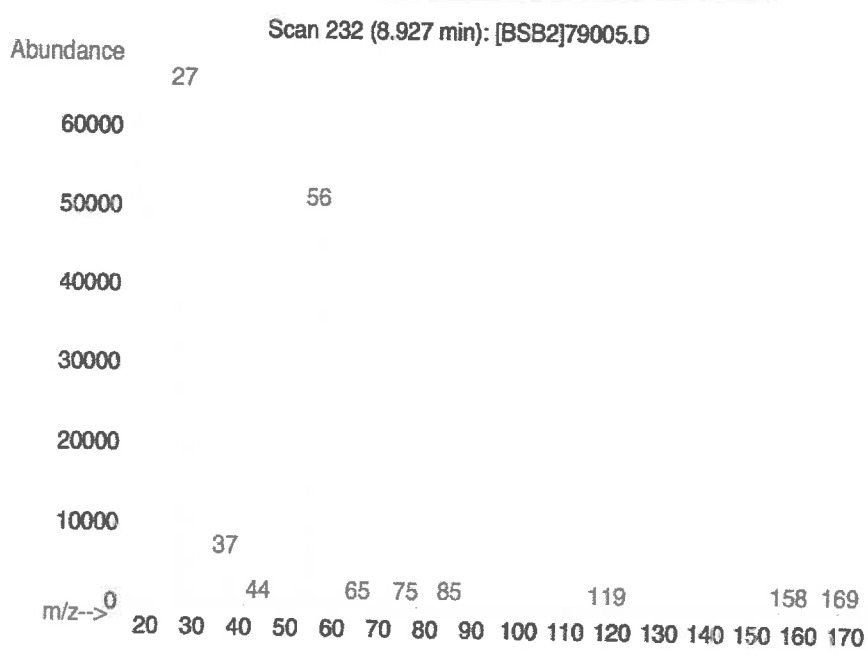
Formulated By: Justin Dippold 091424 DATE

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.





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

Certified Reference Material CRM

Rec 09/16/24 2 Vials

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

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

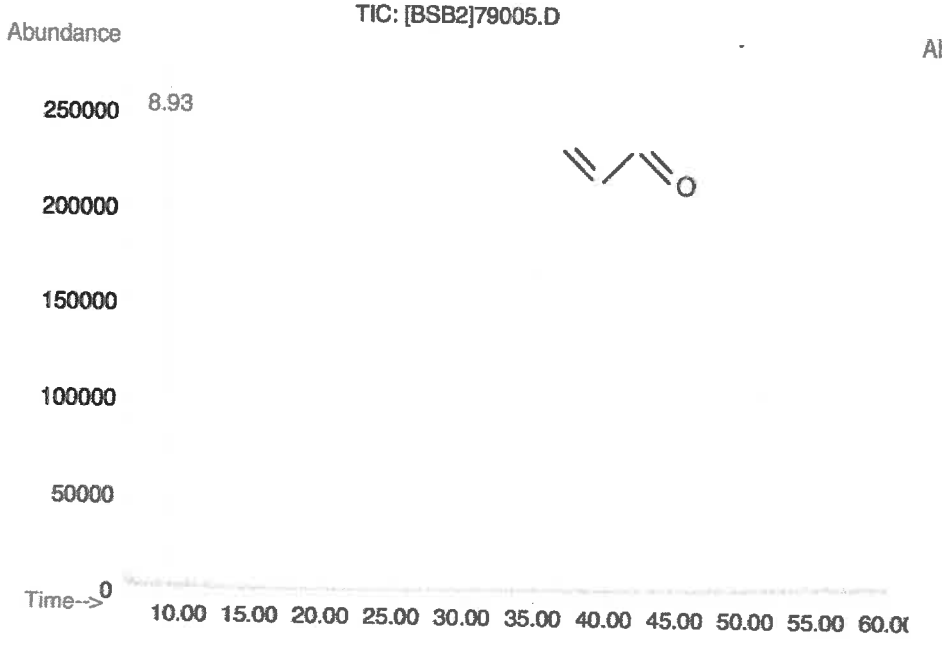
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 10.0 0.001 Flask Uncertainty

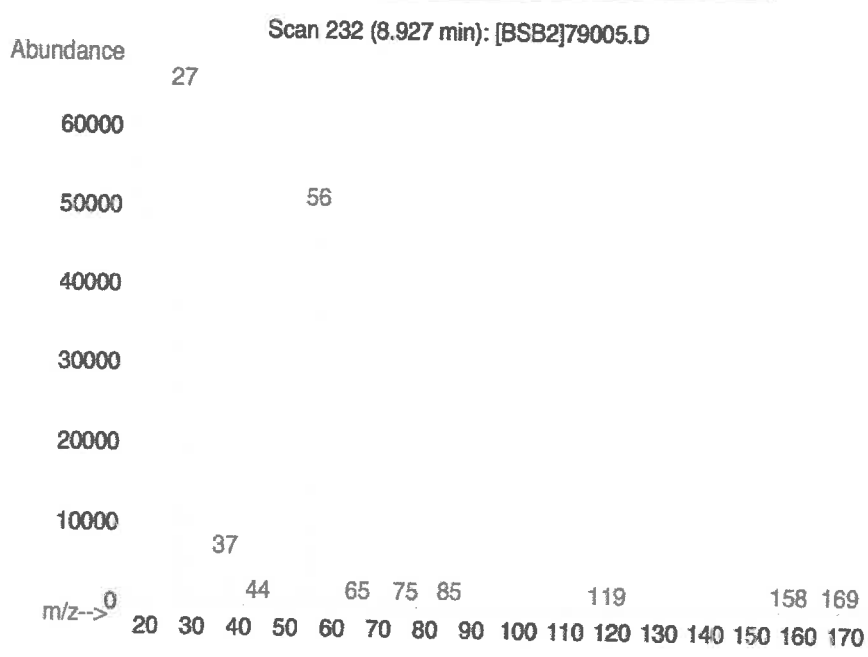
Formulated By: Justin Dippold 091424 DATE

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 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

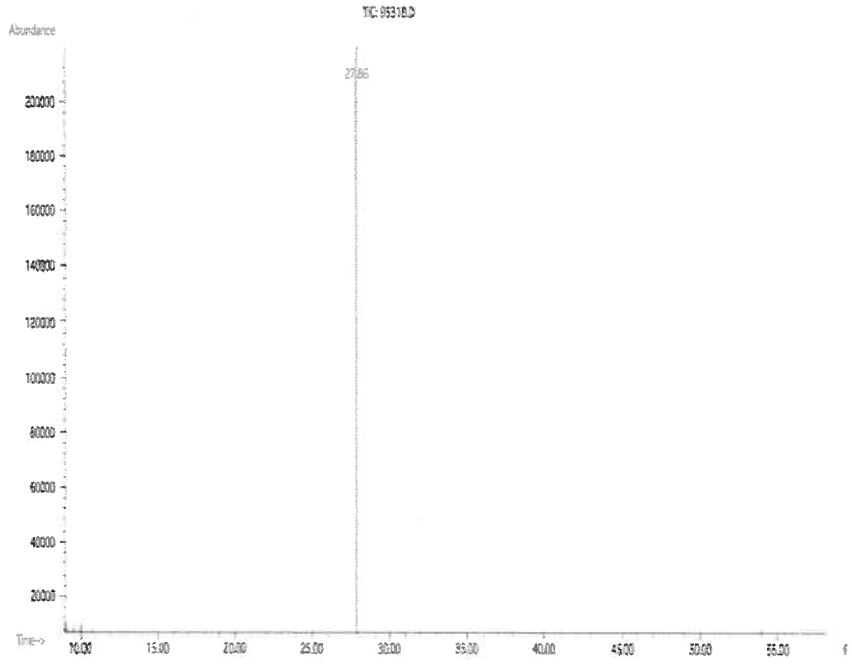
V14630 to V14649

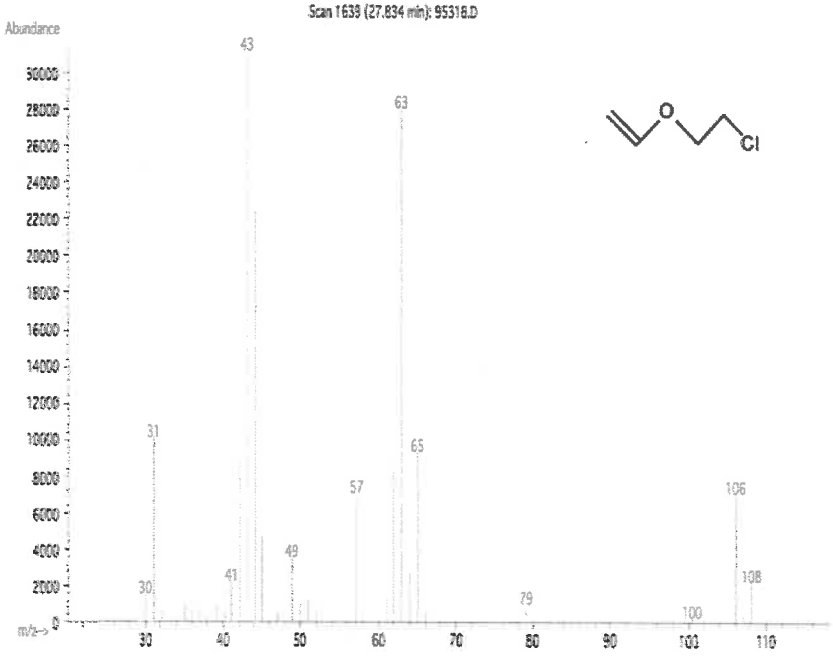
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 50.0 0.001 Flask Uncertainty

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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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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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

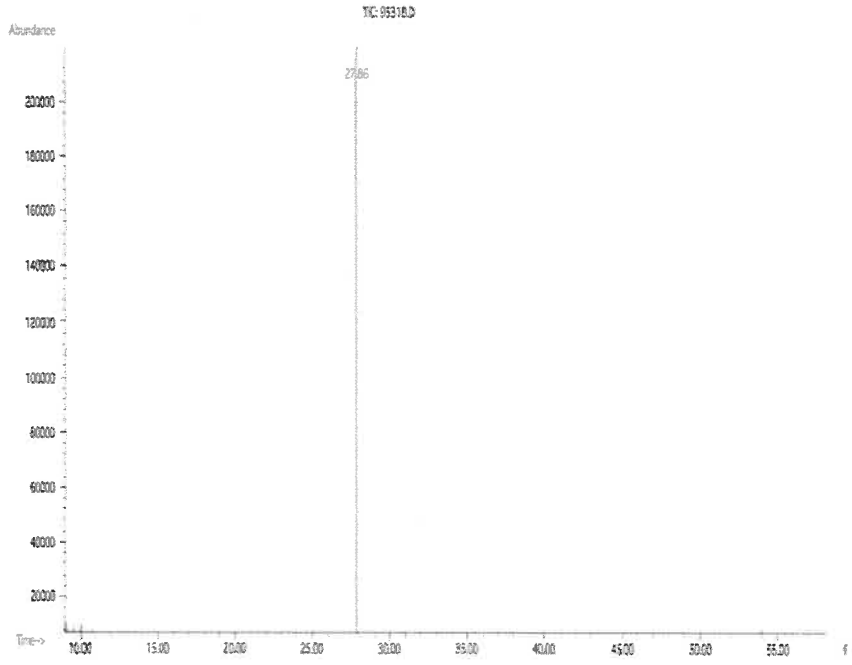
V14630 to V14649

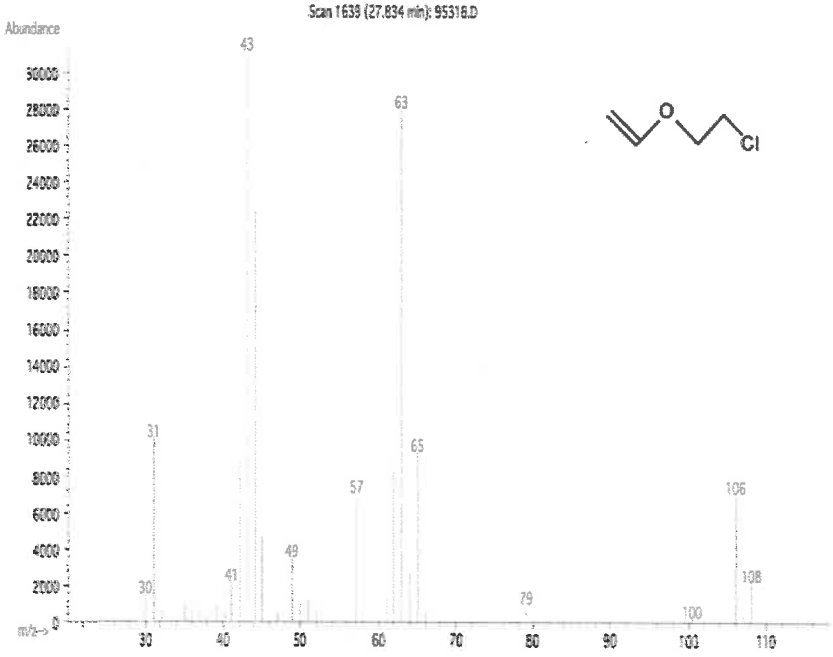
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 50.0 0.001 Flask Uncertainty

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.





- 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).

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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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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

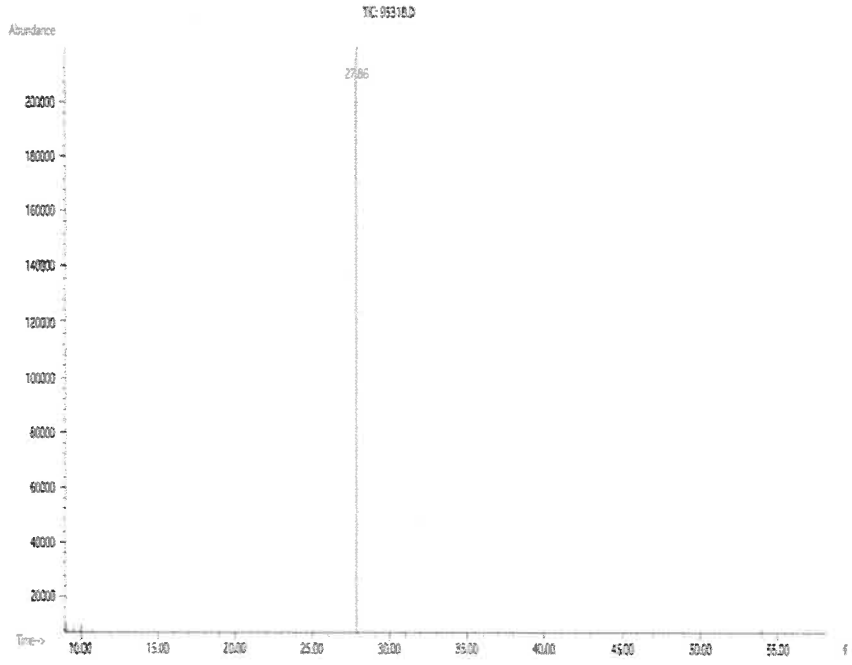
V14630 to V14649

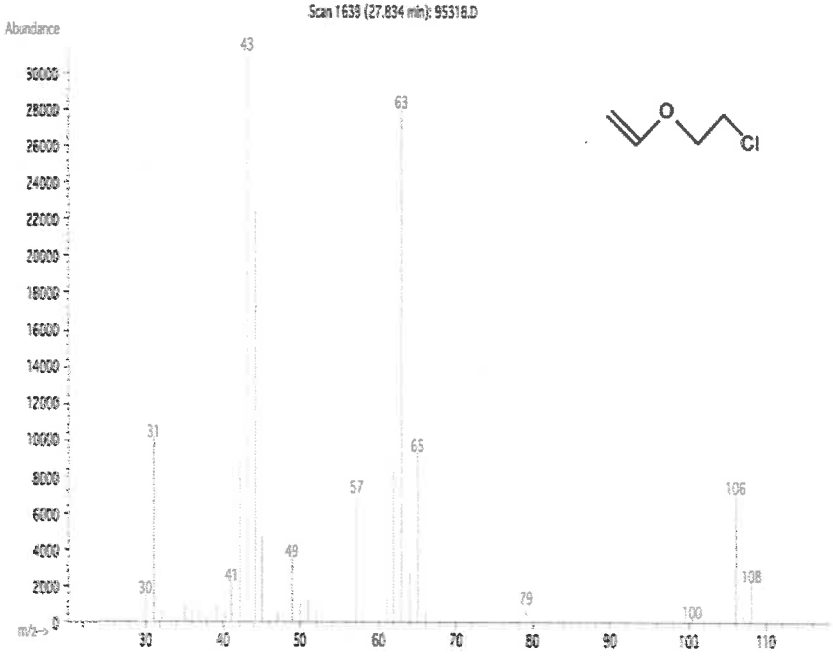
5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 50.0 0.001 Flask Uncertainty

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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Safety Data Sheet (SDS) GHS/OSHA Compliant

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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

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In case of skin contact	Wash with soap and water. Consult a physician.
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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.
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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

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CERTIFIED WEIGHT REPORT

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Lot Number: 120524
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Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 10000
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V14630 to V14649

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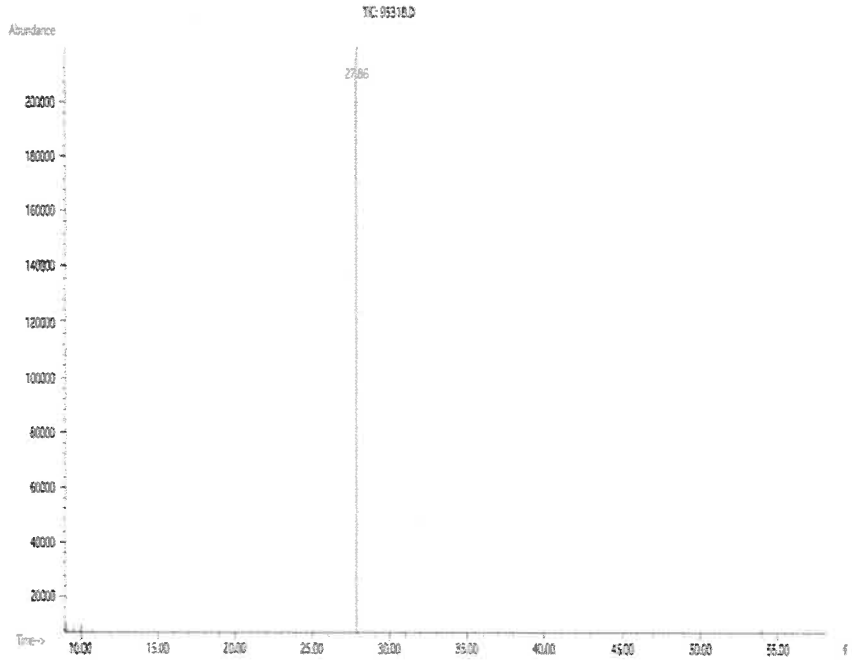
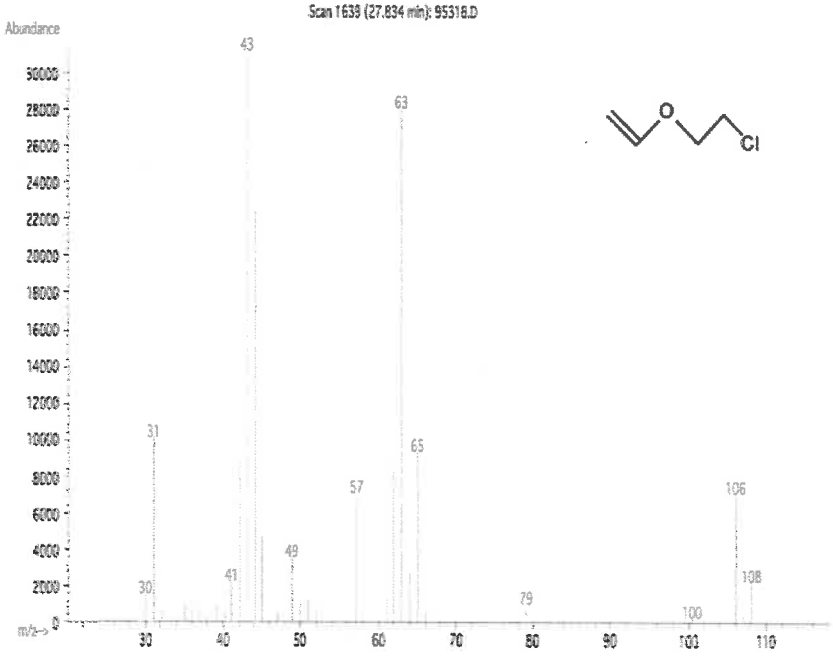
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50536	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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Safety Data Sheet (SDS) GHS/OSHA Compliant

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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**
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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.
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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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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.:** A0181978

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 : February 28, 2025 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Difluorobenzene **CAS #** 540-36-3 (Lot MKBN8571V) **Purity** 99%	25,032.0 µg/mL	+/- 231.6508 µg/mL +/- 1,415.0433 µg/mL +/- 1,447.6224 µg/mL	Gravimetric Unstressed Stressed
2	Bromochloromethane **CAS #** 74-97-5 (Lot 00008541) **Purity** 99%	25,036.0 µg/mL	+/- 231.6879 µg/mL +/- 1,415.2694 µg/mL +/- 1,447.8538 µg/mL	Gravimetric Unstressed Stressed
3	Chlorobenzene-d5 **CAS #** 3114-55-4 (Lot PR-29571) **Purity** 99%	25,104.0 µg/mL	+/- 232.3171 µg/mL +/- 1,419.1134 µg/mL +/- 1,451.7863 µg/mL	Gravimetric Unstressed Stressed

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

Miranda Kline

Miranda Kline - Operations Technician I

Date Mixed: 17-Feb-2022 **Balance:** B707717271

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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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.:** A0181905

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 : February 28, 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)	50,126.0 µg/mL	+/- 293.4988 µg/mL	Gravimetric
	CAS # 75-65-0 (Lot SHBM7694)		+/- 1,073.7654 µg/mL	Unstressed
	Purity 99%		+/- 1,104.9494 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)

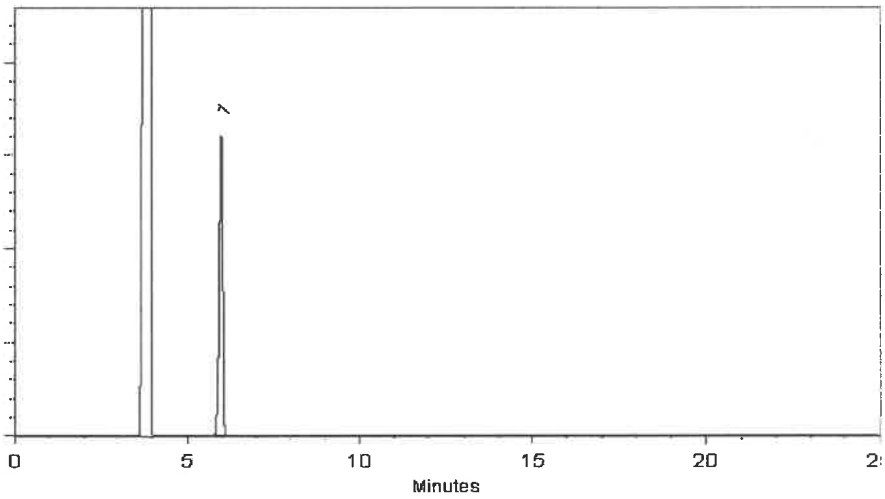
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

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.

John Friedline - Operations Technician I

Date Mixed: 16-Feb-2022 **Balance:** B442140311

Marlina Cowan - Operations Tech I

Date Passed: 21-Feb-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.)

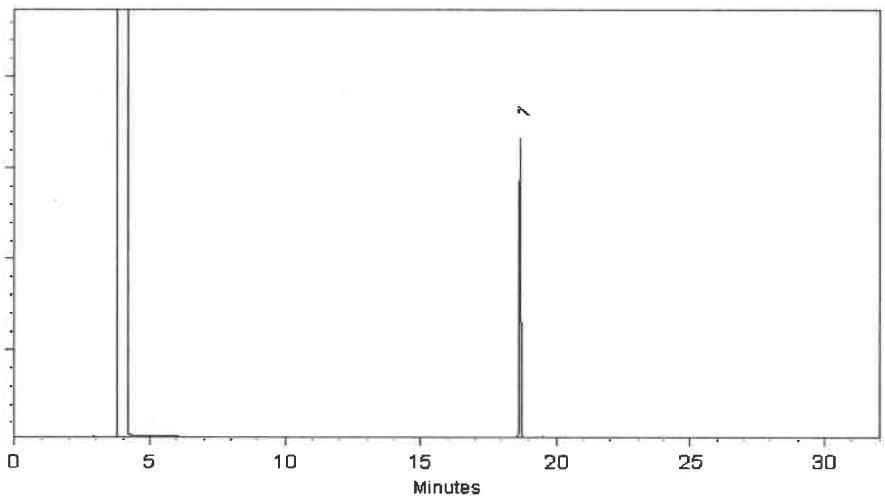
Inj. Temp:
200°C

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.

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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.)

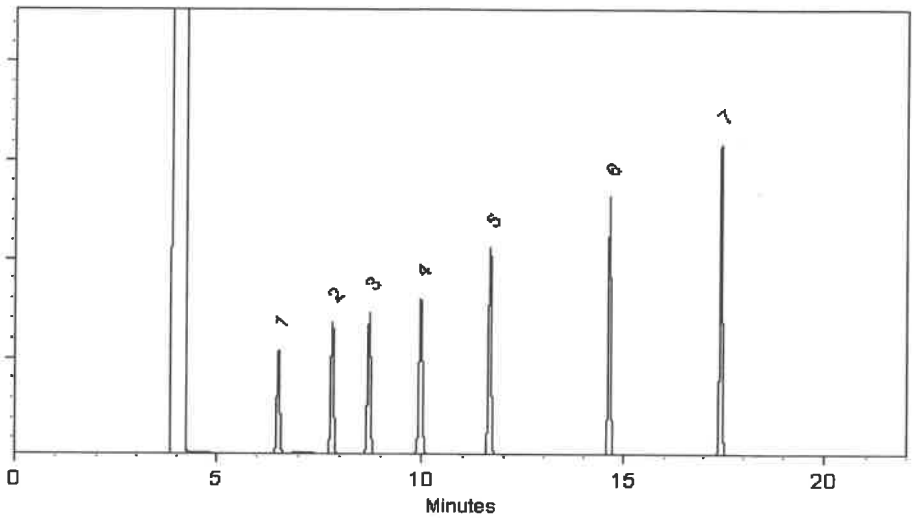
Inj. Temp:
200°C

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:

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

  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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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.)

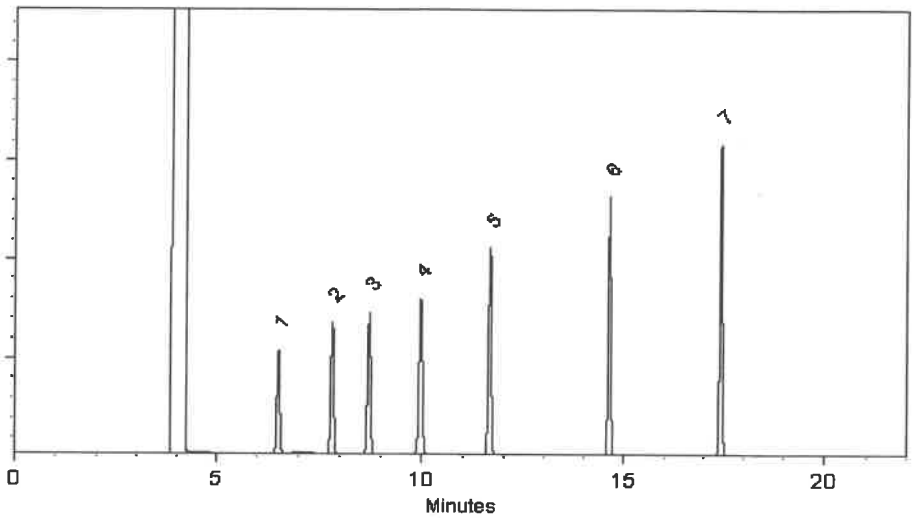
Inj. Temp:
200°C

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:

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

  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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CERTIFIED REFERENCE MATERIAL

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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. : 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.)

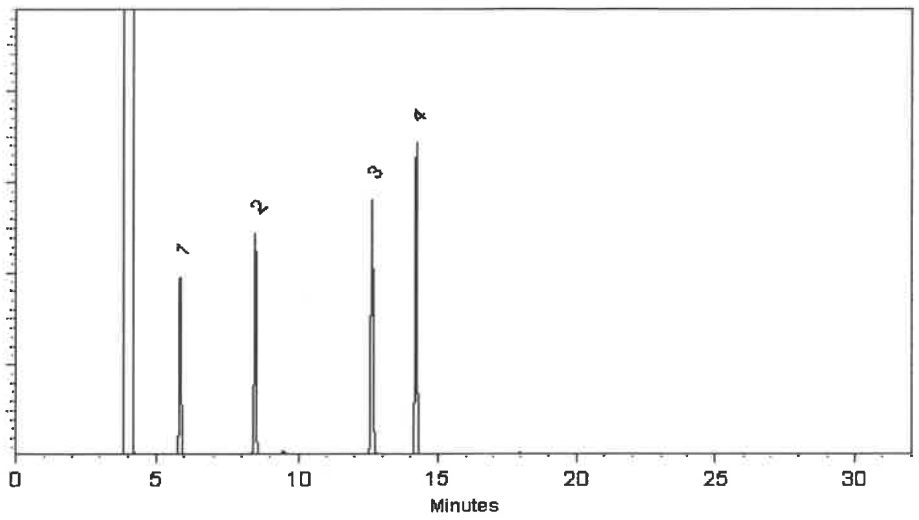
Inj. Temp:
200°C

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.
- 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. : 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.)

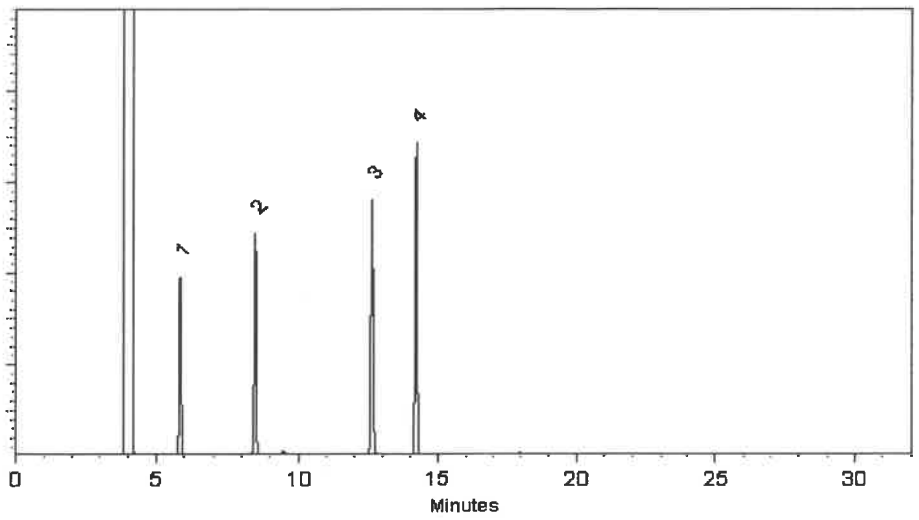
Inj. Temp:
200°C

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.
- 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.)

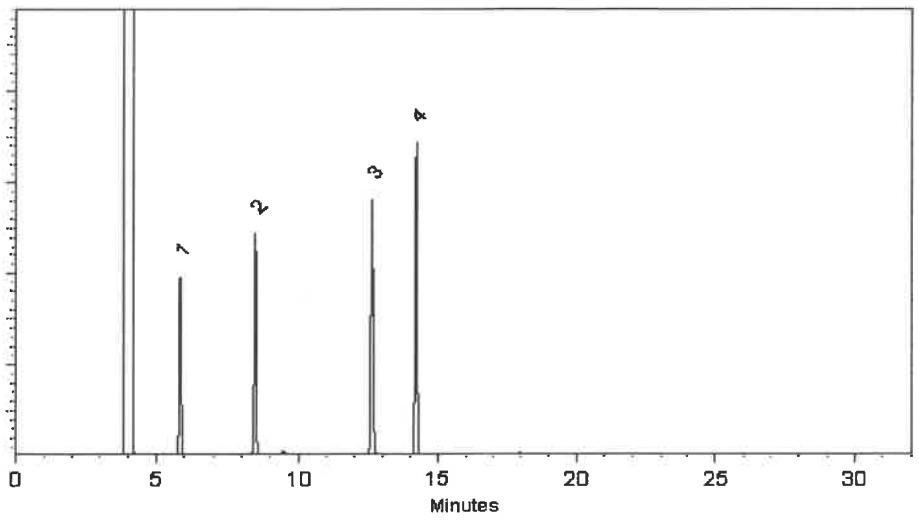
Inj. Temp:
200°C

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.
- 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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30 Vial

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V14727 to
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Reference Material Producer
Certificate #3222.01

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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. : 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.

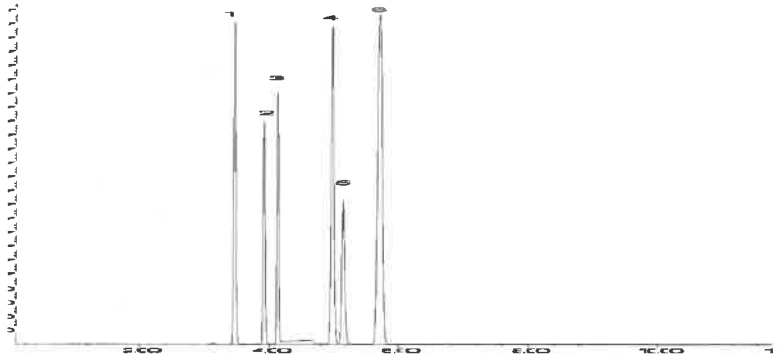
Inj. Temp:
200°C

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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CERTIFIED REFERENCE MATERIAL

30 Vial

Certificate of Analysis

chromatographic plus

V14727 to
V14756

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. : 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.

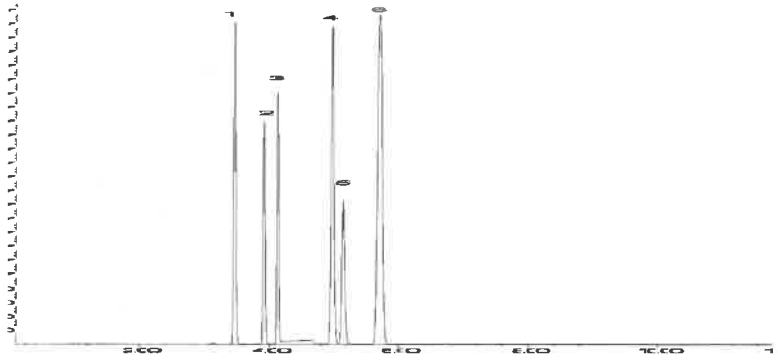
Inj. Temp:
200°C

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.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

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:

- 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

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

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.)

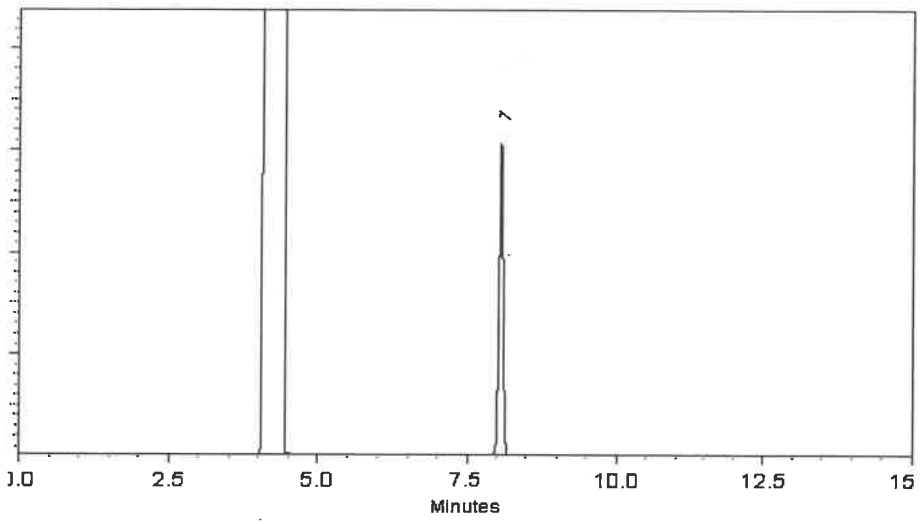
Inj. Temp:
200°C

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

RESTEK
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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.)

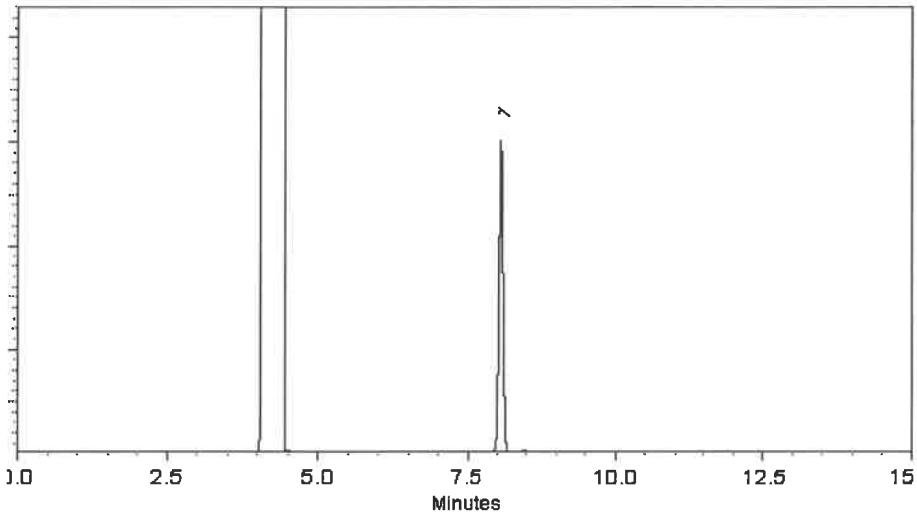
Inj. Temp:
200°C

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:

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- 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.
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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.

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

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 T Ethier

Jamie Ethier
Vice President Global Quality

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO.
QUOTE NO. Q1212
COC Number 2041697

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Tully Environmental Inc
ADDRESS: 57 Seaview Blvd
CITY Port Washington STATE: NY ZIP: 11050
ATTENTION: DDevoe
PHONE: 718 4467000 FAX: 718 446 1484

CLIENT PROJECT INFORMATION

PROJECT NAME: Transfer Station SPDES
PROJECT NO.: 252113 LOCATION:
PROJECT MANAGER:
e-mail:
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: Same PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) ASAP DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

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

TSS, BTEX

PRESERVATIVES

COMMENTS

← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRES 1	PRES 2	PRES 3	PRES 4	PRES 5	PRES 6	PRES 7	PRES 8	PRES 9
1.	001 Willets Pt Blvd (Jan)	W		X	1/28	1pm	3	X	X							
2.	002 35th Ave (Jan)	W		X	1/28	1pm	3	X	✓							
3.																
4.																
5.																
6.																
7.																
8.																
9.																
10.																

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. DDevoe	1/28/25	1.
2. FedEx	1-29-25 1026	2.
3.		3.

Conditions of bottles or coolers at receipt: ❑ COMPLIANT ❑ NON COMPLIANT ❑ COOLER TEMP 3.3-C °C
Comments:

Page ____ of ____

CLIENT: ❑ Hand Delivered ❑ Other
CHEMTECH: ❑ Picked Up ❑ Field Sampling

Shipment Complete ❑ YES ❑ NO

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 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

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

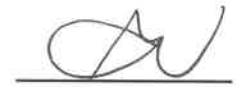
LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q1212 TULL01
Client Name : Tully Environmental, Inc
Client Contact : Dean Devoe
Invoice Name : Tully Environmental, Inc
Invoice Contact : Dean Devoe

Order Date : 1/29/2025 10:42:00 AM
Project Name : Transfer Station-SPDES
Receive DateTime : 1/29/2025 10:26:00 AM
Purchase Order :

Project Mgr :
Report Type : Results Only
EDD Type : EXCEL NOCLEANUP
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q1212-01	001-WILLETS-PT-BLVD(JAN)	Water	01/28/2025	13:00					
					VOC-BTEX		624.1		1 Bus. Day
Q1212-02	002-35TH-AVE(JAN)	Water	01/28/2025	13:00					
					VOC-BTEX		624.1		1 Bus. Day

Relinguished By : 
Date / Time : 1/29/25 1110

Received By : Sam
Date / Time : 1/29/25 11:00 Pg # 5

Storage Area : **VOA Refridgerator Room**