

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 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

LAB CHRONICLE

OrderID:	Q3813	OrderDate:	12/8/2025 4:06:00 PM
Client:	JACOBS Engineering Group, Inc.	Project:	Former Schlumberger STC PTC Site D3868221
Contact:	John Ynfante	Location:	A11,VOA Lab

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
Q3813-01	BR-04DR-451-120825	Water	VOCMS Group3	8260-Low	12/08/25		12/10/25	12/08/25
Q3813-02	BR-04DR-451-120825 -SIM	Water	VOC-SIM	SFAM_VOCSI M	12/08/25		12/10/25	12/08/25
Q3813-03	EB01-120825	Water	VOCMS Group3 VOC-SIM	8260-Low SFAM_VOCSI M	12/08/25		12/10/25 12/10/25	12/08/25
Q3813-04	TB01-120825	Water	VOCMS Group3 VOC-SIM	8260-Low SFAM_VOCSI M	12/08/25		12/10/25 12/10/25	12/08/25
Q3813-05	VHBLK001	Water	VOC-SIM	SFAM_VOCSI M	12/08/25		12/10/25	12/08/25

Hit Summary Sheet
SW-846

SDG No.: Q3813

Client: JACOBS Engineering Group, Inc.

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID:	BR-04DR-451-120825							
Q3813-01	BR-04DR-451-1208	Water	1,1-Dichloroethene	8.30		0.23	1.00	ug/L
Q3813-01	BR-04DR-451-1208	Water	cis-1,2-Dichloroethene	6.60		0.19	1.00	ug/L
Q3813-01	BR-04DR-451-1208	Water	1,2-Dichloroethane	1.00		0.22	1.00	ug/L
Q3813-01	BR-04DR-451-1208	Water	Trichloroethene	7.30		0.090	1.00	ug/L
			Total Voc :		23.2			
			Total Concentration:		23.2			



QC SUMMARY

Surrogate Summary

SDG No.: **Q3813**

Client: **JACOBS Engineering Group, Inc.**

Analytical Method: **SW8260-Low**

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery (%)	Qual	Limits (%)	
							Low	High
Q3813-01	BR-04DR-451-120825	1,2-Dichloroethane-d4	50	56.7	113		70 (74)	130 (125)
		Dibromofluoromethane	50	47.0	94		70 (75)	130 (124)
		Toluene-d8	50	44.9	90		70 (86)	130 (113)
		4-Bromofluorobenzene	50	46.3	93		70 (77)	130 (121)
Q3813-03	EB01-120825	1,2-Dichloroethane-d4	50	58.2	116		70 (74)	130 (125)
		Dibromofluoromethane	50	49.4	99		70 (75)	130 (124)
		Toluene-d8	50	46.5	93		70 (86)	130 (113)
		4-Bromofluorobenzene	50	50.5	101		70 (77)	130 (121)
Q3813-04	TB01-120825	1,2-Dichloroethane-d4	50	60.9	122		70 (74)	130 (125)
		Dibromofluoromethane	50	49.0	98		70 (75)	130 (124)
		Toluene-d8	50	45.1	90		70 (86)	130 (113)
		4-Bromofluorobenzene	50	48.7	97		70 (77)	130 (121)
VN1210WBL01	VN1210WBL01	1,2-Dichloroethane-d4	50	57.8	116		70 (74)	130 (125)
		Dibromofluoromethane	50	50.8	102		70 (75)	130 (124)
		Toluene-d8	50	47.0	94		70 (86)	130 (113)
		4-Bromofluorobenzene	50	48.0	96		70 (77)	130 (121)
VN1210WBS01	VN1210WBS01	1,2-Dichloroethane-d4	50	57.3	115		70 (74)	130 (125)
		Dibromofluoromethane	50	55.6	111		70 (75)	130 (124)
		Toluene-d8	50	53.9	108		70 (86)	130 (113)
		4-Bromofluorobenzene	50	55.1	110		70 (77)	130 (121)
VN1210WBSD01	VN1210WBSD01	1,2-Dichloroethane-d4	50	60.8	122		70 (74)	130 (125)
		Dibromofluoromethane	50	55.3	111		70 (75)	130 (124)
		Toluene-d8	50	52.5	105		70 (86)	130 (113)
		4-Bromofluorobenzene	50	54.1	108		70 (77)	130 (121)

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.:	<u>Q3813</u>	Analytical Method:	<u>SW8260-Low</u>
Client:	<u>JACOBS Engineering Group, Inc.</u>	Datafile :	<u>VN088491.D</u>

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Low	Limits High	RPD
VN1210WBS01	Vinyl chloride	20	18.9	ug/L	95			70 (65)	130 (117)	
	1,1-Dichloroethene	20	18.6	ug/L	93			70 (74)	130 (110)	
	1,1-Dichloroethane	20	20.5	ug/L	103			70 (78)	130 (112)	
	cis-1,2-Dichloroethene	20	19.4	ug/L	97			70 (77)	130 (110)	
	1,1,1-Trichloroethane	20	20.6	ug/L	103			70 (80)	130 (108)	
	Benzene	20	20.0	ug/L	100			70 (82)	130 (109)	
	1,2-Dichloroethane	20	22.5	ug/L	113			70 (80)	130 (115)	
	Trichloroethene	20	18.4	ug/L	92			70 (77)	130 (113)	
	1,1,2-Trichloroethane	20	21.3	ug/L	106			70 (83)	130 (112)	
	Tetrachloroethene	20	17.4	ug/L	87			70 (67)	130 (123)	

Laboratory Control Sample/Laboratory Control Sample Duplicate Summary

SW-846

SDG No.:	<u>Q3813</u>	Analytical Method:	<u>SW8260-Low</u>
Client:	<u>JACOBS Engineering Group, Inc.</u>	Datafile :	<u>VN088496.D</u>

Lab Sample ID	Parameter	Spike	Result	Unit	Rec	RPD	Qual	Low	Limits High	RPD
VN1210WBSD01	Vinyl chloride	20	18.1	ug/L	91	4		70 (65)	130 (117)	20 (19)
	1,1-Dichloroethene	20	19.2	ug/L	96	3		70 (74)	130 (110)	20 (20)
	1,1-Dichloroethane	20	20.7	ug/L	104	1		70 (78)	130 (112)	20 (20)
	cis-1,2-Dichloroethene	20	20.0	ug/L	100	3		70 (77)	130 (110)	20 (20)
	1,1,1-Trichloroethane	20	20.3	ug/L	102	1		70 (80)	130 (108)	20 (20)
	Benzene	20	19.0	ug/L	95	5		70 (82)	130 (109)	20 (15)
	1,2-Dichloroethane	20	21.3	ug/L	106	6		70 (80)	130 (115)	20 (20)
	Trichloroethene	20	17.3	ug/L	86	7		70 (77)	130 (113)	20 (15)
	1,1,2-Trichloroethane	20	20.8	ug/L	104	2		70 (83)	130 (112)	20 (20)
	Tetrachloroethene	20	14.3	ug/L	72	19		70 (67)	130 (123)	20 (15)

VOLATILE METHOD BLANK SUMMARY

Client ID

VN1210WBL01

Lab Name: Alliance

Contract: JAC005

Lab Code: ACE

SDG NO.: Q3813

Lab File ID: VN088489.D

Lab Sample ID: VN1210WBL01

Date Analyzed: 12/10/2025

Time Analyzed: 10:57

GC Column: RXI-624 ID: 0.25 (mm)

Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

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

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
VN1210WBS01	VN1210WBS01	VN088491.D	12/10/2025
BR-04DR-451-120825	Q3813-01	VN088492.D	12/10/2025
EB01-120825	Q3813-03	VN088493.D	12/10/2025
TB01-120825	Q3813-04	VN088494.D	12/10/2025
VN1210WBSD01	VN1210WBSD01	VN088496.D	12/10/2025

COMMENTS: _____



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

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Alliance

Contract: JACO05

Lab Code: ACE

SDG NO.: Q3813

Lab File ID: VN088343.D

BFB Injection Date: 11/24/2025

Instrument ID: MSVOA_N

BFB Injection Time: 08:17

GC Column: RXI-624 ID: 0.25 (mm)

Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.6
75	30.0 - 60.0% of mass 95	56.6
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	1 (1.4) 1
174	50.0 - 100.0% of mass 95	70.8
175	5.0 - 9.0% of mass 174	6 (8.4) 1
176	95.0 - 101.0% of mass 174	68.3 (96.4) 1
177	5.0 - 9.0% of mass 176	4.3 (6.4) 2

1-Value is % mass 174

2-Value is % mass 176

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

CLIENT ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDIC001	VSTDIC001	VN088344.D	11/24/2025	12:38
VSTDIC005	VSTDIC005	VN088345.D	11/24/2025	13:11
VSTDIC020	VSTDIC020	VN088346.D	11/24/2025	13:32
VSTDIC050	VSTDIC050	VN088347.D	11/24/2025	13:53
VSTDIC100	VSTDIC100	VN088348.D	11/24/2025	14:14
VSTDIC150	VSTDIC150	VN088349.D	11/24/2025	14:35



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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Alliance

Contract: JACO05

Lab Code: ACE

SDG NO.: Q3813

Lab File ID: VN088486.D

BFB Injection Date: 12/10/2025

Instrument ID: MSVOA_N

BFB Injection Time: 09:29

GC Column: RXI-624 ID: 0.25 (mm)

Heated Purge: Y/N N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.6
75	30.0 - 60.0% of mass 95	53.7
95	Base Peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	1.3 (1.9) 1
174	50.0 - 100.0% of mass 95	67.7
175	5.0 - 9.0% of mass 174	4.7 (7) 1
176	95.0 - 101.0% of mass 174	65 (95.9) 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:

CLIENT ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
VSTDCCC050	VSTDCCC050	VN088487.D	12/10/2025	10:01
VN1210WBL01	VN1210WBL01	VN088489.D	12/10/2025	10:57
VN1210WBS01	VN1210WBS01	VN088491.D	12/10/2025	12:03
BR-04DR-451-120825	Q3813-01	VN088492.D	12/10/2025	12:23
EB01-120825	Q3813-03	VN088493.D	12/10/2025	12:44
TB01-120825	Q3813-04	VN088494.D	12/10/2025	13:04
VN1210WBSD01	VN1210WBSD01	VN088496.D	12/10/2025	13:45

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Alliance Contract: JACO05
Lab Code: ACE SDG NO.: Q3813
Lab File ID: VN088487.D Date Analyzed: 12/10/2025
Instrument ID: MSVOA_N Time Analyzed: 10:01
GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR STD	249947	8.21	468726	9.08	435160	11.84
UPPER LIMIT	499894	8.706	937452	9.583	870320	12.341
LOWER LIMIT	124974	7.706	234363	8.583	217580	11.341
EPA SAMPLE NO.						
BR-04DR-451-120825	212180	8.21	494367	9.08	485409	11.84
EB01-120825	207235	8.21	478662	9.08	473650	11.84
TB01-120825	225847	8.21	531810	9.08	534272	11.84
VN1210WBL01	199142	8.20	459524	9.08	467279	11.84
VN1210WBS01	279896	8.21	512638	9.08	464243	11.84
VN1210WBSD01	226609	8.21	440776	9.08	408174	11.84

IS1 = Pentafluorobenzene
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.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Alliance Contract: JACO05
 Lab Code: ACE SDG NO.: Q3813
 Lab File ID: VN088487.D Date Analyzed: 12/10/2025
 Instrument ID: MSVOA_N Time Analyzed: 10:01
 GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	IS4 AREA #	RT #				
12 HOUR STD	215555	13.77				
UPPER LIMIT	431110	14.27				
LOWER LIMIT	107778	13.27				
EPA SAMPLE NO.						
BR-04DR-451-120825	222072	13.77				
EB01-120825	215051	13.77				
TB01-120825	252826	13.77				
VN1210WBL01	211178	13.77				
VN1210WBS01	225326	13.77				
VN1210WBSD01	199717	13.77				

IS4 = 1,4-Dichlorobenzene-d4

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



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

Report of Analysis

Client: JACOBS Engineering Group, Inc.
Project: Former Schlumberger STC PTC Site D3868221
Client Sample ID: BR-04DR-451-120825
Lab Sample ID: Q3813-01
Analytical Method: 8260D
Sample Wt/Vol: 5 mL

Level: LOW
Final Vol: 5000 uL

Date Collected: 12/08/25
Date Received: 12/08/25
SDG No.: Q3813
Matrix: Water
% Solid: 0
Test: VOCMS Group3

CAS Number	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Date Ana.	BatchID
TARGETS									
75-01-4	Vinyl Chloride	0.26	U	1	0.26	1.00	ug/L	12/10/25 12:23	VN121025
75-35-4	1,1-Dichloroethene	8.30		1	0.23	1.00	ug/L	12/10/25 12:23	VN121025
75-34-3	1,1-Dichloroethane	0.23	U	1	0.23	1.00	ug/L	12/10/25 12:23	VN121025
156-59-2	cis-1,2-Dichloroethene	6.60		1	0.19	1.00	ug/L	12/10/25 12:23	VN121025
71-55-6	1,1,1-Trichloroethane	0.20	U	1	0.20	1.00	ug/L	12/10/25 12:23	VN121025
71-43-2	Benzene	0.15	U	1	0.15	1.00	ug/L	12/10/25 12:23	VN121025
107-06-2	1,2-Dichloroethane	1.00		1	0.22	1.00	ug/L	12/10/25 12:23	VN121025
79-01-6	Trichloroethene	7.30		1	0.090	1.00	ug/L	12/10/25 12:23	VN121025
79-00-5	1,1,2-Trichloroethane	0.21	U	1	0.21	1.00	ug/L	12/10/25 12:23	VN121025
127-18-4	Tetrachloroethene	0.23	U	1	0.23	1.00	ug/L	12/10/25 12:23	VN121025
SURROGATES									
17060-07-0	1,2-Dichloroethane-d4	56.7			70 (74) - 130 (125)	113%	SPK: 50		
1868-53-7	Dibromofluoromethane	47.0			70 (75) - 130 (124)	94%	SPK: 50		
2037-26-5	Toluene-d8	44.9			70 (86) - 130 (113)	90%	SPK: 50		
460-00-4	4-Bromofluorobenzene	46.3			70 (77) - 130 (121)	93%	SPK: 50		
INTERNAL STANDARDS									
		Area Count							
363-72-4	Pentafluorobenzene	212000							
540-36-3	1,4-Difluorobenzene	494000							
3114-55-4	Chlorobenzene-d5	485000							
3855-82-1	1,4-Dichlorobenzene-d4	222000							

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088492.D
 Acq On : 10 Dec 2025 12:23
 Operator : JC\MD
 Sample : Q3813-01
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 8 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 BR-04DR-451-120825

Quant Time: Dec 11 02:05:49 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T. QIon		Response	Conc	Units	Dev(Min)

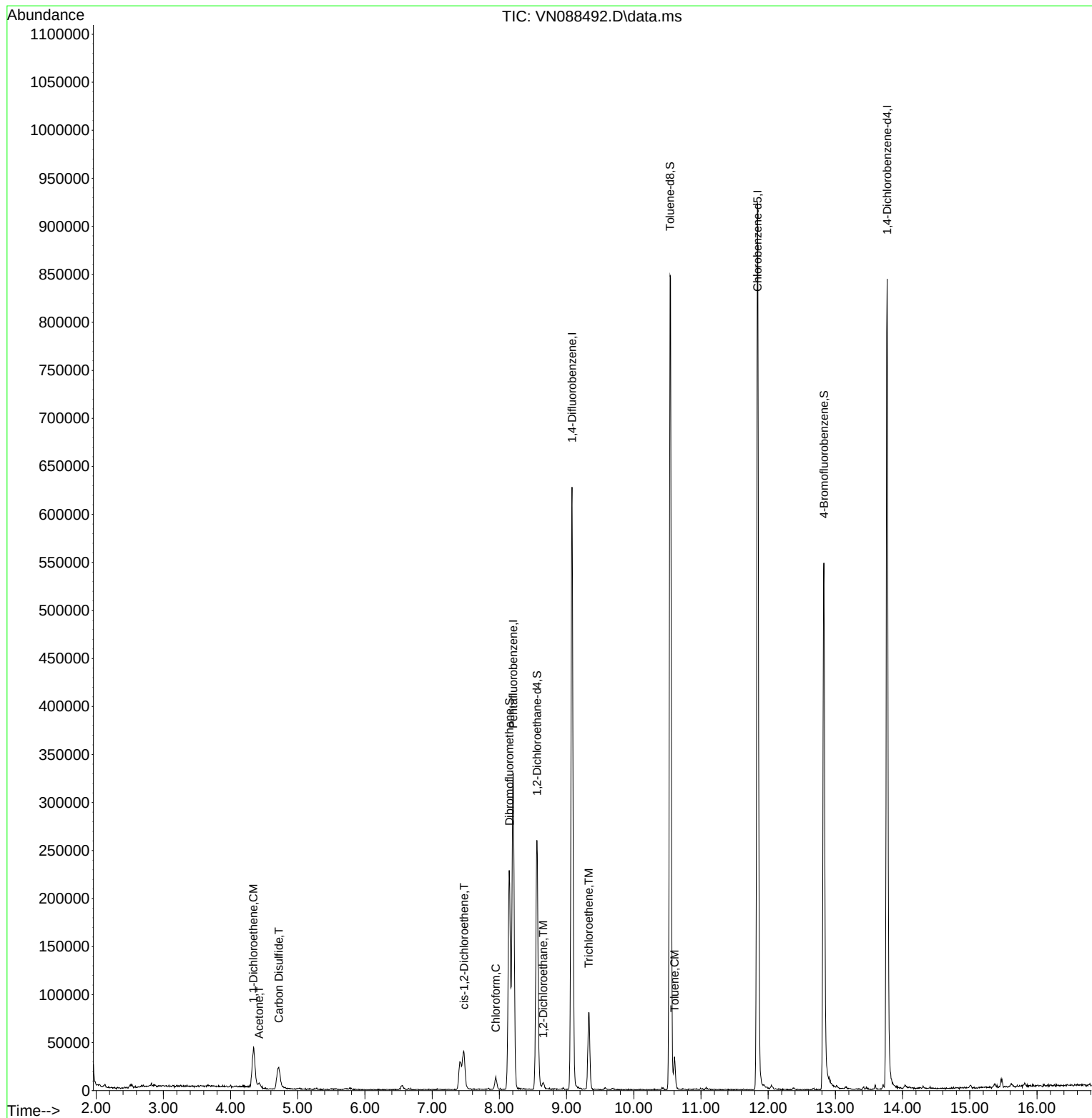
Internal Standards						
1) Pentafluorobenzene	8.206	168	212180	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	494367	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	485409	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	222072	50.000	ug/l	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	226563	56.683	ug/l	0.00
Spiked Amount	50.000	Range 74 - 125	Recovery	=	113.360%	
35) Dibromofluoromethane	8.147	113	160883	46.960	ug/l	0.00
Spiked Amount	50.000	Range 75 - 124	Recovery	=	93.920%	
50) Toluene-d8	10.541	98	572596	44.919	ug/l	0.00
Spiked Amount	50.000	Range 86 - 113	Recovery	=	89.840%	
62) 4-Bromofluorobenzene	12.829	95	202603	46.322	ug/l	0.00
Spiked Amount	50.000	Range 77 - 121	Recovery	=	92.640%	
Target Compounds						Qvalue
12) 1,1-Dichloroethene	4.342	96	21494	8.303	ug/l	92
16) Acetone	4.424	43	9616	6.652	ug/l	98
17) Carbon Disulfide	4.718	76	16408	1.940	ug/l #	89
27) cis-1,2-Dichloroethene	7.477	96	21872	6.563	ug/l	92
30) Chloroform	7.947	83	11629	2.040	ug/l #	81
42) 1,2-Dichloroethane	8.653	62	6039	1.020	ug/l	99
44) Trichloroethene	9.329	130	26716	7.286	ug/l	96
52) Toluene	10.606	92	12084	1.349	ug/l	98

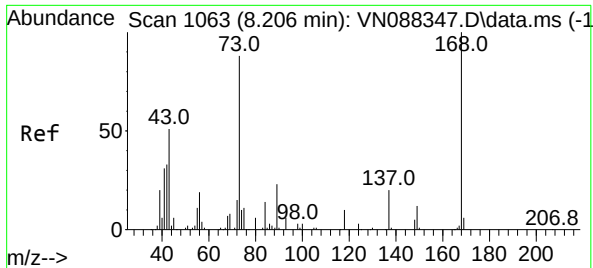
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088492.D
Acq On : 10 Dec 2025 12:23
Operator : JC\MD
Sample : Q3813-01
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 8 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
BR-04DR-451-120825

Quant Time: Dec 11 02:05:49 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration

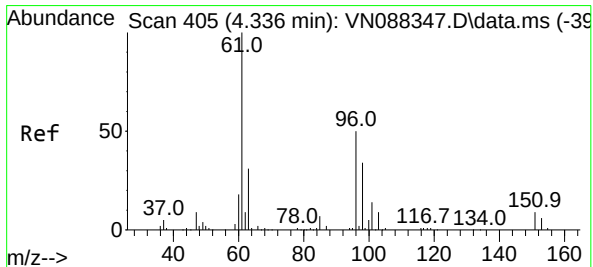
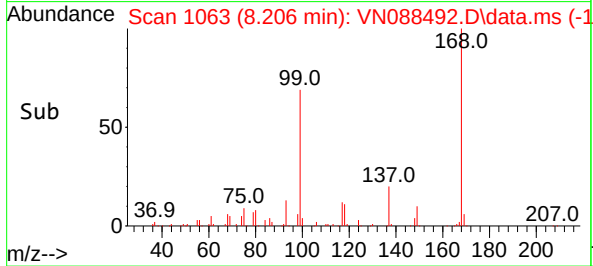
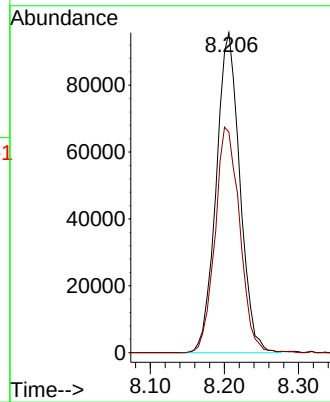
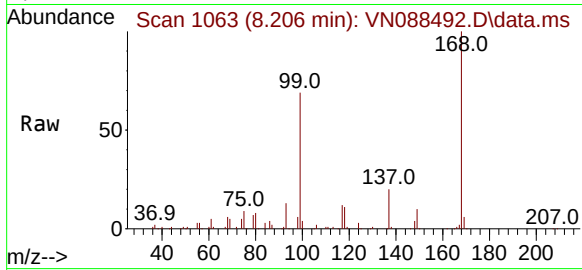




#1
Pentafluorobenzene
Concen: 50.000 ug/l
RT: 8.206 min Scan# 1063
Delta R.T. -0.000 min
Lab File: VN088492.D
Acq: 10 Dec 2025 12:23

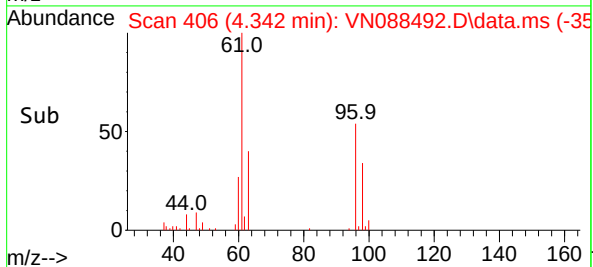
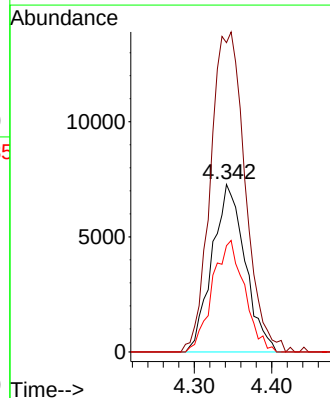
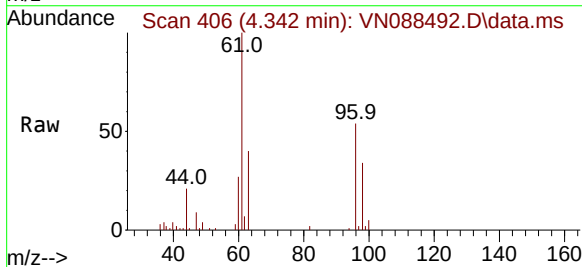
Instrument :
MSVOA_N
ClientSampleId :
BR-04DR-451-120825

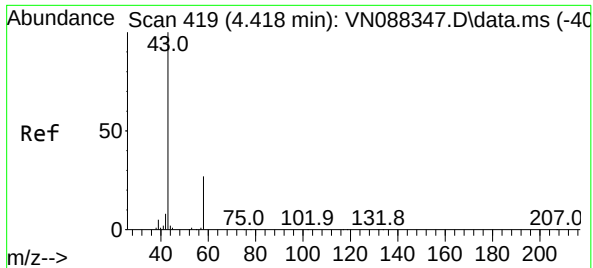
Tgt Ion:168 Resp: 212180
Ion Ratio Lower Upper
168 100
99 68.9 57.1 85.7



#12
1,1-Dichloroethene
Concen: 8.303 ug/l
RT: 4.342 min Scan# 406
Delta R.T. 0.006 min
Lab File: VN088492.D
Acq: 10 Dec 2025 12:23

Tgt Ion: 96 Resp: 21494
Ion Ratio Lower Upper
96 100
61 184.5 159.1 238.7
98 63.4 53.7 80.5

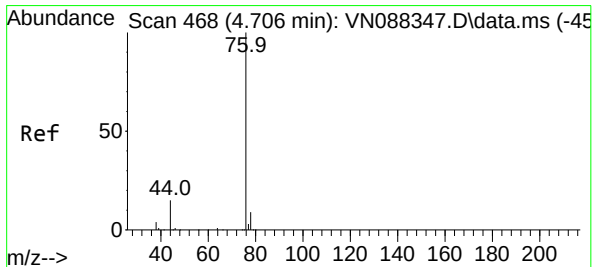
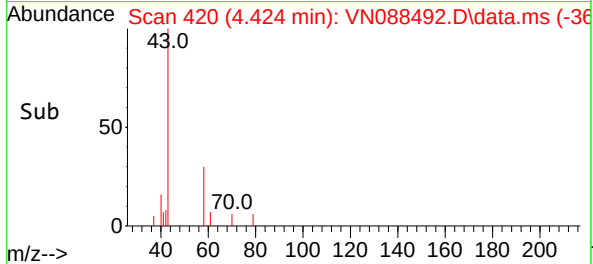
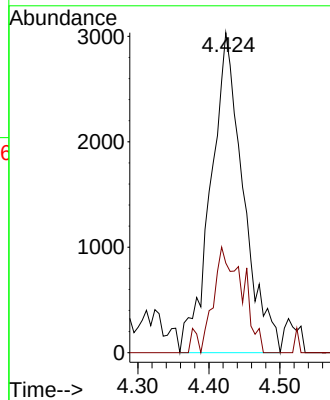
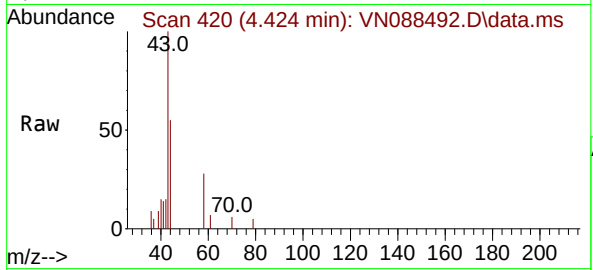




#16
Acetone
Concen: 6.652 ug/l
RT: 4.424 min Scan# 419
Delta R.T. 0.006 min
Lab File: VN088492.D
Acq: 10 Dec 2025 12:23

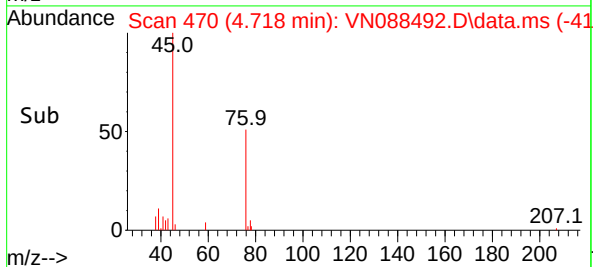
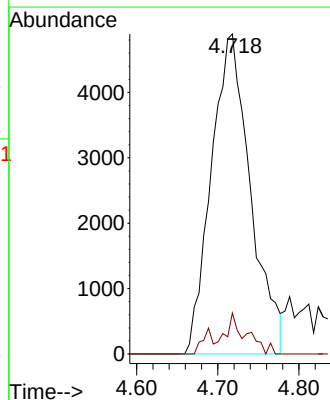
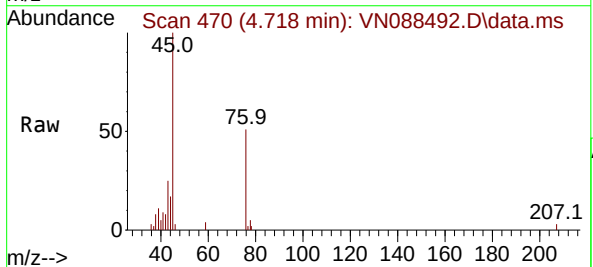
Instrument :
MSVOA_N
ClientSampleId :
BR-04DR-451-120825

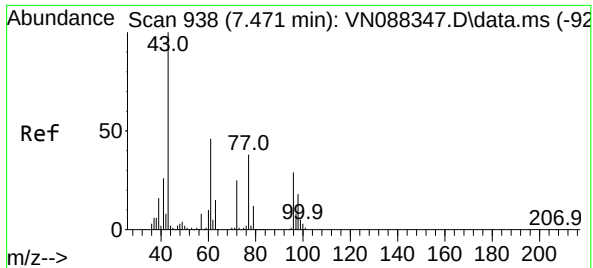
Tgt Ion: 43 Resp: 9616
Ion Ratio Lower Upper
43 100
58 28.0 21.7 32.5



#17
Carbon Disulfide
Concen: 1.940 ug/l
RT: 4.718 min Scan# 470
Delta R.T. 0.012 min
Lab File: VN088492.D
Acq: 10 Dec 2025 12:23

Tgt Ion: 76 Resp: 16408
Ion Ratio Lower Upper
76 100
78 12.8 7.0 10.4#





#27

cis-1,2-Dichloroethene

Concen: 6.563 ug/l

RT: 7.477 min Scan# 91

Delta R.T. 0.006 min

Lab File: VN088492.D

Acq: 10 Dec 2025 12:23

Instrument :

MSVOA_N

ClientSampleId :

BR-04DR-451-120825

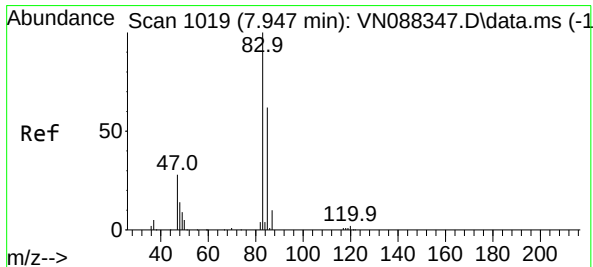
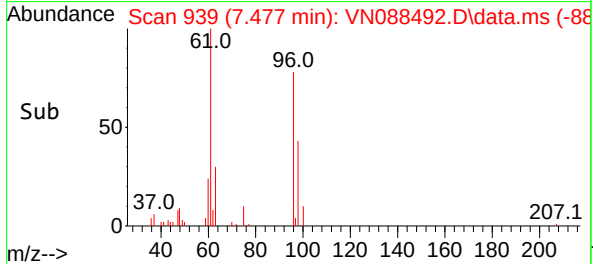
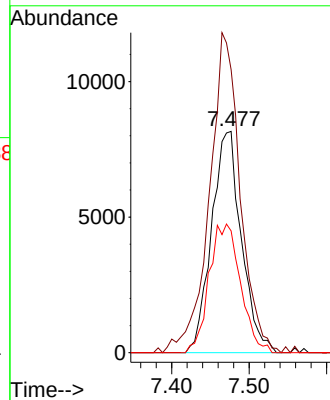
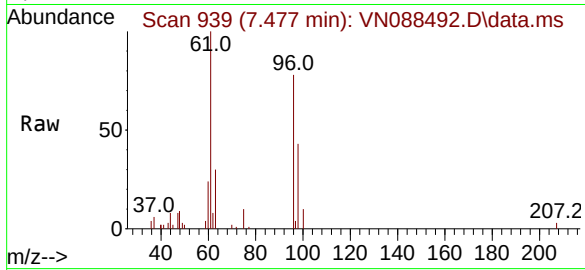
Tgt Ion: 96 Resp: 21872

Ion	Ratio	Lower	Upper
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96	100		
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61	148.9	0.0	323.6
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98	61.1	0.0	127.2
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#30

Chloroform

Concen: 2.040 ug/l

RT: 7.947 min Scan# 1019

Delta R.T. 0.000 min

Lab File: VN088492.D

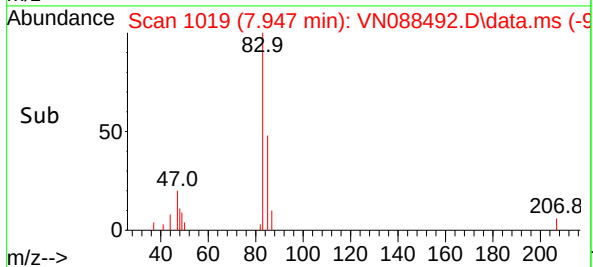
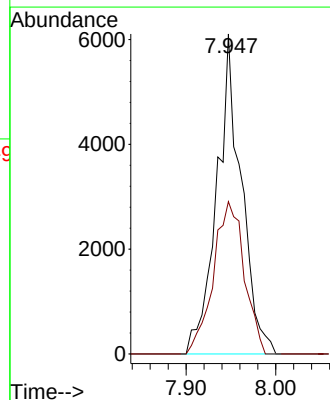
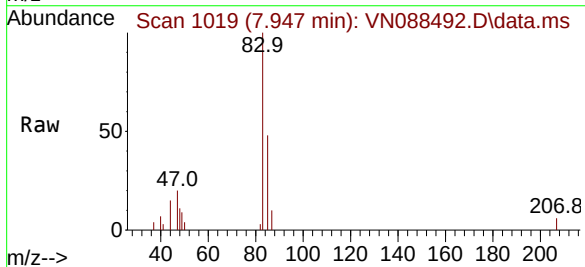
Acq: 10 Dec 2025 12:23

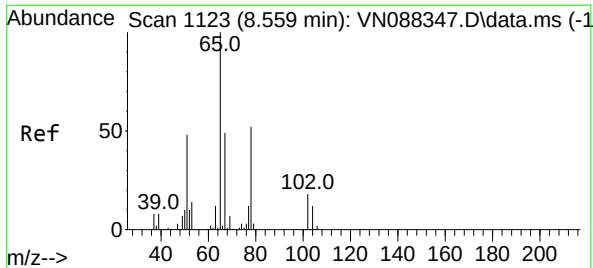
Tgt Ion: 83 Resp: 11629

Ion	Ratio	Lower	Upper
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83	100		
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85	47.6	49.8	74.8#
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#33

1,2-Dichloroethane-d4

Concen: 56.683 ug/l

RT: 8.559 min Scan# 1123

Delta R.T. 0.000 min

Lab File: VN088492.D

Acq: 10 Dec 2025 12:23

Instrument :

MSVOA_N

ClientSampleId :

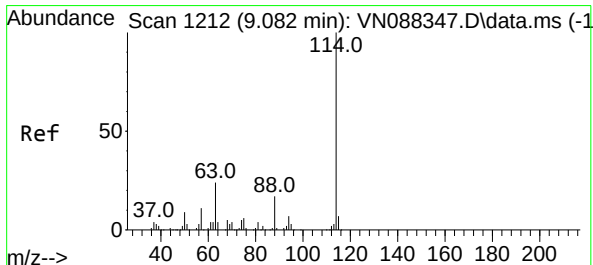
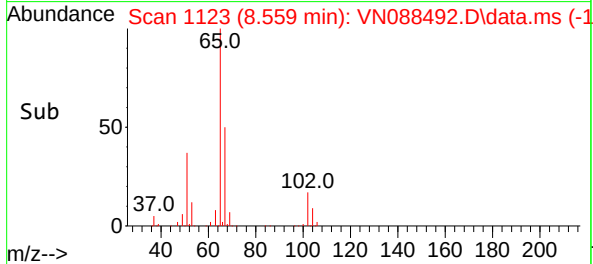
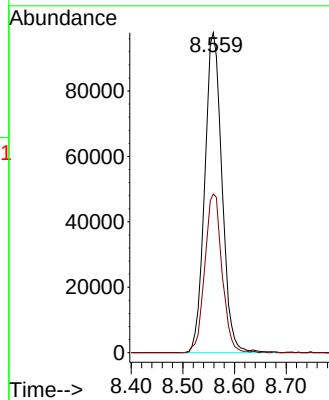
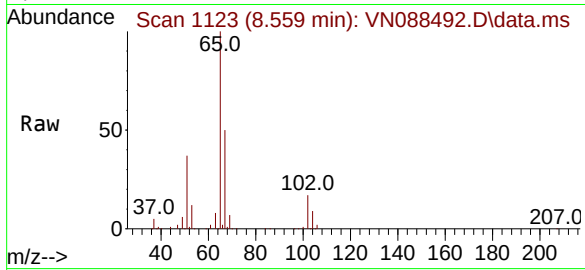
BR-04DR-451-120825

Tgt Ion: 65 Resp: 226563

Ion Ratio Lower Upper

65 100

67 49.7 0.0 100.8



#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 9.082 min Scan# 1212

Delta R.T. 0.000 min

Lab File: VN088492.D

Acq: 10 Dec 2025 12:23

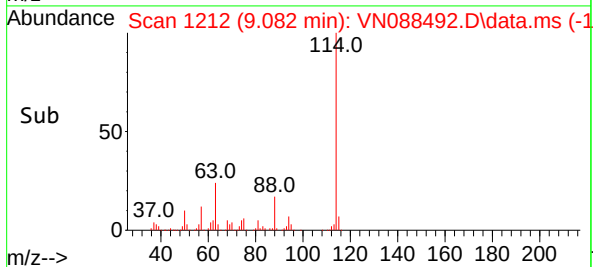
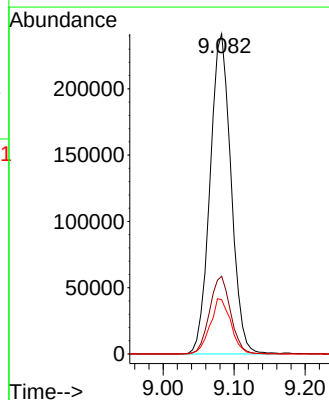
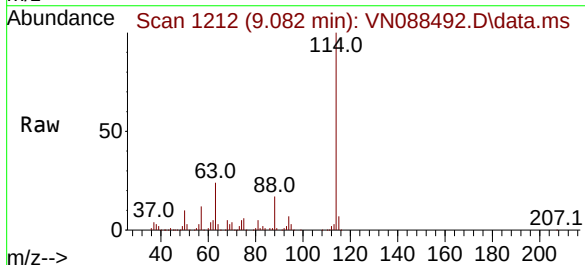
Tgt Ion: 114 Resp: 494367

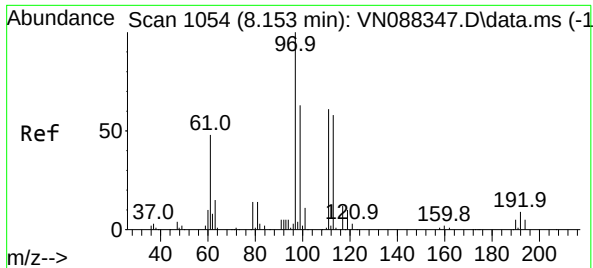
Ion Ratio Lower Upper

114 100

63 24.3 0.0 49.0

88 16.9 0.0 34.0





#35

Dibromofluoromethane

Concen: 46.960 ug/l

RT: 8.147 min Scan# 1105

Delta R.T. -0.006 min

Lab File: VN088492.D

Acq: 10 Dec 2025 12:23

Instrument :

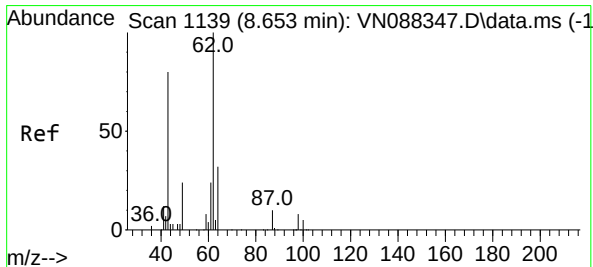
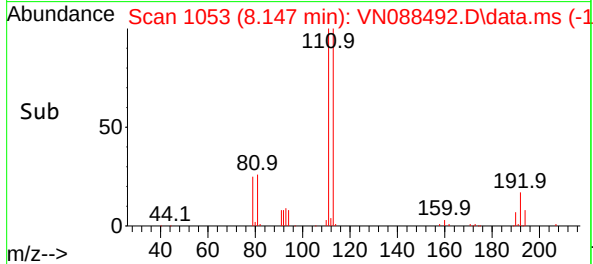
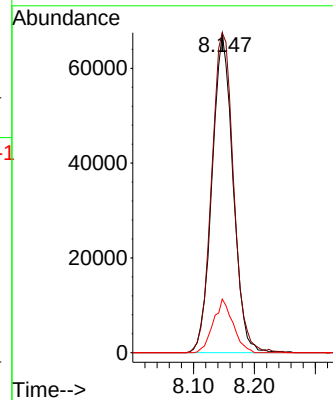
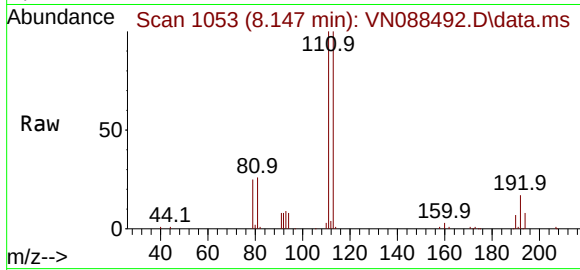
MSVOA_N

ClientSampleId :

BR-04DR-451-120825

Tgt Ion:113 Resp: 160883

Ion	Ratio	Lower	Upper
113	100		
111	104.8	82.5	123.7
192	15.8	12.8	19.2



#42

1,2-Dichloroethane

Concen: 1.020 ug/l

RT: 8.653 min Scan# 1139

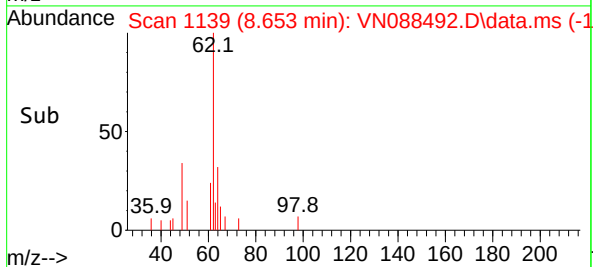
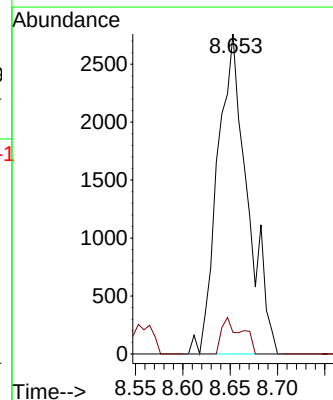
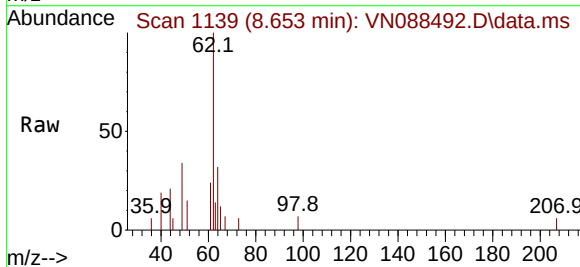
Delta R.T. 0.000 min

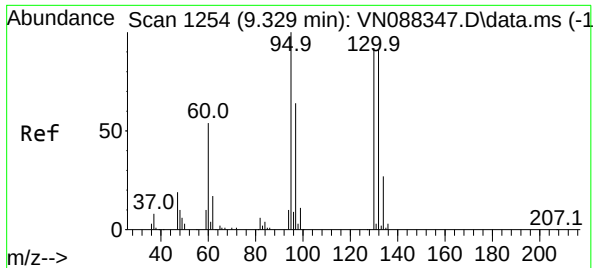
Lab File: VN088492.D

Acq: 10 Dec 2025 12:23

Tgt Ion: 62 Resp: 6039

Ion	Ratio	Lower	Upper
62	100		
98	7.7	0.0	16.2





#44

Trichloroethene

Concen: 7.286 ug/l

RT: 9.329 min Scan# 1

Delta R.T. 0.000 min

Lab File: VN088492.D

Acq: 10 Dec 2025 12:23

Instrument :

MSVOA_N

ClientSampleId :

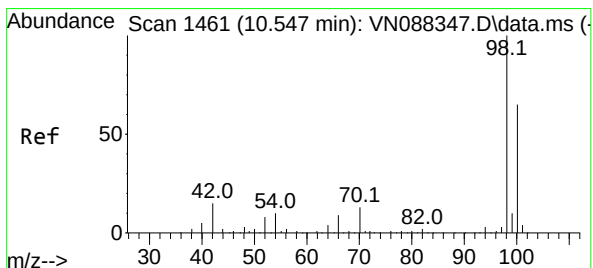
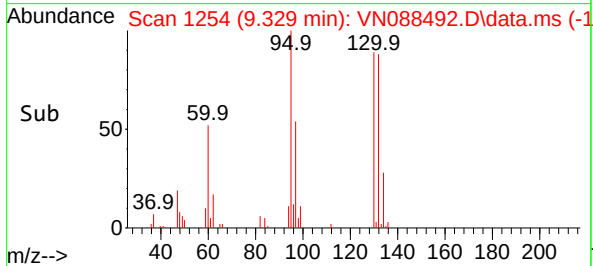
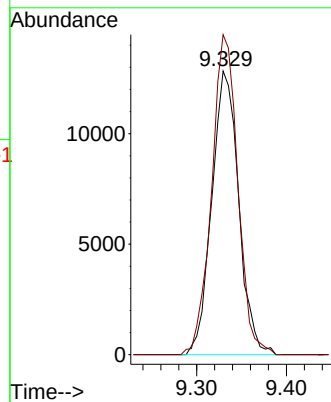
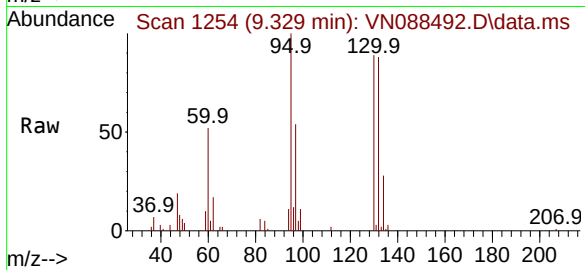
BR-04DR-451-120825

Tgt Ion:130 Resp: 26716

Ion Ratio Lower Upper

130 100

95 112.8 0.0 217.0



#50

Toluene-d8

Concen: 44.919 ug/l

RT: 10.541 min Scan# 1460

Delta R.T. -0.006 min

Lab File: VN088492.D

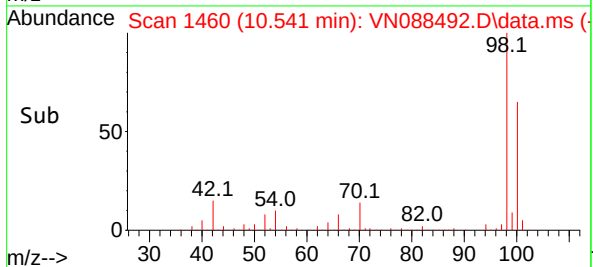
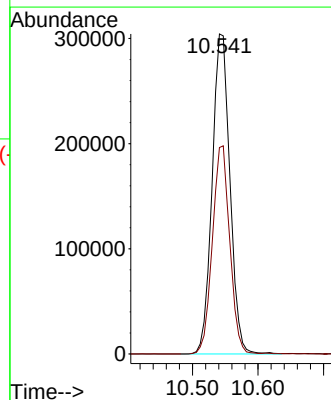
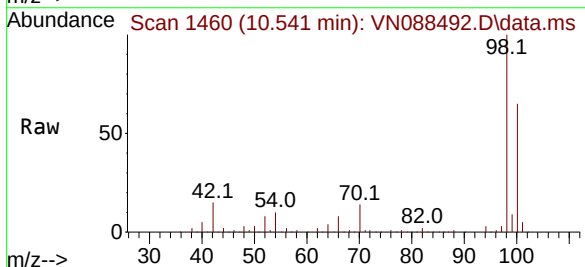
Acq: 10 Dec 2025 12:23

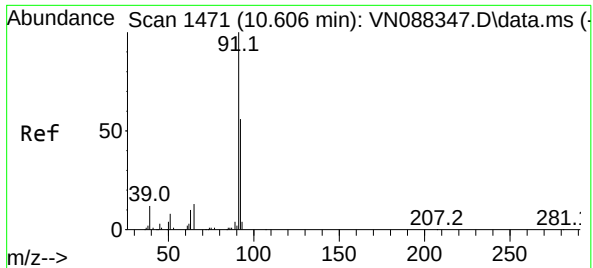
Tgt Ion: 98 Resp: 572596

Ion Ratio Lower Upper

98 100

100 63.5 52.2 78.2

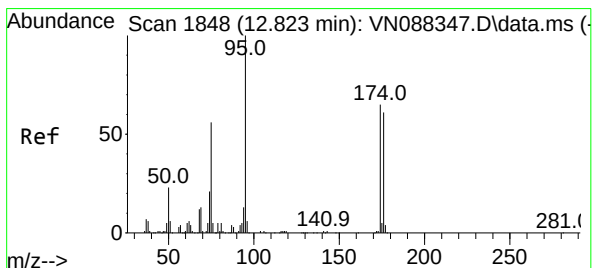
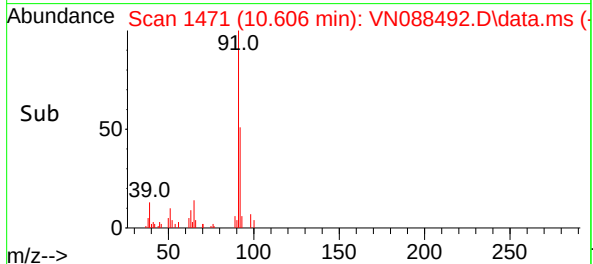
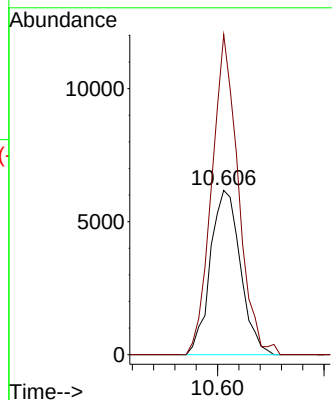
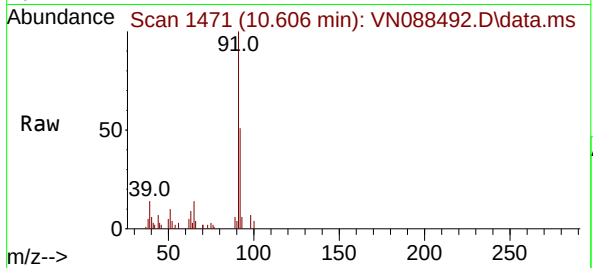




#52
Toluene
Concen: 1.349 ug/l
RT: 10.606 min Scan# 1471
Delta R.T. 0.000 min
Lab File: VN088492.D
Acq: 10 Dec 2025 12:23

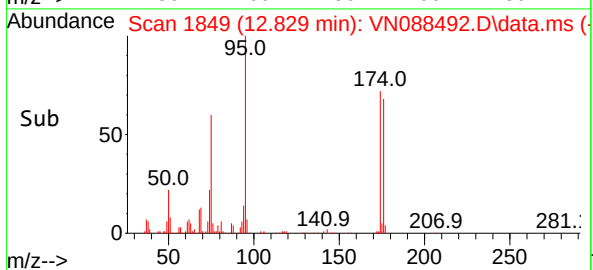
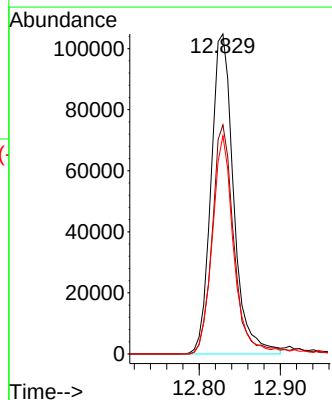
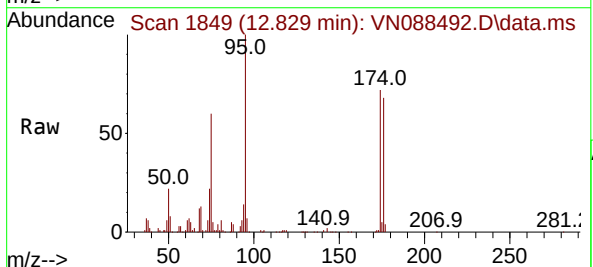
Instrument :
MSVOA_N
ClientSampleId :
BR-04DR-451-120825

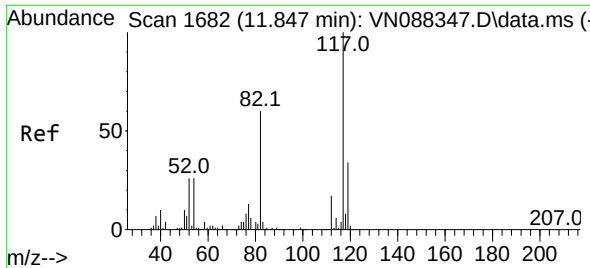
Tgt Ion: 92 Resp: 12084
Ion Ratio Lower Upper
92 100
91 172.2 140.2 210.2



#62
4-Bromofluorobenzene
Concen: 46.322 ug/l
RT: 12.829 min Scan# 1849
Delta R.T. 0.006 min
Lab File: VN088492.D
Acq: 10 Dec 2025 12:23

Tgt Ion: 95 Resp: 202603
Ion Ratio Lower Upper
95 100
174 69.2 0.0 139.0
176 65.5 0.0 132.4

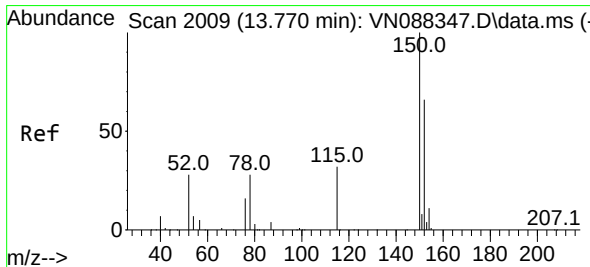
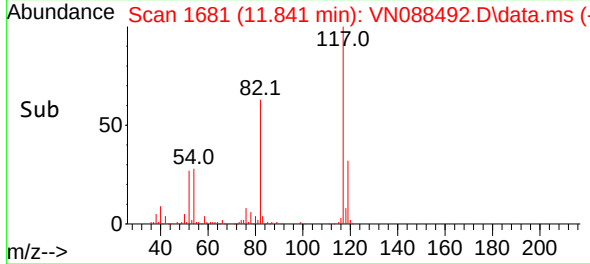
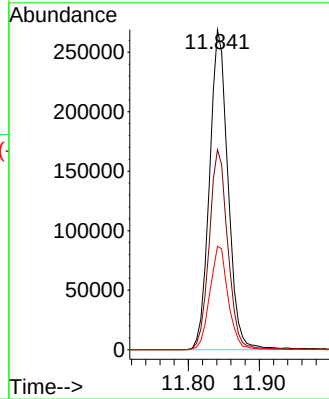
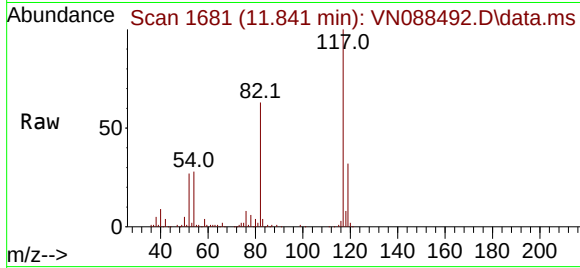




#63
Chlorobenzene-d5
Concen: 50.000 ug/l
RT: 11.841 min Scan# 11
Delta R.T. -0.006 min
Lab File: VN088492.D
Acq: 10 Dec 2025 12:23

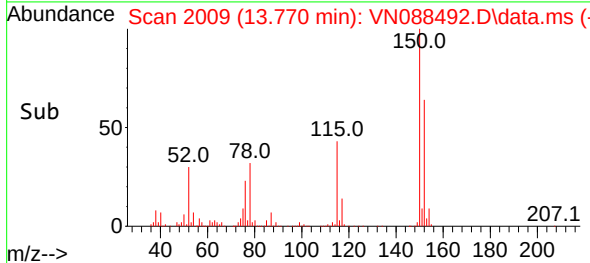
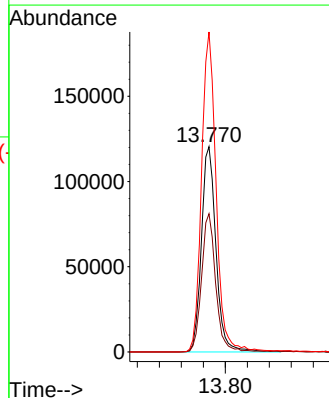
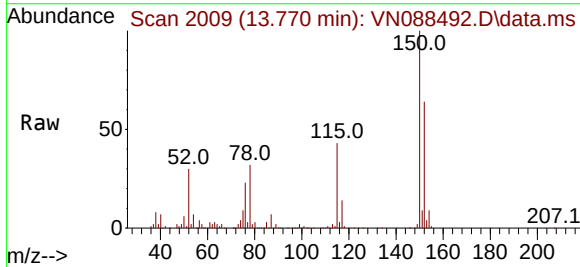
Instrument :
MSVOA_N
ClientSampleId :
BR-04DR-451-120825

Tgt Ion	Ratio	Lower	Upper
117	100		
82	62.5	47.8	71.8
119	32.3	26.9	40.3



#72
1,4-Dichlorobenzene-d4
Concen: 50.000 ug/l
RT: 13.770 min Scan# 2009
Delta R.T. 0.000 min
Lab File: VN088492.D
Acq: 10 Dec 2025 12:23

Tgt Ion	Ratio	Lower	Upper
152	100		
115	65.6	33.0	98.9
150	156.6	0.0	349.0





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

Report of Analysis

Client: JACOBS Engineering Group, Inc.
Project: Former Schlumberger STC PTC Site D3868221
Client Sample ID: EB01-120825
Lab Sample ID: Q3813-03
Analytical Method: 8260D
Sample Wt/Vol: 5 mL

Level: LOW
Final Vol: 5000 uL

Date Collected: 12/08/25
Date Received: 12/08/25
SDG No.: Q3813
Matrix: Water
% Solid: 0
Test: VOCMS Group3

CAS Number	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Date Ana.	BatchID
TARGETS									
75-01-4	Vinyl Chloride	0.26	U	1	0.26	1.00	ug/L	12/10/25 12:44	VN121025
75-35-4	1,1-Dichloroethene	0.23	U	1	0.23	1.00	ug/L	12/10/25 12:44	VN121025
75-34-3	1,1-Dichloroethane	0.23	U	1	0.23	1.00	ug/L	12/10/25 12:44	VN121025
156-59-2	cis-1,2-Dichloroethene	0.19	U	1	0.19	1.00	ug/L	12/10/25 12:44	VN121025
71-55-6	1,1,1-Trichloroethane	0.20	U	1	0.20	1.00	ug/L	12/10/25 12:44	VN121025
71-43-2	Benzene	0.15	U	1	0.15	1.00	ug/L	12/10/25 12:44	VN121025
107-06-2	1,2-Dichloroethane	0.22	U	1	0.22	1.00	ug/L	12/10/25 12:44	VN121025
79-01-6	Trichloroethene	0.090	U	1	0.090	1.00	ug/L	12/10/25 12:44	VN121025
79-00-5	1,1,2-Trichloroethane	0.21	U	1	0.21	1.00	ug/L	12/10/25 12:44	VN121025
127-18-4	Tetrachloroethene	0.23	U	1	0.23	1.00	ug/L	12/10/25 12:44	VN121025
SURROGATES									
17060-07-0	1,2-Dichloroethane-d4	58.2			70 (74) - 130 (125)	116%	SPK: 50		
1868-53-7	Dibromofluoromethane	49.4			70 (75) - 130 (124)	99%	SPK: 50		
2037-26-5	Toluene-d8	46.5			70 (86) - 130 (113)	93%	SPK: 50		
460-00-4	4-Bromofluorobenzene	50.5			70 (77) - 130 (121)	101%	SPK: 50		
INTERNAL STANDARDS									
		Area Count							
363-72-4	Pentafluorobenzene	207000							
540-36-3	1,4-Difluorobenzene	479000							
3114-55-4	Chlorobenzene-d5	474000							
3855-82-1	1,4-Dichlorobenzene-d4	215000							

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088493.D
 Acq On : 10 Dec 2025 12:44
 Operator : JC\MD
 Sample : Q3813-03
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 9 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 EB01-120825

Quant Time: Dec 11 02:06:20 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T. QIon		Response	Conc	Units	Dev(Min)

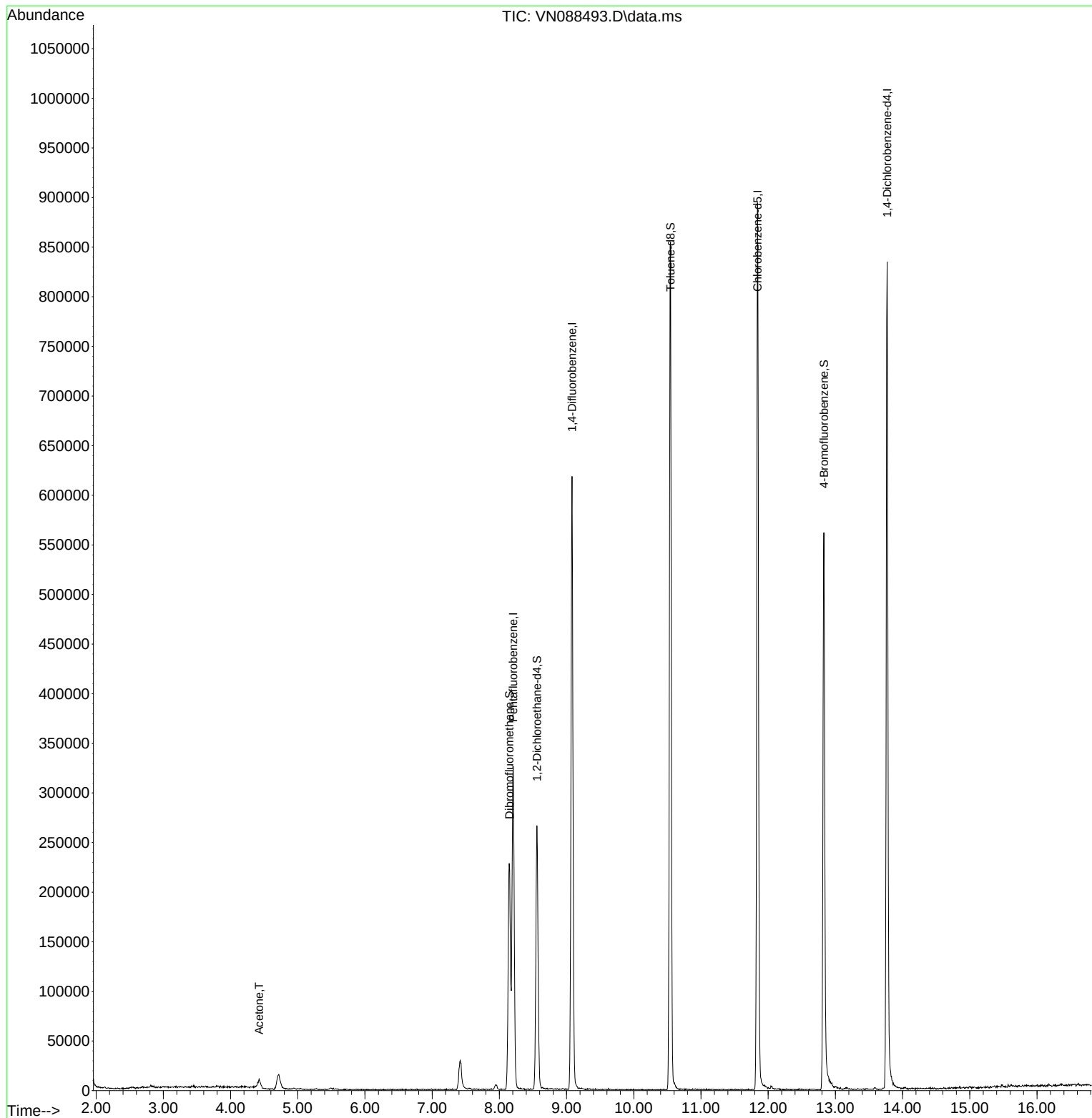
Internal Standards						
1) Pentafluorobenzene	8.206	168	207235	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	478662	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	473650	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	215051	50.000	ug/l	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	227328	58.231	ug/l	0.00
Spiked Amount	50.000	Range	74 - 125	Recovery	=	116.460%
35) Dibromofluoromethane	8.147	113	163948	49.425	ug/l	0.00
Spiked Amount	50.000	Range	75 - 124	Recovery	=	98.840%
50) Toluene-d8	10.547	98	573401	46.459	ug/l	0.00
Spiked Amount	50.000	Range	86 - 113	Recovery	=	92.920%
62) 4-Bromofluorobenzene	12.829	95	213914	50.513	ug/l	0.00
Spiked Amount	50.000	Range	77 - 121	Recovery	=	101.020%
Target Compounds						
						Qvalue
16) Acetone	4.424	43	18673	13.226	ug/l	# 77

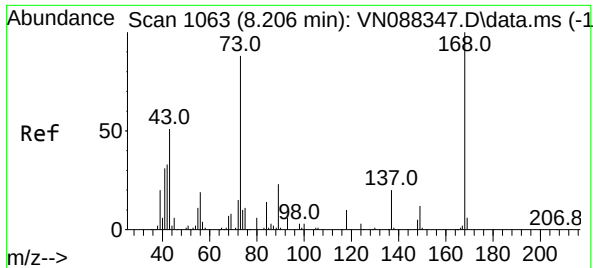
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088493.D
Acq On : 10 Dec 2025 12:44
Operator : JC\MD
Sample : Q3813-03
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
EB01-120825

Quant Time: Dec 11 02:06:20 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration

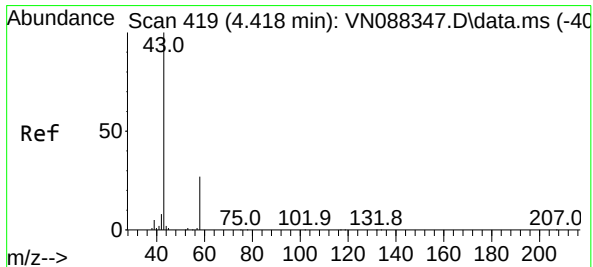
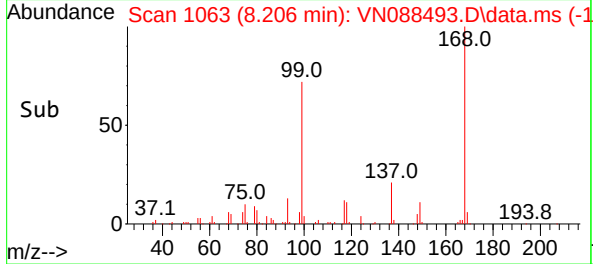
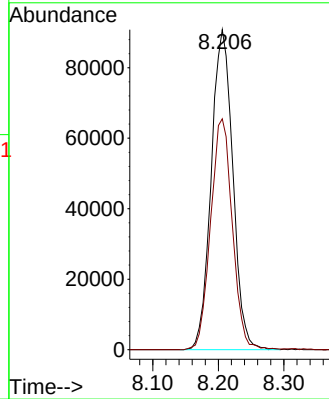
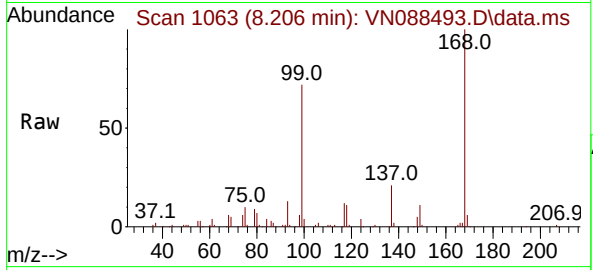




#1
Pentafluorobenzene
Concen: 50.000 ug/l
RT: 8.206 min Scan# 1063
Delta R.T. 0.000 min
Lab File: VN088493.D
Acq: 10 Dec 2025 12:44

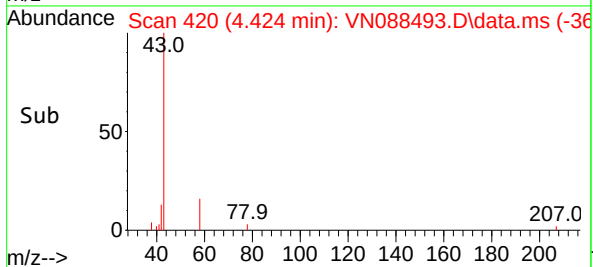
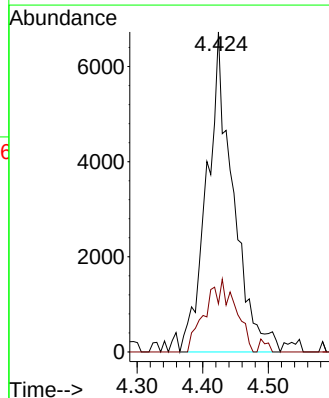
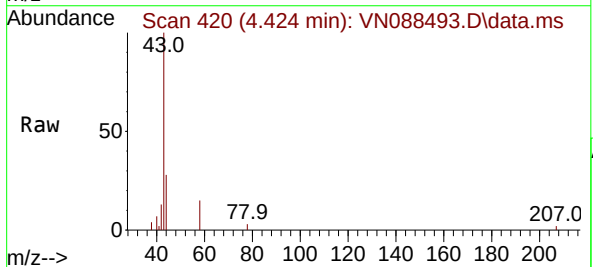
Instrument :
MSVOA_N
ClientSampleId :
EB01-120825

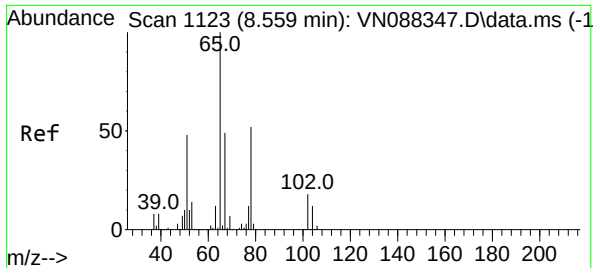
Tgt Ion:168 Resp: 207235
Ion Ratio Lower Upper
168 100
99 72.1 57.1 85.7



#16
Acetone
Concen: 13.226 ug/l
RT: 4.424 min Scan# 420
Delta R.T. 0.006 min
Lab File: VN088493.D
Acq: 10 Dec 2025 12:44

Tgt Ion: 43 Resp: 18673
Ion Ratio Lower Upper
43 100
58 15.0 21.7 32.5#





#33

1,2-Dichloroethane-d4

Concen: 58.231 ug/l

RT: 8.559 min Scan# 1123

Delta R.T. 0.000 min

Lab File: VN088493.D

Acq: 10 Dec 2025 12:44

Instrument :

MSVOA_N

ClientSampleId :

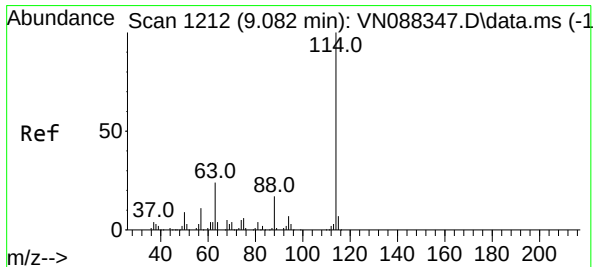
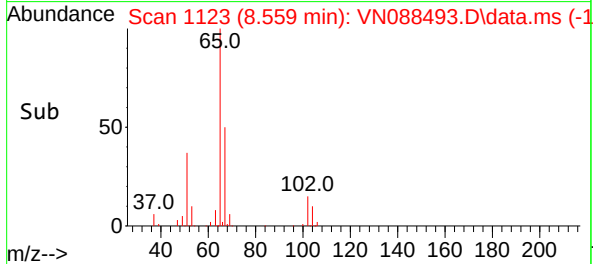
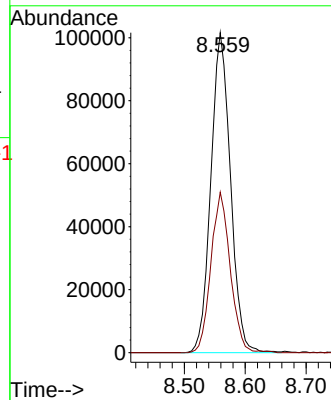
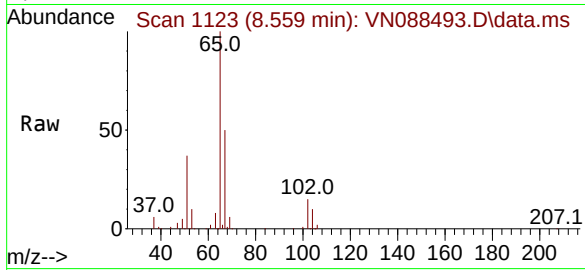
EB01-120825

Tgt Ion: 65 Resp: 227328

Ion Ratio Lower Upper

65 100

67 49.6 0.0 100.8



#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 9.082 min Scan# 1212

Delta R.T. 0.000 min

Lab File: VN088493.D

Acq: 10 Dec 2025 12:44

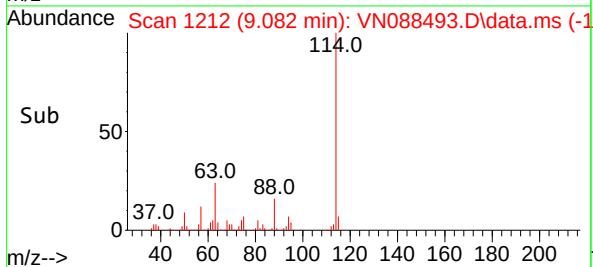
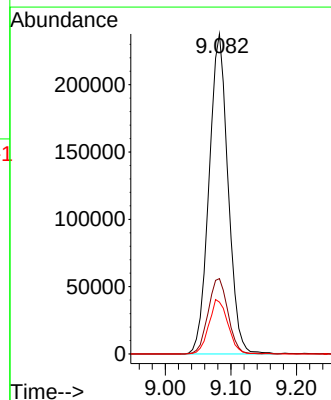
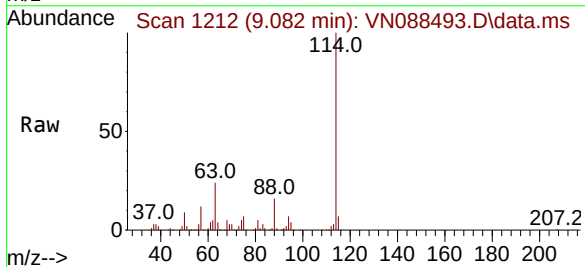
Tgt Ion: 114 Resp: 478662

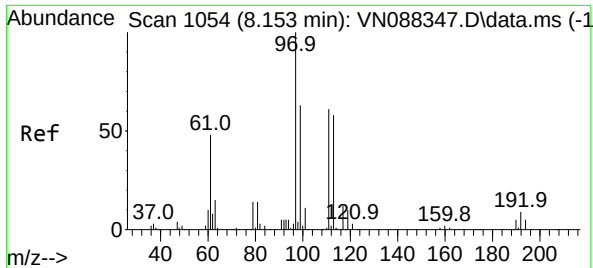
Ion Ratio Lower Upper

114 100

63 23.6 0.0 49.0

88 16.2 0.0 34.0





#35

Dibromofluoromethane

Concen: 49.425 ug/l

RT: 8.147 min Scan# 1053

Delta R.T. -0.006 min

Lab File: VN088493.D

Acq: 10 Dec 2025 12:44

Instrument :

MSVOA_N

ClientSampleId :

EB01-120825

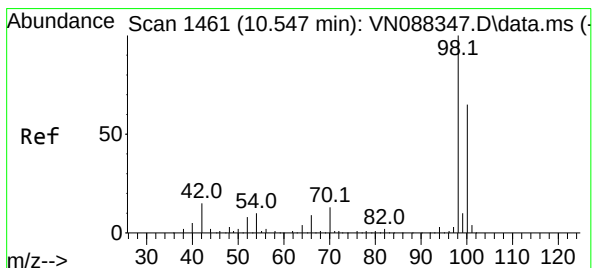
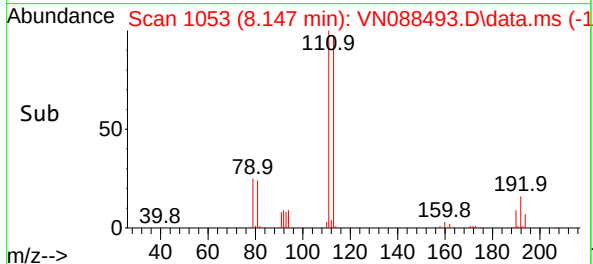
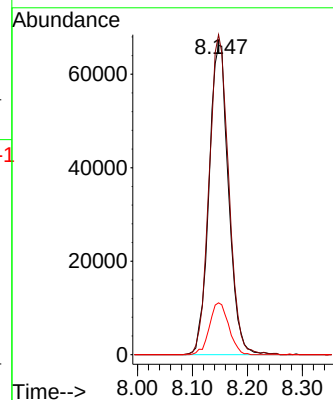
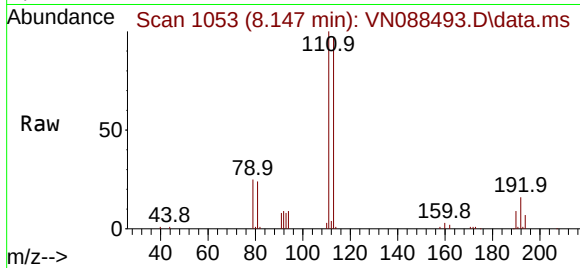
Tgt Ion:113 Resp: 163948

Ion Ratio Lower Upper

113 100

111 103.1 82.5 123.7

192 16.5 12.8 19.2



#50

Toluene-d8

Concen: 46.459 ug/l

RT: 10.547 min Scan# 1461

Delta R.T. 0.000 min

Lab File: VN088493.D

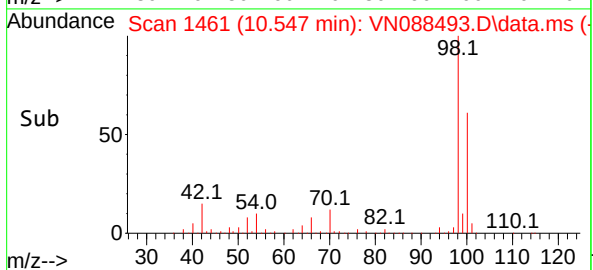
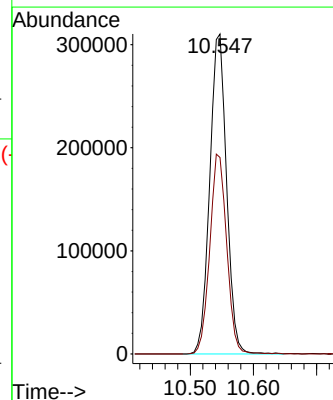
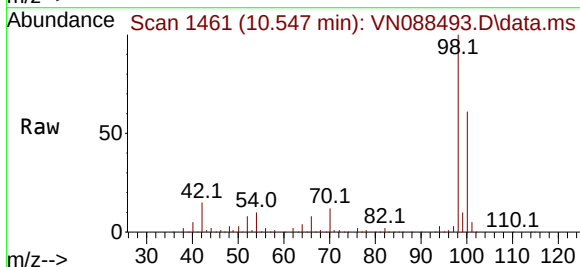
Acq: 10 Dec 2025 12:44

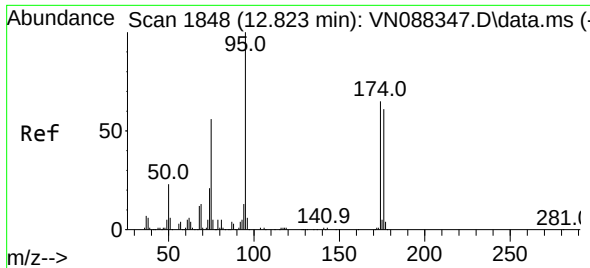
Tgt Ion: 98 Resp: 573401

Ion Ratio Lower Upper

98 100

100 62.7 52.2 78.2

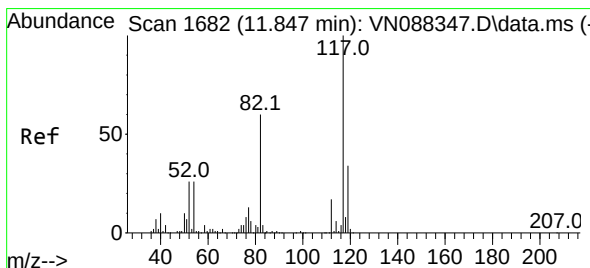
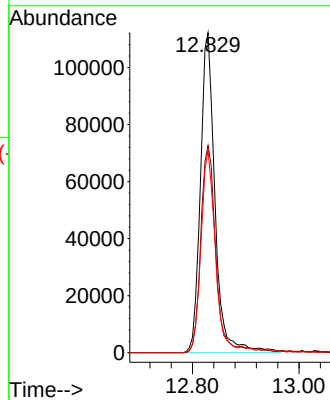
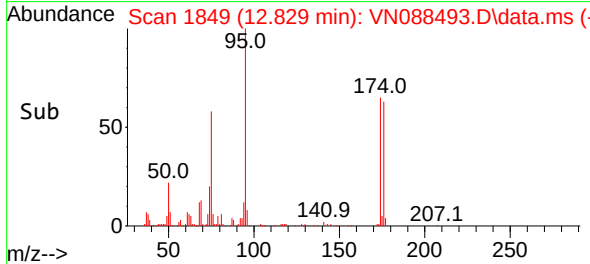
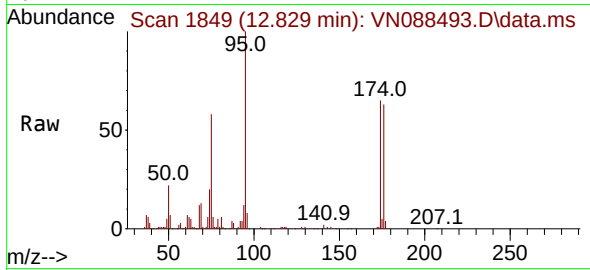




#62
4-Bromofluorobenzene
Concen: 50.513 ug/l
RT: 12.829 min Scan# 1849
Delta R.T. 0.006 min
Lab File: VN088493.D
Acq: 10 Dec 2025 12:44

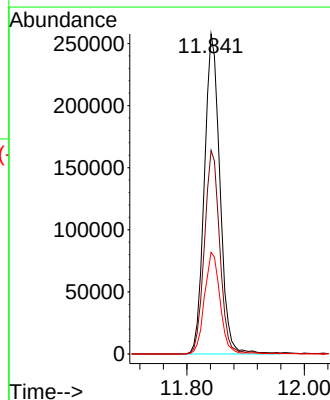
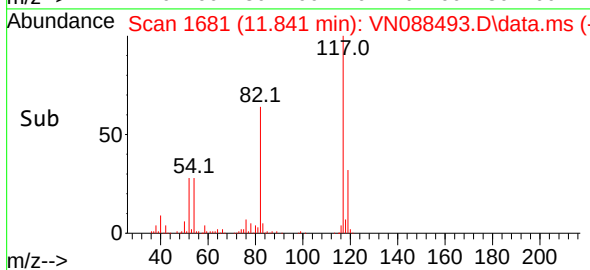
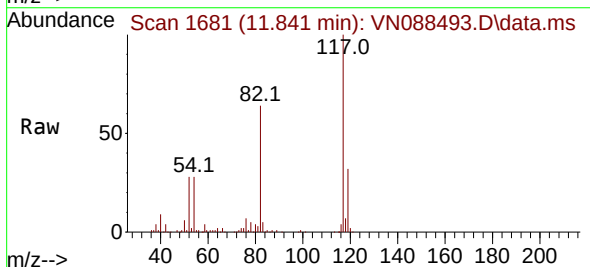
Instrument :
MSVOA_N
ClientSampleId :
EB01-120825

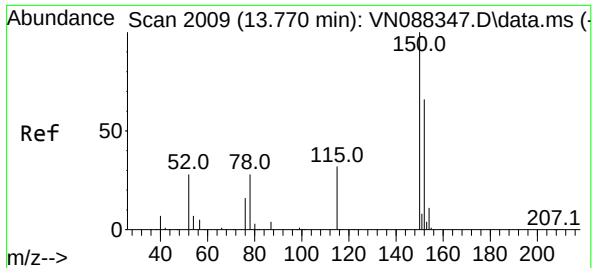
Tgt Ion: 95 Resp: 213914
Ion Ratio Lower Upper
95 100
174 67.0 0.0 139.0
176 61.2 0.0 132.4



#63
Chlorobenzene-d5
Concen: 50.000 ug/l
RT: 11.841 min Scan# 1681
Delta R.T. -0.006 min
Lab File: VN088493.D
Acq: 10 Dec 2025 12:44

Tgt Ion: 117 Resp: 473650
Ion Ratio Lower Upper
117 100
82 63.6 47.8 71.8
119 31.8 26.9 40.3





#72

1,4-Dichlorobenzene-d4

Concen: 50.000 ug/l

RT: 13.770 min Scan# 20

Delta R.T. 0.000 min

Lab File: VN088493.D

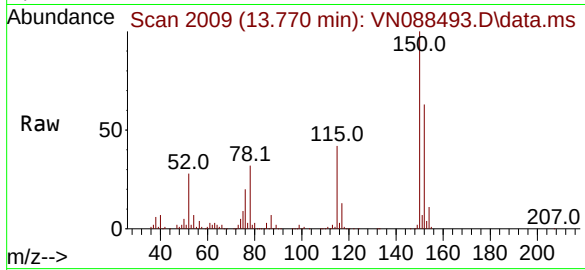
Acq: 10 Dec 2025 12:44

Instrument :

MSVOA_N

ClientSampleId :

EB01-120825



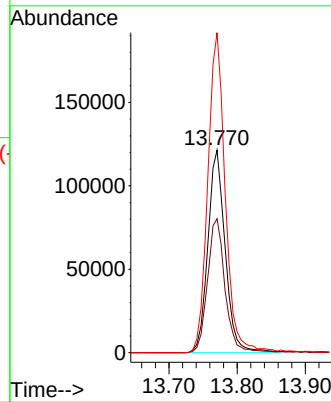
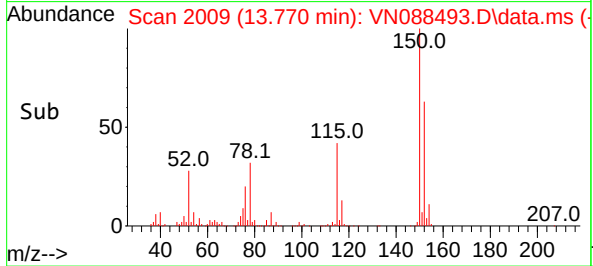
Tgt Ion:152 Resp: 215051

Ion Ratio Lower Upper

152 100

115 66.8 33.0 98.9

150 159.9 0.0 349.0





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

Report of Analysis

Client: JACOBS Engineering Group, Inc.
Project: Former Schlumberger STC PTC Site D3868221
Client Sample ID: TB01-120825
Lab Sample ID: Q3813-04
Analytical Method: 8260D
Sample Wt/Vol: 5 mL

Level: LOW
Final Vol: 5000 uL

Date Collected: 12/08/25
Date Received: 12/08/25
SDG No.: Q3813
Matrix: Water
% Solid: 0
Test: VOCMS Group3

CAS Number	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Date Ana.	BatchID
TARGETS									
75-01-4	Vinyl Chloride	0.26	U	1	0.26	1.00	ug/L	12/10/25 13:04	VN121025
75-35-4	1,1-Dichloroethene	0.23	U	1	0.23	1.00	ug/L	12/10/25 13:04	VN121025
75-34-3	1,1-Dichloroethane	0.23	U	1	0.23	1.00	ug/L	12/10/25 13:04	VN121025
156-59-2	cis-1,2-Dichloroethene	0.19	U	1	0.19	1.00	ug/L	12/10/25 13:04	VN121025
71-55-6	1,1,1-Trichloroethane	0.20	U	1	0.20	1.00	ug/L	12/10/25 13:04	VN121025
71-43-2	Benzene	0.15	U	1	0.15	1.00	ug/L	12/10/25 13:04	VN121025
107-06-2	1,2-Dichloroethane	0.22	U	1	0.22	1.00	ug/L	12/10/25 13:04	VN121025
79-01-6	Trichloroethene	0.090	U	1	0.090	1.00	ug/L	12/10/25 13:04	VN121025
79-00-5	1,1,2-Trichloroethane	0.21	U	1	0.21	1.00	ug/L	12/10/25 13:04	VN121025
127-18-4	Tetrachloroethene	0.23	U	1	0.23	1.00	ug/L	12/10/25 13:04	VN121025
SURROGATES									
17060-07-0	1,2-Dichloroethane-d4	60.9			70 (74) - 130 (125)	122%	SPK: 50		
1868-53-7	Dibromofluoromethane	49.0			70 (75) - 130 (124)	98%	SPK: 50		
2037-26-5	Toluene-d8	45.1			70 (86) - 130 (113)	90%	SPK: 50		
460-00-4	4-Bromofluorobenzene	48.7			70 (77) - 130 (121)	97%	SPK: 50		
INTERNAL STANDARDS									
		Area Count							
363-72-4	Pentafluorobenzene	226000							
540-36-3	1,4-Difluorobenzene	532000							
3114-55-4	Chlorobenzene-d5	534000							
3855-82-1	1,4-Dichlorobenzene-d4	253000							

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088494.D
 Acq On : 10 Dec 2025 13:04
 Operator : JC\MD
 Sample : Q3813-04
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 10 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 TB01-120825

Quant Time: Dec 11 02:06:41 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	225847	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	531810	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	534272	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	252826	50.000	ug/l	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	259278	60.942	ug/l	0.00
Spiked Amount	50.000	Range	74 - 125	Recovery	=	121.880%
35) Dibromofluoromethane	8.147	113	180608	49.006	ug/l	0.00
Spiked Amount	50.000	Range	75 - 124	Recovery	=	98.020%
50) Toluene-d8	10.541	98	618777	45.125	ug/l	0.00
Spiked Amount	50.000	Range	86 - 113	Recovery	=	90.240%
62) 4-Bromofluorobenzene	12.829	95	228926	48.655	ug/l	0.00
Spiked Amount	50.000	Range	77 - 121	Recovery	=	97.320%

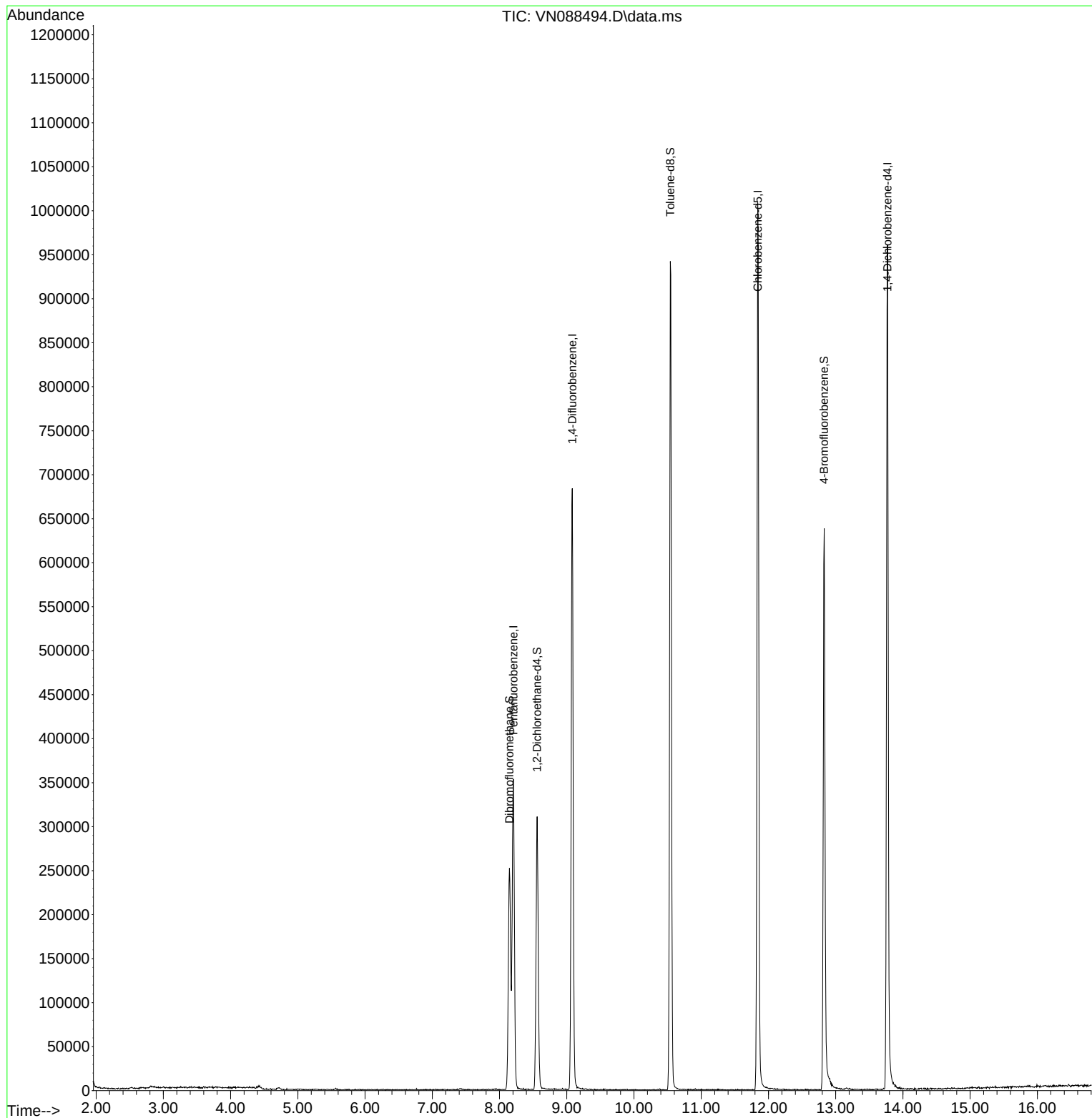
Target Compounds	Qvalue

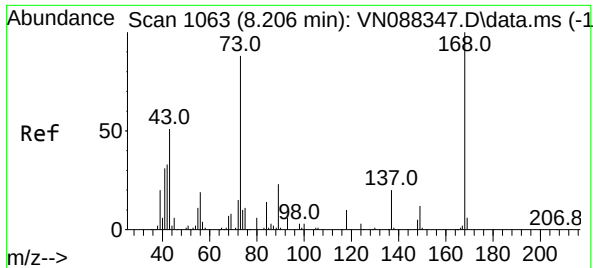
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088494.D
Acq On : 10 Dec 2025 13:04
Operator : JC\MD
Sample : Q3813-04
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 10 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
TB01-120825

Quant Time: Dec 11 02:06:41 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration

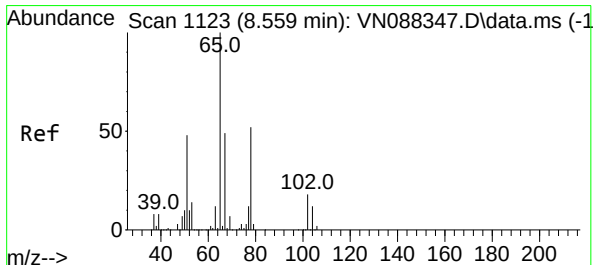
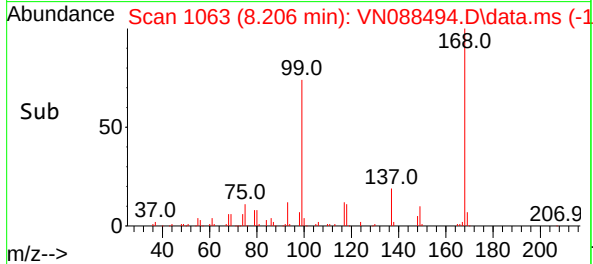
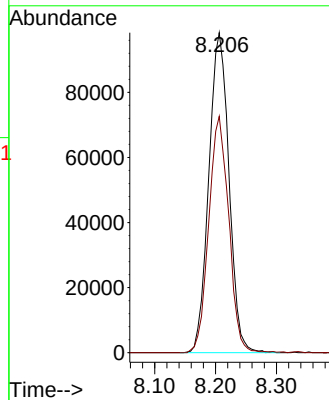
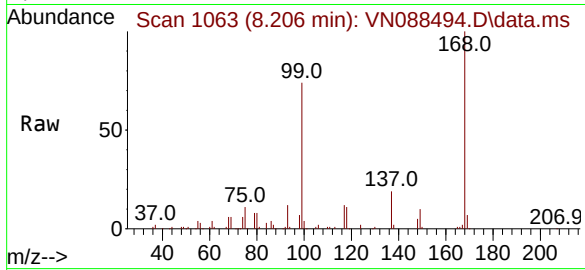




#1
Pentafluorobenzene
Concen: 50.000 ug/l
RT: 8.206 min Scan# 1063
Delta R.T. 0.000 min
Lab File: VN088494.D
Acq: 10 Dec 2025 13:04

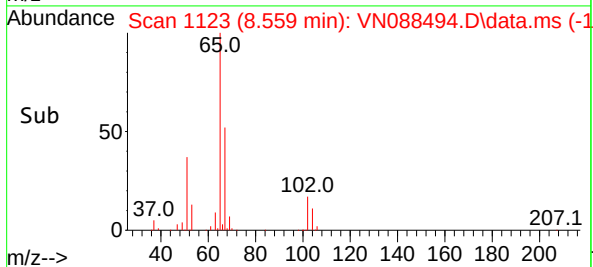
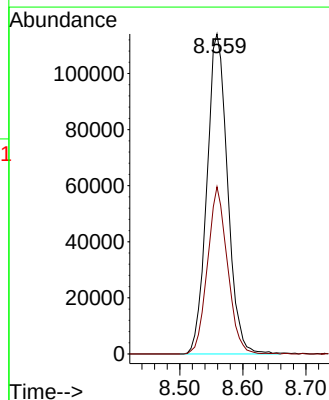
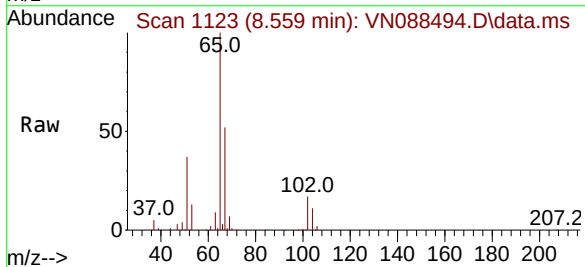
Instrument :
MSVOA_N
ClientSampleId :
TB01-120825

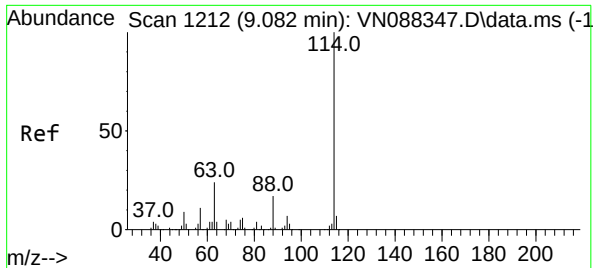
Tgt Ion:168 Resp: 225847
Ion Ratio Lower Upper
168 100
99 73.9 57.1 85.7



#33
1,2-Dichloroethane-d4
Concen: 60.942 ug/l
RT: 8.559 min Scan# 1123
Delta R.T. 0.000 min
Lab File: VN088494.D
Acq: 10 Dec 2025 13:04

Tgt Ion: 65 Resp: 259278
Ion Ratio Lower Upper
65 100
67 50.5 0.0 100.8

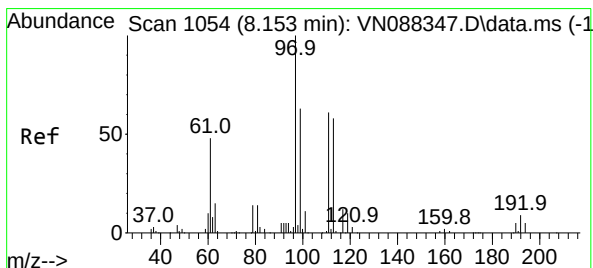
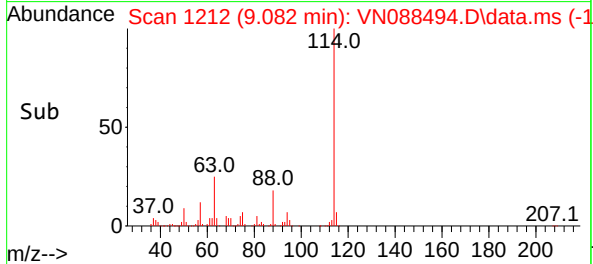
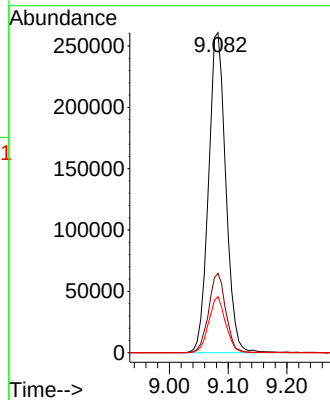
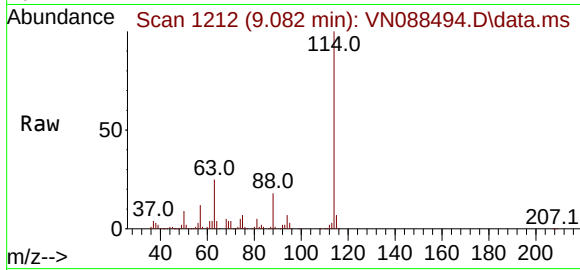




#34
1,4-Difluorobenzene
Concen: 50.000 ug/l
RT: 9.082 min Scan# 11
Delta R.T. 0.000 min
Lab File: VN088494.D
Acq: 10 Dec 2025 13:04

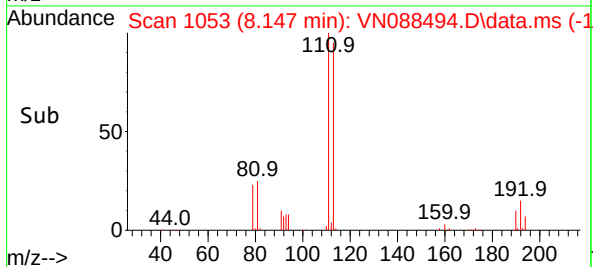
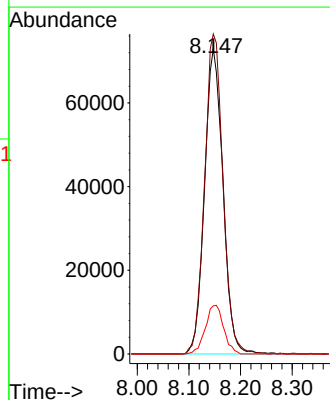
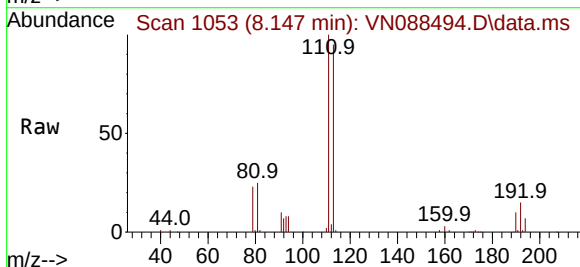
Instrument :
MSVOA_N
ClientSampleId :
TB01-120825

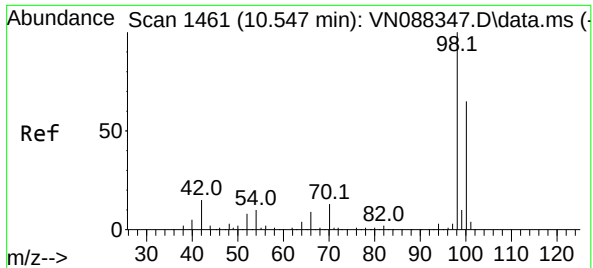
Tgt Ion	Ratio	Lower	Upper
114	100		
63	24.8	0.0	49.0
88	17.5	0.0	34.0



#35
Dibromofluoromethane
Concen: 49.006 ug/l
RT: 8.147 min Scan# 1053
Delta R.T. -0.006 min
Lab File: VN088494.D
Acq: 10 Dec 2025 13:04

Tgt Ion	Ratio	Lower	Upper
113	100		
111	104.5	82.5	123.7
192	15.8	12.8	19.2

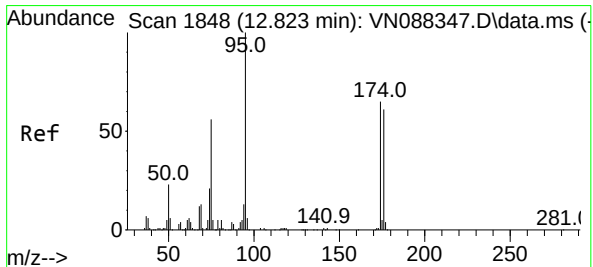
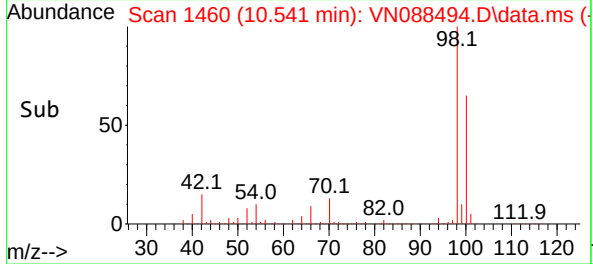
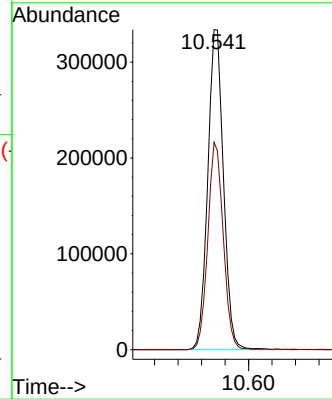
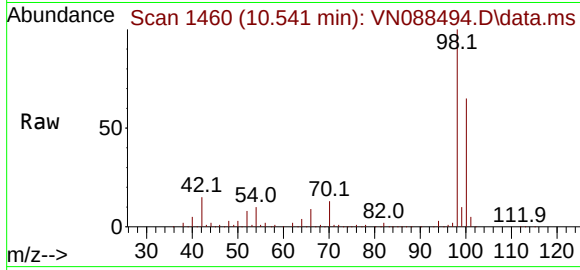




#50
Toluene-d8
Concen: 45.125 ug/l
RT: 10.541 min Scan# 1460
Delta R.T. -0.006 min
Lab File: VN088494.D
Acq: 10 Dec 2025 13:04

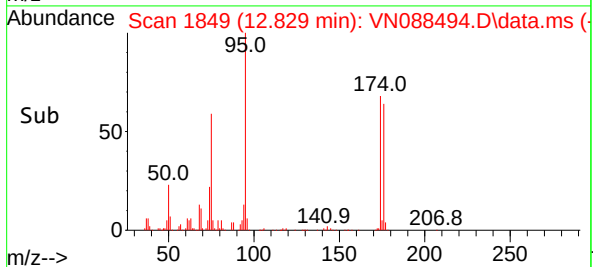
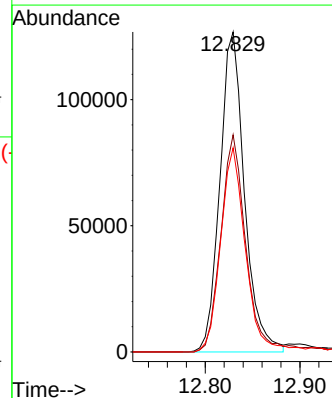
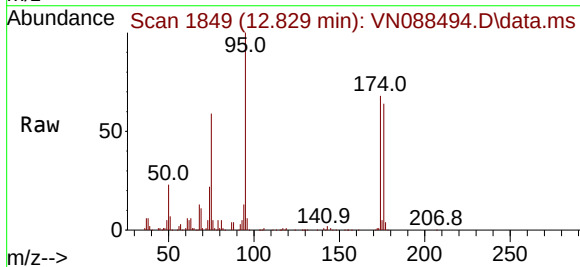
Instrument :
MSVOA_N
ClientSampleId :
TB01-120825

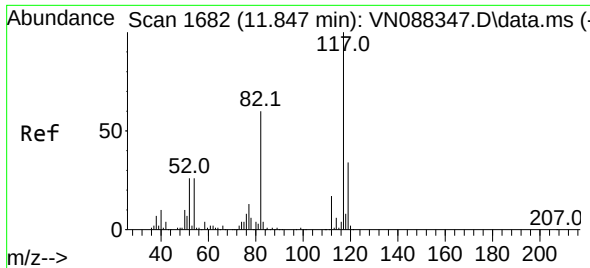
Tgt Ion: 98 Resp: 618777
Ion Ratio Lower Upper
98 100
100 63.5 52.2 78.2



#62
4-Bromofluorobenzene
Concen: 48.655 ug/l
RT: 12.829 min Scan# 1849
Delta R.T. 0.006 min
Lab File: VN088494.D
Acq: 10 Dec 2025 13:04

Tgt Ion: 95 Resp: 228926
Ion Ratio Lower Upper
95 100
174 70.3 0.0 139.0
176 64.6 0.0 132.4

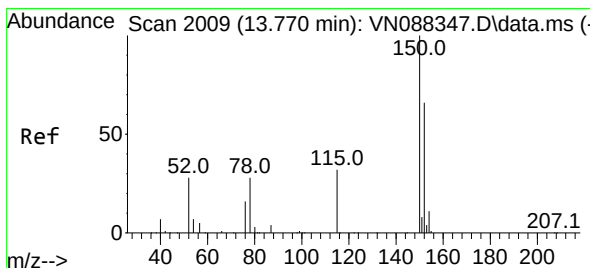
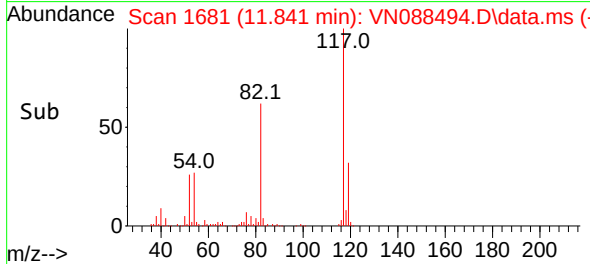
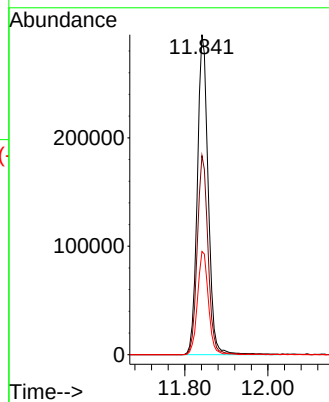
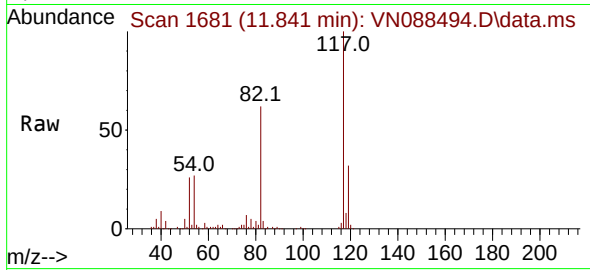




#63
Chlorobenzene-d5
Concen: 50.000 ug/l
RT: 11.841 min Scan# 117
Delta R.T. -0.006 min
Lab File: VN088494.D
Acq: 10 Dec 2025 13:04

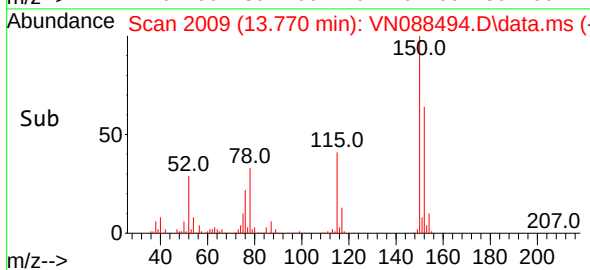
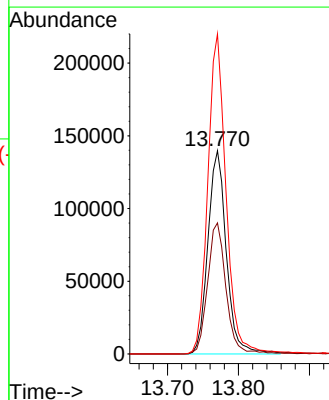
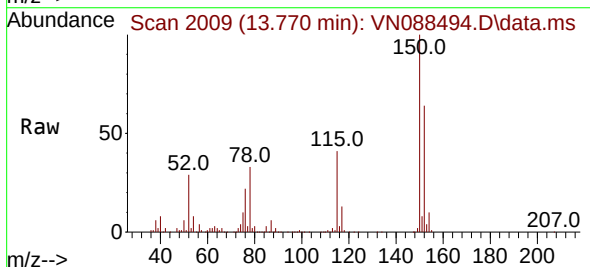
Instrument :
MSVOA_N
ClientSampleId :
TB01-120825

Tgt Ion	Ratio	Lower	Upper
117	100		
82	62.2	47.8	71.8
119	32.3	26.9	40.3



#72
1,4-Dichlorobenzene-d4
Concen: 50.000 ug/l
RT: 13.770 min Scan# 2009
Delta R.T. 0.000 min
Lab File: VN088494.D
Acq: 10 Dec 2025 13:04

Tgt Ion	Ratio	Lower	Upper
152	100		
115	64.4	33.0	98.9
150	156.0	0.0	349.0





CALIBRATION SUMMARY



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

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Alliance Contract: JAC005
 Lab Code: ACE SDG No.: Q3813
 Instrument ID: MSVOA_N Calibration Date(s): 11/24/2025 11/24/2025
 Heated Purge: (Y/N) N Calibration Time(s): 12:38 14:35
 GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID:		RRF001 = VN088344.D		RRF005 = VN088345.D		RRF020 = VN088346.D			
		RRF050 = VN088347.D		RRF100 = VN088348.D		RRF150 = VN088349.D			
COMPOUND	RRF001	RRF005	RRF020	RRF050	RRF100	RRF150	RRF	% RSD	
Vinyl Chloride	0.804	0.844	0.856	0.812	0.837	0.772	0.821	3.8	
1,1-Dichloroethene	0.722	0.620	0.601	0.568	0.595	0.554	0.610	9.8	
1,1-Dichloroethane	1.389	1.431	1.348	1.427	1.321	1.286	1.367	4.3	
cis-1,2-Dichloroethene	0.797	0.801	0.794	0.829	0.747	0.744	0.785	4.2	
1,1,1-Trichloroethane	1.247	1.219	1.192	1.158	1.166	1.104	1.181	4.3	
Benzene	1.658	1.555	1.609	1.559	1.559	1.477	1.570	3.9	
1,2-Dichloroethane	0.583	0.614	0.596	0.615	0.597	0.587	0.599	2.3	
Trichloroethene	0.382	0.385	0.383	0.357	0.371	0.348	0.371	4.1	
1,1,2-Trichloroethane	0.350	0.359	0.364	0.353	0.341	0.336	0.351	3	
Tetrachloroethene	0.426	0.388	0.413	0.377	0.407	0.367	0.396	5.7	
1,2-Dichloroethane-d4		0.954	0.916	0.999	0.882	0.960	0.942	4.7	
Dibromofluoromethane		0.361	0.350	0.350	0.334	0.337	0.346	3.2	
Toluene-d8		1.249	1.292	1.285	1.308	1.313	1.289	2	
4-Bromofluorobenzene		0.402	0.413	0.448	0.466	0.482	0.442	7.7	

* 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.

Method Path : Z:\voasrv\HPCHEM1\MSVOA_N\methods\
 Method File : 82N112425W.M
 Title : SW846 8260
 Last Update : Tue Nov 25 01:34:52 2025
 Response Via : Initial Calibration

Calibration Files

1 =VN088344.D 5 =VN088345.D 20 =VN088346.D 50 =VN088347.D 100 =VN088348.D 150 =VN088349.D

	Compound	1	5	20	50	100	150	Avg	%RSD

1) I	Pentafluorobenzene	-----ISTD-----							
2) T	Dichlorodifluo...	0.719	0.676	0.796	0.741	0.838	0.736	0.751	7.67
3) P	Chloromethane	0.911	0.800	0.805	0.801	0.759	0.764	0.807	6.79
4) C	Vinyl Chloride	0.804	0.844	0.856	0.812	0.837	0.772	0.821	3.78#
5) T	Bromomethane		0.407	0.392	0.396	0.387	0.392	0.395	1.85
6) T	Chloroethane	0.555	0.503	0.496	0.505	0.502	0.485	0.508	4.82
7) T	Trichlorofluor...	1.234	1.170	1.168	1.092	1.201	1.055	1.153	5.84
8) T	Diethyl Ether	0.495	0.451	0.395	0.444	0.401	0.411	0.433	8.73
9) T	1,1,2-Trichlor...	0.660	0.635	0.639	0.564	0.633	0.553	0.614	7.17
10) T	Methyl Iodide		0.498	0.584	0.662	0.660	0.636	0.608	11.40
11) T	Tert butyl alc...		0.151	0.149	0.161	0.142	0.148	0.150	4.64
12) CM	1,1-Dichloroet...	0.722	0.620	0.601	0.568	0.595	0.554	0.610	9.83#
13) T	Acrolein		0.146	0.132	0.151	0.143	0.147	0.144	5.00
14) T	Allyl chloride	1.107	1.143	1.117	1.149	1.132	1.135	1.131	1.38
15) T	Acrylonitrile	0.435	0.435	0.432	0.466	0.416	0.418	0.434	4.14
16) T	Acetone	0.412	0.355	0.322	0.335	0.305	0.314	0.341	11.49
17) T	Carbon Disulfide	2.061	2.043	2.043	1.983	1.996	1.833	1.993	4.22
18) T	Methyl Acetate	1.072	1.048	0.957	1.049	0.972	0.985	1.014	4.74
19) T	Methyl tert-bu...	2.126	2.239	2.245	2.504	2.265	2.333	2.285	5.53
20) T	Methylene Chlo...	0.797	0.752	0.704	0.756	0.686	0.678	0.729	6.44
21) T	trans-1,2-Dich...	0.752	0.668	0.676	0.686	0.647	0.626	0.676	6.39
22) T	Diisopropyl ether	2.267	2.415	2.439	2.580	2.359	2.424	2.414	4.26
23) T	Vinyl Acetate	1.711	1.879	1.997	2.137	1.943	2.002	1.945	7.35
24) P	1,1-Dichloroet...	1.389	1.431	1.348	1.427	1.321	1.286	1.367	4.27
25) T	2-Butanone	0.509	0.538	0.548	0.596	0.540	0.556	0.548	5.17
26) T	2,2-Dichloropr...	1.245	1.133	1.185	1.204	1.176	1.137	1.180	3.56
27) T	cis-1,2-Dichlo...	0.797	0.801	0.794	0.829	0.747	0.744	0.785	4.22
28) T	Bromochloromet...	0.724	0.722	0.684	0.735	0.624	0.597	0.681	8.47
29) T	Tetrahydrofuran	0.354	0.397	0.394	0.429	0.384	0.398	0.393	6.18
30) C	Chloroform	1.377	1.362	1.351	1.392	1.291	1.285	1.343	3.33#
31) T	Cyclohexane		1.450	1.264	1.133	1.237	1.109	1.239	10.92
32) T	1,1,1-Trichlor...	1.247	1.219	1.192	1.158	1.166	1.104	1.181	4.27
33) S	1,2-Dichloroet...		0.954	0.916	0.999	0.882	0.960	0.942	4.74
34) I	1,4-Difluorobenzene	-----ISTD-----							
35) S	Dibromofluorom...		0.361	0.350	0.350	0.334	0.337	0.346	3.17
36) T	1,1-Dichloropr...	0.607	0.542	0.531	0.491	0.547	0.490	0.535	8.09
37) T	Ethyl Acetate	0.735	0.678	0.724	0.720	0.681	0.681	0.703	3.69
38) T	Carbon Tetrach...	0.565	0.504	0.548	0.499	0.570	0.509	0.532	6.04
39) T	Methylcyclohexane	0.534	0.542	0.606	0.527	0.662	0.561	0.572	9.14
40) TM	Benzene	1.658	1.555	1.609	1.559	1.559	1.477	1.570	3.86
41) T	Methacrylonitrile	0.360	0.323	0.351	0.357	0.349	0.350	0.348	3.74
42) TM	1,2-Dichloroet...	0.583	0.614	0.596	0.615	0.597	0.587	0.599	2.27
43) T	Isopropyl Acetate	1.098	1.019	1.063	1.116	1.076	1.074	1.074	3.11
44) TM	Trichloroethene	0.382	0.385	0.383	0.357	0.371	0.348	0.371	4.13
45) C	1,2-Dichloropr...	0.426	0.402	0.402	0.406	0.396	0.381	0.402	3.62#
46) T	Dibromomethane	0.288	0.292	0.289	0.293	0.283	0.277	0.287	2.08
47) T	Bromodichlorom...	0.602	0.586	0.586	0.589	0.583	0.566	0.586	1.96
48) T	Methyl methacr...	0.480	0.433	0.491	0.513	0.511	0.513	0.490	6.35
49) T	1,4-Dioxane	0.005	0.006	0.007	0.007	0.006	0.006	0.006	8.55
50) S	Toluene-d8		1.249	1.292	1.285	1.308	1.313	1.289	1.96
51) T	4-Methyl-2-Pen...	0.540	0.616	0.661	0.673	0.658	0.651	0.633	7.79
52) CM	Toluene	0.829	0.885	0.940	0.913	0.960	0.911	0.906	5.05#
53) T	t-1,3-Dichloro...	0.567	0.553	0.598	0.631	0.631	0.625	0.601	5.72
54) T	cis-1,3-Dichlo...	0.590	0.618	0.628	0.662	0.654	0.640	0.632	4.16
55) T	1,1,2-Trichlor...	0.350	0.359	0.364	0.353	0.341	0.336	0.351	2.98
56) T	Ethyl methacry...	0.417	0.482	0.558	0.616	0.624	0.626	0.554	15.71

Method Path : Z:\voasrv\HPCHEM1\MSVOA_N\methods\
 Method File : 82N112425W.M

57)	T	1,3-Dichloropr...	0.607	0.638	0.647	0.644	0.638	0.622	0.633	2.42
58)	T	2-Chloroethyl ...	0.258	0.323	0.333	0.364	0.337	0.301	0.319	11.41
59)	T	2-Hexanone	0.359	0.301	0.406	0.436	0.442	0.450	0.399	14.66
60)	T	Dibromochlorom...	0.384	0.386	0.406	0.409	0.410	0.404	0.400	2.87
61)	T	1,2-Dibromoethane	0.304	0.367	0.364	0.369	0.367	0.359	0.355	7.16
62)	S	4-Bromofluorob...	0.402	0.413	0.448	0.466	0.482	0.442		7.67
63)	I	Chlorobenzene-d5	-----ISTD-----							
64)	T	Tetrachloroethene	0.426	0.388	0.413	0.377	0.407	0.367	0.396	5.73
65)	PM	Chlorobenzene	1.114	1.142	1.161	1.106	1.145	1.070	1.123	2.96
66)	T	1,1,1,2-Tetrac...	0.378	0.372	0.394	0.383	0.386	0.361	0.379	3.04
67)	C	Ethyl Benzene	1.881	1.860	2.014	1.938	2.133	1.952	1.963	5.06#
68)	T	m/p-Xylenes	0.658	0.690	0.769	0.733	0.788	0.728	0.728	6.64
69)	T	o-Xylene	0.670	0.619	0.722	0.696	0.749	0.708	0.694	6.51
70)	T	Styrene	0.884	1.025	1.163	1.193	1.284	1.210	1.127	12.94
71)	P	Bromoform	0.224	0.273	0.285	0.285	0.302	0.295	0.277	10.12
72)	I	1,4-Dichlorobenzen...	-----ISTD-----							
73)	T	Isopropylbenzene	3.339	3.528	3.944	3.624	4.040	3.706	3.697	7.07
74)	T	N-amyl acetate			1.173	1.045	1.338	1.480	1.259	15.09
75)	P	1,1,2,2-Tetrac...	1.377	1.218	1.231	1.127	1.135	1.082	1.195	8.87
76)	T	1,2,3-Trichlor...	1.036	1.199	1.268	1.202	1.177	1.145	1.171	6.63
77)	T	Bromobenzene	0.781	0.885	0.866	0.863	0.865	0.816	0.846	4.66
78)	T	n-propylbenzene	4.076	4.270	4.925	4.439	4.931	4.496	4.523	7.66
79)	T	2-Chlorotoluene	2.707	2.799	2.851	2.699	2.835	2.681	2.762	2.72
80)	T	1,3,5-Trimethy...	2.650	2.988	3.315	3.051	3.307	3.069	3.063	7.99
81)	T	trans-1,4-Dich...		0.355	0.364	0.430	0.452	0.462	0.413	12.09
82)	T	4-Chlorotoluene	2.093	2.830	2.935	2.854	2.944	2.803	2.743	11.80
83)	T	tert-Butylbenzene	2.509	2.468	2.773	2.509	2.816	2.549	2.604	5.78
84)	T	1,2,4-Trimethy...	2.572	2.827	3.310	3.112	3.344	3.105	3.045	9.74
85)	T	sec-Butylbenzene	3.457	3.614	3.971	3.609	4.122	3.674	3.741	6.73
86)	T	p-Isopropyltol...	2.714	2.808	3.330	3.047	3.435	3.073	3.068	9.18
87)	T	1,3-Dichlorobe...	1.730	1.573	1.720	1.606	1.676	1.574	1.647	4.34
88)	T	1,4-Dichlorobe...	1.747	1.825	1.786	1.681	1.702	1.608	1.725	4.52
89)	T	n-Butylbenzene	2.827	2.664	3.155	2.873	3.373	2.979	2.979	8.49
90)	T	Hexachloroethane	0.549	0.550	0.571	0.535	0.604	0.553	0.560	4.36
91)	T	1,2-Dichlorobe...	1.518	1.574	1.583	1.521	1.595	1.505	1.550	2.52
92)	T	1,2-Dibromo-3-...	0.284	0.284	0.284	0.288	0.300	0.300	0.290	2.80
93)	T	1,2,4-Trichlor...	0.998	0.864	0.901	0.889	0.955	0.917	0.921	5.26
94)	T	Hexachlorobuta...	0.362	0.316	0.349	0.297	0.354	0.307	0.331	8.32
95)	T	Naphthalene	2.946	2.864	3.163	3.292	3.483	3.395	3.190	7.74
96)	T	1,2,3-Trichlor...	0.942	0.850	0.888	0.875	0.930	0.891	0.896	3.83

(#) = Out of Range

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088344.D
 Acq On : 24 Nov 2025 12:38
 Operator : JC\MD
 Sample : VSTDICC001
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 2 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDICC001

Manual Integrations
 APPROVED

Reviewed By :John
 Carlone

Quant Time: Nov 25 01:09:22 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

11/25/2025
 Supervised By :Mahesh
 Dadoda

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	286338	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	535294	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	458943	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	203454	50.000	ug/l	0.00

11/26/2025

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	0.000	65	0d	0.000	ug/l	
Spiked Amount	50.000	Range	74 - 125	Recovery	=	0.000%#
35) Dibromofluoromethane	0.000	113	0d	0.000	ug/l	
Spiked Amount	50.000	Range	75 - 124	Recovery	=	0.000%#
50) Toluene-d8	0.000	98	0d	0.000	ug/l	
Spiked Amount	50.000	Range	86 - 113	Recovery	=	0.000%#
62) 4-Bromofluorobenzene	0.000	95	0d	0.000	ug/l	
Spiked Amount	50.000	Range	77 - 121	Recovery	=	0.000%#

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	2.142	85	4116	1.176	ug/l	88
3) Chloromethane	2.383	50	5215	1.282	ug/l	92
4) Vinyl Chloride	2.536	62	4602	1.055	ug/l	98
6) Chloroethane	3.148	64	3181	1.036	ug/l #	78
7) Trichlorofluoromethane	3.512	101	7064	1.049	ug/l #	82
8) Diethyl Ether	3.953	74	2832	1.101	ug/l	94
9) 1,1,2-Trichlorotrifluo...	4.359	101	3781	1.083	ug/l	91
12) 1,1-Dichloroethene	4.336	96	4136m	1.118	ug/l	
14) Allyl chloride	5.012	41	6342	0.957	ug/l	95
15) Acrylonitrile	5.712	53	12465	5.068	ug/l	98
16) Acetone	4.424	43	11802	4.716	ug/l	98
17) Carbon Disulfide	4.694	76	11805	1.034	ug/l #	85
18) Methyl Acetate	5.006	43	6138	1.129	ug/l	95
19) Methyl tert-butyl Ether	5.783	73	12174	0.876	ug/l	96
20) Methylene Chloride	5.265	84	4566	1.042	ug/l #	70
21) trans-1,2-Dichloroethene	5.783	96	4308	1.053	ug/l #	94
22) Diisopropyl ether	6.665	45	12982m	0.932	ug/l	
23) Vinyl Acetate	6.594	43	48988	3.972	ug/l	96
24) 1,1-Dichloroethane	6.547	63	7954	1.029	ug/l #	95
25) 2-Butanone	7.471	43	14574	4.283	ug/l #	82
26) 2,2-Dichloropropane	7.465	77	7127	1.026	ug/l #	77
27) cis-1,2-Dichloroethene	7.465	96	4562m	0.962	ug/l	
28) Bromochloromethane	7.788	49	4148	1.149	ug/l #	92
29) Tetrahydrofuran	7.835	42	10143	4.482	ug/l	96
30) Chloroform	7.947	83	7885	1.027	ug/l	97
32) 1,1,1-Trichloroethane	8.153	97	7143	1.055	ug/l #	46
36) 1,1-Dichloropropene	8.341	75	6499	1.203	ug/l #	80
37) Ethyl Acetate	7.553	43	7870	1.095	ug/l #	94
38) Carbon Tetrachloride	8.347	117	6045	1.085	ug/l	84
39) Methylcyclohexane	9.582	83	5715	0.846	ug/l	87
40) Benzene	8.582	78	17750	1.069	ug/l #	88
41) Methacrylonitrile	7.759	41	3857	1.037	ug/l #	83
42) 1,2-Dichloroethane	8.659	62	6237	1.039	ug/l	99
43) Isopropyl Acetate	8.677	43	11759	1.073	ug/l #	94
44) Trichloroethene	9.335	130	4088	1.057	ug/l	73
45) 1,2-Dichloropropane	9.600	63	4559	1.082	ug/l #	78

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088344.D
 Acq On : 24 Nov 2025 12:38
 Operator : JC\MD
 Sample : VSTDIC001
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 2 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDIC001

Manual Integrations
 APPROVED

Reviewed By :John
 Carlone

11/25/2025
 Supervised By :Mahesh
 Dadoda

Quant Time: Nov 25 01:09:22 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
46) Dibromomethane	9.694	93	3080	1.022	ug/l	88
47) Bromodichloromethane	9.865	83	6445	1.068	ug/l #	89
48) Methyl methacrylate	9.665	41	5144	1.017	ug/l #	86
49) 1,4-Dioxane	9.688	88	1133	17.773	ug/l #	72
51) 4-Methyl-2-Pentanone	10.429	43	28924	4.454	ug/l	97
52) Toluene	10.612	92	8872	0.875	ug/l	97
53) t-1,3-Dichloropropene	10.812	75	6068	0.947	ug/l	89
54) cis-1,3-Dichloropropene	10.294	75	6312	0.928	ug/l	94
55) 1,1,2-Trichloroethane	11.000	97	3748	0.969	ug/l #	72
56) Ethyl methacrylate	10.859	69	4463	0.723	ug/l #	72
57) 1,3-Dichloropropane	11.147	76	6496	0.952	ug/l	95
58) 2-Chloroethyl Vinyl ether	10.141	63	13790	4.190	ug/l	92
59) 2-Hexanone	11.188	43	19197m	4.495	ug/l	
60) Dibromochloromethane	11.335	129	4116	0.936	ug/l	98
61) 1,2-Dibromoethane	11.447	107	3251	0.814	ug/l	96
64) Tetrachloroethene	11.076	164	3914	1.220	ug/l #	86
65) Chlorobenzene	11.871	112	10226	0.958	ug/l #	84
66) 1,1,1,2-Tetrachloroethane	11.941	131	3473	0.985	ug/l #	57
67) Ethyl Benzene	11.941	91	17267	0.922	ug/l	92
68) m/p-Xylenes	12.047	106	12077	1.724	ug/l	99
69) o-Xylene	12.382	106	6153	0.927	ug/l	91
70) Styrene	12.394	104	8118	0.747	ug/l	100
71) Bromoform	12.559	173	2054	0.782	ug/l #	82
73) Isopropylbenzene	12.676	105	13585	0.849	ug/l	99
75) 1,1,2,2-Tetrachloroethane	12.918	83	5605	1.121	ug/l #	83
76) 1,2,3-Trichloropropane	12.982	75	4214m	0.871	ug/l	
77) Bromobenzene	12.965	156	3176	0.907	ug/l	100
78) n-propylbenzene	13.017	91	16584	0.851	ug/l	98
79) 2-Chlorotoluene	13.106	91	11013	0.981	ug/l	100
80) 1,3,5-Trimethylbenzene	13.153	105	10783	0.811	ug/l	96
82) 4-Chlorotoluene	13.212	91	8516	0.700	ug/l	84
83) tert-Butylbenzene	13.417	119	10210	0.869	ug/l	95
84) 1,2,4-Trimethylbenzene	13.465	105	10464	0.786	ug/l	89
85) sec-Butylbenzene	13.594	105	14068	0.819	ug/l	99
86) p-Isopropyltoluene	13.706	119	11043	0.798	ug/l	97
87) 1,3-Dichlorobenzene	13.712	146	7040	1.019	ug/l	95
88) 1,4-Dichlorobenzene	13.782	146	7109m	0.955	ug/l	
89) n-Butylbenzene	14.035	91	11505	0.845	ug/l	93
90) Hexachloroethane	14.312	117	2233	0.841	ug/l	98
91) 1,2-Dichlorobenzene	14.082	146	6178	0.927	ug/l	97
92) 1,2-Dibromo-3-Chloropr...	14.694	75	1155	0.973	ug/l	93
93) 1,2,4-Trichlorobenzene	15.376	180	4059	1.011	ug/l	91
94) Hexachlorobutadiene	15.476	225	1474	1.002	ug/l	93
95) Naphthalene	15.623	128	11988	0.863	ug/l #	93
96) 1,2,3-Trichlorobenzene	15.823	180	3833	0.989	ug/l	100

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

```
Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\  
Data File : VN088344.D  
Acq On    : 24 Nov 2025 12:38  
Operator  : JC\MD  
Sample    : VSTDIC001  
Misc      : 5.0mL/MSVOA_N/WATER  
ALS Vial  : 2 Sample Multiplier: 1
```

Instrument :
MSVOA_N
ClientSampleId :
VSTDICC001

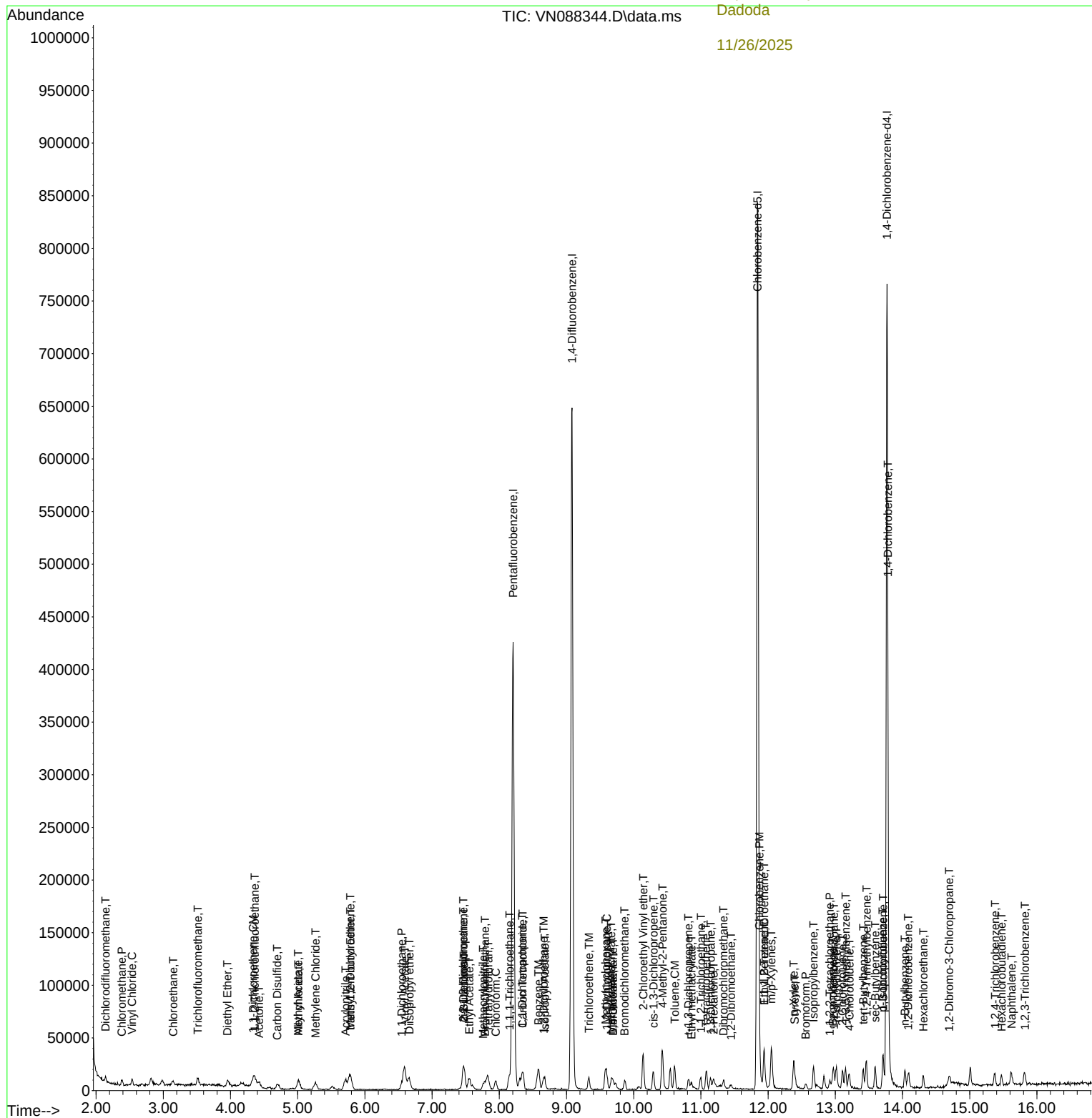
Manual Integrations APPROVED

Reviewed By :John
Carlone

11/25/2025
Supervised By :Mahesh
Dadoda

11/26/2025

Quant Time: Nov 25 01:09:22 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:08:44 2025
Response via : Initial Calibration



Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088345.D
 Acq On : 24 Nov 2025 13:11
 Operator : JC\MD
 Sample : VSTDIC005
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDIC005

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:10:10 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	277017	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.083	114	520222	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	454370	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.771	152	210682	50.000	ug/l	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.553	65	26416	5.272	ug/l	0.00
Spiked Amount 50.000	Range 74 - 125		Recovery =	10.540%#		
35) Dibromofluoromethane	8.153	113	18802	5.271	ug/l	0.00
Spiked Amount 50.000	Range 75 - 124		Recovery =	10.540%#		
50) Toluene-d8	10.547	98	64962	4.778	ug/l	0.00
Spiked Amount 50.000	Range 86 - 113		Recovery =	9.560%#		
62) 4-Bromofluorobenzene	12.829	95	20929	4.383	ug/l	0.00
Spiked Amount 50.000	Range 77 - 121		Recovery =	8.760%#		
Target Compounds					Qvalue	
2) Dichlorodifluoromethane	2.142	85	18728	5.530	ug/l	78
3) Chloromethane	2.383	50	22161	5.630	ug/l	96
4) Vinyl Chloride	2.536	62	23377	5.542	ug/l	95
5) Bromomethane	2.971	94	11265	4.586	ug/l	89
6) Chloroethane	3.142	64	13946	4.694	ug/l	90
7) Trichlorofluoromethane	3.512	101	32404	4.974	ug/l	99
8) Diethyl Ether	3.959	74	12500	5.022	ug/l	96
9) 1,1,2-Trichlorotrifluo...	4.365	101	17577	5.203	ug/l	97
10) Methyl Iodide	4.577	142	13782	4.252	ug/l #	86
11) Tert butyl alcohol	5.524	59	20975	23.946	ug/l	98
12) 1,1-Dichloroethene	4.342	96	17186	4.802	ug/l #	75
13) Acrolein	4.171	56	20281	21.167	ug/l	95
14) Allyl chloride	5.006	41	31674	4.939	ug/l	98
15) Acrylonitrile	5.706	53	60208	25.303	ug/l	99
16) Acetone	4.424	43	49209	20.327	ug/l	97
17) Carbon Disulfide	4.695	76	56594	5.124	ug/l	98
18) Methyl Acetate	5.012	43	29034	5.519	ug/l	99
19) Methyl tert-butyl Ether	5.783	73	62035	4.613	ug/l	96
20) Methylene Chloride	5.271	84	20834	4.915	ug/l #	80
21) trans-1,2-Dichloroethene	5.777	96	18495	4.671	ug/l	96
22) Diisopropyl ether	6.653	45	66886	4.963	ug/l	94
23) Vinyl Acetate	6.589	43	260201m	21.808	ug/l	
24) 1,1-Dichloroethane	6.547	63	39629	5.298	ug/l	98
25) 2-Butanone	7.465	43	74555	22.648	ug/l	97
26) 2,2-Dichloropropane	7.465	77	31387	4.669	ug/l	99
27) cis-1,2-Dichloroethene	7.471	96	22190	4.838	ug/l	96
28) Bromochloromethane	7.794	49	19995	5.723	ug/l	99
29) Tetrahydrofuran	7.824	42	54983	25.113	ug/l	100
30) Chloroform	7.953	83	37740	5.081	ug/l	99
31) Cyclohexane	8.241	56	40171	5.829	ug/l	96
32) 1,1,1-Trichloroethane	8.147	97	33772	5.154	ug/l #	85
36) 1,1-Dichloropropene	8.347	75	28193	5.368	ug/l	96
37) Ethyl Acetate	7.547	43	35286	5.054	ug/l	98
38) Carbon Tetrachloride	8.341	117	26194	4.839	ug/l	89
39) Methylcyclohexane	9.583	83	28179	4.292	ug/l	95
40) Benzene	8.588	78	80904	5.014	ug/l	91

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088345.D
 Acq On : 24 Nov 2025 13:11
 Operator : JC\MD
 Sample : VSTDICC005
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :

MSVOA_N

ClientSampleId :

VSTDICC005

Manual Integrations

APPROVED

Reviewed By :John Carlone 11/25/2025

Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:10:10 2025

Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M

Quant Title : SW846 8260

QLast Update : Tue Nov 25 01:08:44 2025

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.765	41	16819	4.652	ug/l	95
42) 1,2-Dichloroethane	8.653	62	31962	5.480	ug/l	98
43) Isopropyl Acetate	8.677	43	52990	4.976	ug/l	99
44) Trichloroethene	9.335	130	20005	5.321	ug/l	89
45) 1,2-Dichloropropane	9.600	63	20897	5.101	ug/l	96
46) Dibromomethane	9.688	93	15209	5.195	ug/l	98
47) Bromodichloromethane	9.865	83	30479	5.198	ug/l #	91
48) Methyl methacrylate	9.665	41	22513	4.579	ug/l	95
49) 1,4-Dioxane	9.688	88	6435	103.870	ug/l #	96
51) 4-Methyl-2-Pentanone	10.424	43	160328	25.401	ug/l	100
52) Toluene	10.606	92	46057	4.673	ug/l	99
53) t-1,3-Dichloropropene	10.812	75	28774	4.621	ug/l	98
54) cis-1,3-Dichloropropene	10.288	75	32170	4.869	ug/l	98
55) 1,1,2-Trichloroethane	10.994	97	18669	4.965	ug/l	96
56) Ethyl methacrylate	10.859	69	25089	4.184	ug/l	98
57) 1,3-Dichloropropane	11.141	76	33183	5.006	ug/l	96
58) 2-Chloroethyl Vinyl ether	10.141	63	83959	26.251	ug/l	98
59) 2-Hexanone	11.182	43	78248	18.852	ug/l	96
60) Dibromochloromethane	11.335	129	20078	4.697	ug/l	96
61) 1,2-Dibromoethane	11.447	107	19090	4.919	ug/l	95
64) Tetrachloroethene	11.077	164	17642	5.552	ug/l	92
65) Chlorobenzene	11.871	112	51903	4.912	ug/l	100
66) 1,1,1,2-Tetrachloroethane	11.935	131	16899	4.842	ug/l	95
67) Ethyl Benzene	11.941	91	84509	4.556	ug/l	97
68) m/p-Xylenes	12.047	106	62717	9.044	ug/l	96
69) o-Xylene	12.382	106	28111	4.278	ug/l	94
70) Styrene	12.394	104	46583	4.327	ug/l	99
71) Bromoform	12.565	173	12418	4.774	ug/l #	98
73) Isopropylbenzene	12.676	105	74324	4.486	ug/l	96
75) 1,1,2,2-Tetrachloroethane	12.918	83	25666	4.956	ug/l	99
76) 1,2,3-Trichloropropane	12.971	75	25268m	5.045	ug/l	
77) Bromobenzene	12.959	156	18654	5.143	ug/l	93
78) n-propylbenzene	13.018	91	89952	4.455	ug/l	97
79) 2-Chlorotoluene	13.106	91	58975	5.072	ug/l	99
80) 1,3,5-Trimethylbenzene	13.153	105	62949	4.574	ug/l	97
81) trans-1,4-Dichloro-2-b...	12.729	75	7483	4.106	ug/l #	78
82) 4-Chlorotoluene	13.200	91	59617	4.734	ug/l	97
83) tert-Butylbenzene	13.418	119	51988	4.275	ug/l	99
84) 1,2,4-Trimethylbenzene	13.465	105	59560	4.319	ug/l	99
85) sec-Butylbenzene	13.594	105	76137	4.278	ug/l	99
86) p-Isopropyltoluene	13.706	119	59155	4.127	ug/l	99
87) 1,3-Dichlorobenzene	13.712	146	33144	4.633	ug/l	97
88) 1,4-Dichlorobenzene	13.788	146	38453	4.987	ug/l	93
89) n-Butylbenzene	14.035	91	56132	3.979	ug/l	99
90) Hexachloroethane	14.312	117	11594	4.214	ug/l	98
91) 1,2-Dichlorobenzene	14.088	146	33169	4.804	ug/l	97
92) 1,2-Dibromo-3-Chloropr...	14.700	75	5979	4.862	ug/l	93
93) 1,2,4-Trichlorobenzene	15.370	180	18203	4.379	ug/l	99
94) Hexachlorobutadiene	15.476	225	6667	4.376	ug/l	95
95) Naphthalene	15.617	128	60329	4.195	ug/l	98
96) 1,2,3-Trichlorobenzene	15.817	180	17918	4.465	ug/l	96

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088345.D
Acq On : 24 Nov 2025 13:11
Operator : JC\MD
Sample : VSTDICC005
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VSTDICC005

Manual Integrations
APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:10:10 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:08:44 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088345.D
 Acq On : 24 Nov 2025 13:11
 Operator : JC\MD
 Sample : VSTDIC005
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :

MSVOA_N

ClientSampleId :

VSTDIC005

Manual Integrations

APPROVED

Reviewed By :John Carlone 11/25/2025

Supervised By :Mahesh Dadoda 11/26/2025

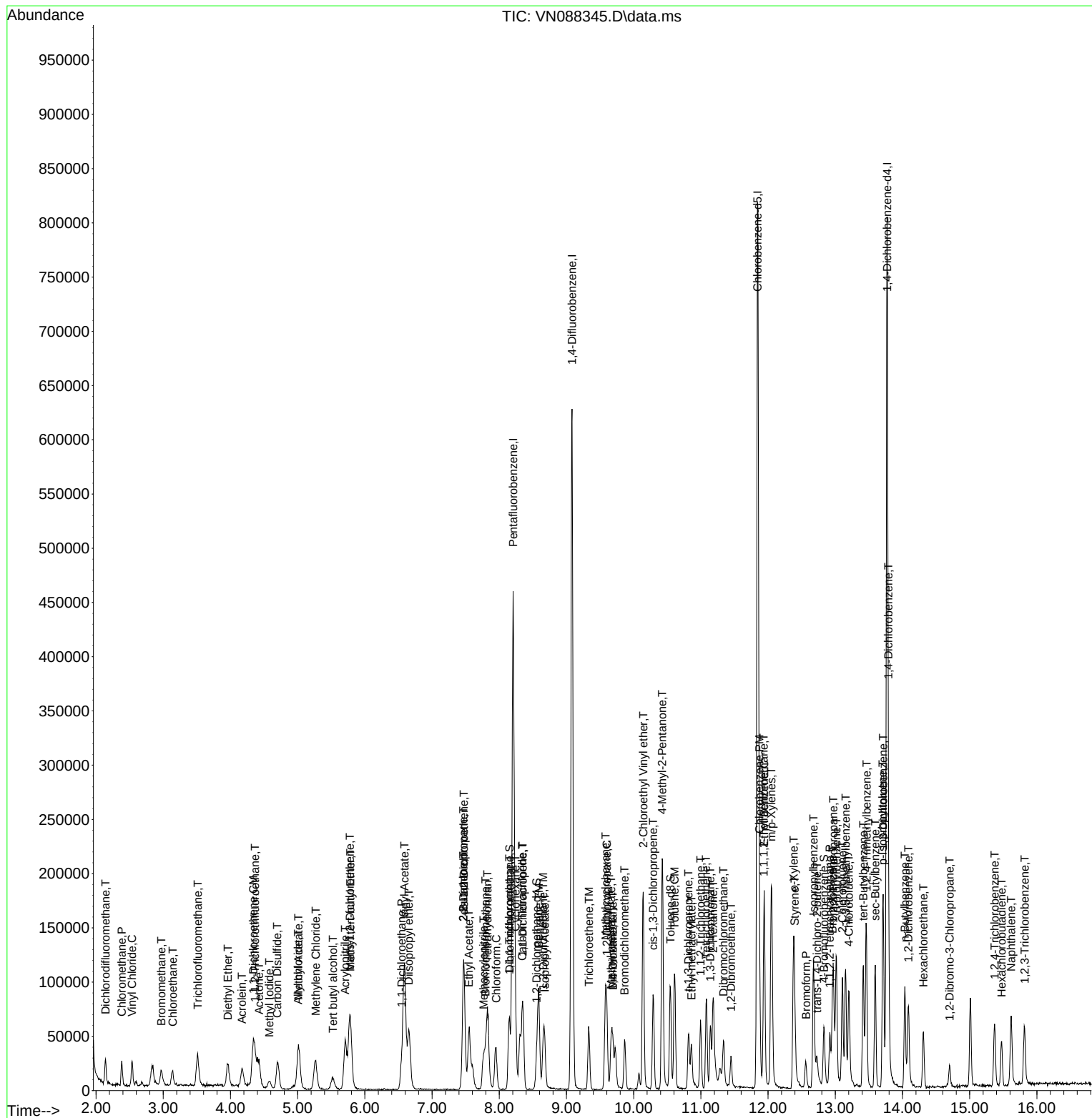
Quant Time: Nov 25 01:10:10 2025

Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M

Quant Title : SW846 8260

QLast Update : Tue Nov 25 01:08:44 2025

Response via : Initial Calibration



Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088346.D
 Acq On : 24 Nov 2025 13:32
 Operator : JC\MD
 Sample : VSTDICC020
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 4 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDICC020

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:10:54 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	289343	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	521967	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.847	117	446626	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	210470	50.000	ug/l	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.565	65	106028	20.258	ug/l	0.00
Spiked Amount 50.000	Range 74 - 125		Recovery =	40.520%#		
35) Dibromofluoromethane	8.147	113	73055	20.412	ug/l	0.00
Spiked Amount 50.000	Range 75 - 124		Recovery =	40.820%#		
50) Toluene-d8	10.547	98	269703	19.772	ug/l	0.00
Spiked Amount 50.000	Range 86 - 113		Recovery =	39.540%#		
62) 4-Bromofluorobenzene	12.823	95	86319	18.015	ug/l	0.00
Spiked Amount 50.000	Range 77 - 121		Recovery =	36.020%#		
Target Compounds					Qvalue	
2) Dichlorodifluoromethane	2.142	85	92076	26.032	ug/l	100
3) Chloromethane	2.383	50	93182	22.664	ug/l	98
4) Vinyl Chloride	2.542	62	99078	22.487	ug/l	96
5) Bromomethane	2.983	94	45414	17.699	ug/l	100
6) Chloroethane	3.142	64	57451	18.515	ug/l	96
7) Trichlorofluoromethane	3.518	101	135233	19.875	ug/l	92
8) Diethyl Ether	3.965	74	45755	17.600	ug/l	98
9) 1,1,2-Trichlorotrifluo...	4.377	101	73956	20.959	ug/l	98
10) Methyl Iodide	4.583	142	67559	19.958	ug/l	92
11) Tert butyl alcohol	5.518	59	86464	94.506	ug/l	98
12) 1,1-Dichloroethene	4.341	96	69587	18.614	ug/l	85
13) Acrolein	4.177	56	76430	76.371	ug/l	97
14) Allyl chloride	5.012	41	129326	19.307	ug/l	97
15) Acrylonitrile	5.712	53	250269	100.698	ug/l	99
16) Acetone	4.424	43	186448	73.735	ug/l	96
17) Carbon Disulfide	4.706	76	236468	20.496	ug/l	96
18) Methyl Acetate	5.018	43	110778	20.161	ug/l	100
19) Methyl tert-butyl Ether	5.788	73	259864	18.502	ug/l	94
20) Methylene Chloride	5.265	84	81446	18.395	ug/l	97
21) trans-1,2-Dichloroethene	5.777	96	78223	18.913	ug/l	98
22) Diisopropyl ether	6.659	45	282262	20.050	ug/l	96
23) Vinyl Acetate	6.588	43	1155611m	92.730	ug/l	
24) 1,1-Dichloroethane	6.553	63	156012	19.969	ug/l	100
25) 2-Butanone	7.471	43	316859	92.154	ug/l	99
26) 2,2-Dichloropropane	7.471	77	137140	19.531	ug/l	99
27) cis-1,2-Dichloroethene	7.471	96	91877	19.178	ug/l	97
28) Bromochloromethane	7.794	49	79117	21.681	ug/l	100
29) Tetrahydrofuran	7.829	42	228189	99.785	ug/l	99
30) Chloroform	7.953	83	156345	20.153	ug/l	99
31) Cyclohexane	8.235	56	146307	20.327	ug/l	98
32) 1,1,1-Trichloroethane	8.153	97	137952	20.154	ug/l	98
36) 1,1-Dichloropropene	8.353	75	110824	21.032	ug/l	98
37) Ethyl Acetate	7.547	43	151153	21.576	ug/l	99
38) Carbon Tetrachloride	8.347	117	114374	21.060	ug/l	95
39) Methylcyclohexane	9.582	83	126502	19.203	ug/l	96
40) Benzene	8.588	78	335961	20.753	ug/l	98

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088346.D
 Acq On : 24 Nov 2025 13:32
 Operator : JC\MD
 Sample : VSTDICC020
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 4 Sample Multiplier: 1

Instrument :

MSVOA_N

ClientSampleId :

VSTDICC020

Manual Integrations

APPROVED

Reviewed By :John Carlone 11/25/2025

Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:10:54 2025

Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M

Quant Title : SW846 8260

QLast Update : Tue Nov 25 01:08:44 2025

Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.759	41	73287	20.203	ug/l	96
42) 1,2-Dichloroethane	8.653	62	124453	21.266	ug/l	98
43) Isopropyl Acetate	8.671	43	221861	20.765	ug/l	98
44) Trichloroethene	9.329	130	79876	21.175	ug/l	91
45) 1,2-Dichloropropane	9.600	63	83979	20.433	ug/l #	87
46) Dibromomethane	9.688	93	60253	20.513	ug/l	98
47) Bromodichloromethane	9.865	83	122415	20.808	ug/l	93
48) Methyl methacrylate	9.659	41	102560	20.792	ug/l	97
49) 1,4-Dioxane	9.676	88	28593	459.989	ug/l #	98
51) 4-Methyl-2-Pentanone	10.423	43	689576	108.887	ug/l	99
52) Toluene	10.612	92	196223	19.843	ug/l	99
53) t-1,3-Dichloropropene	10.818	75	124926	19.996	ug/l	99
54) cis-1,3-Dichloropropene	10.288	75	131162	19.787	ug/l	98
55) 1,1,2-Trichloroethane	10.994	97	75992	20.142	ug/l	96
56) Ethyl methacrylate	10.853	69	116597	19.380	ug/l	97
57) 1,3-Dichloropropane	11.141	76	135028	20.301	ug/l	99
58) 2-Chloroethyl Vinyl ether	10.141	63	347449	108.270	ug/l	98
59) 2-Hexanone	11.176	43	424244	101.867	ug/l	98
60) Dibromochloromethane	11.335	129	84716	19.753	ug/l	99
61) 1,2-Dibromoethane	11.447	107	76002	19.518	ug/l	99
64) Tetrachloroethene	11.076	164	73746	23.611	ug/l	96
65) Chlorobenzene	11.870	112	207406	19.968	ug/l	98
66) 1,1,1,2-Tetrachloroethane	11.935	131	70330	20.500	ug/l	98
67) Ethyl Benzene	11.941	91	359781	19.735	ug/l	96
68) m/p-Xylenes	12.047	106	274942	40.335	ug/l	99
69) o-Xylene	12.376	106	128919	19.957	ug/l	96
70) Styrene	12.388	104	207850	19.642	ug/l	99
71) Bromoform	12.559	173	50951	19.929	ug/l #	98
73) Isopropylbenzene	12.670	105	332053	20.064	ug/l	100
74) N-amyl acetate	12.682	43	98732m	20.946	ug/l	
75) 1,1,2,2-Tetrachloroethane	12.917	83	103664	20.037	ug/l	97
76) 1,2,3-Trichloropropane	12.970	75	106718m	21.331	ug/l	
77) Bromobenzene	12.959	156	72921	20.125	ug/l	98
78) n-propylbenzene	13.011	91	414648	20.557	ug/l	99
79) 2-Chlorotoluene	13.100	91	240017	20.663	ug/l	100
80) 1,3,5-Trimethylbenzene	13.147	105	279116	20.300	ug/l	98
81) trans-1,4-Dichloro-2-b...	12.717	75	30676	16.850	ug/l #	72
82) 4-Chlorotoluene	13.200	91	247131	19.645	ug/l	97
83) tert-Butylbenzene	13.417	119	233493	19.219	ug/l	99
84) 1,2,4-Trimethylbenzene	13.459	105	278702	20.229	ug/l	98
85) sec-Butylbenzene	13.594	105	334307	18.805	ug/l	99
86) p-Isopropyltoluene	13.706	119	280364	19.577	ug/l	99
87) 1,3-Dichlorobenzene	13.711	146	144838	20.267	ug/l	98
88) 1,4-Dichlorobenzene	13.788	146	150329	19.514	ug/l	99
89) n-Butylbenzene	14.035	91	265582	18.845	ug/l	99
90) Hexachloroethane	14.311	117	48067	17.489	ug/l	97
91) 1,2-Dichlorobenzene	14.088	146	133291	19.325	ug/l	98
92) 1,2-Dibromo-3-Chloropr...	14.694	75	23868	19.429	ug/l	99
93) 1,2,4-Trichlorobenzene	15.370	180	75854	18.265	ug/l	95
94) Hexachlorobutadiene	15.470	225	29359	19.288	ug/l	98
95) Naphthalene	15.611	128	266281	18.533	ug/l	99
96) 1,2,3-Trichlorobenzene	15.817	180	74795	18.658	ug/l	98

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088346.D
Acq On : 24 Nov 2025 13:32
Operator : JC\MD
Sample : VSTDICC020
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 4 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VSTDICC020

Manual Integrations
APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:10:54 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:08:44 2025
Response via : Initial Calibration

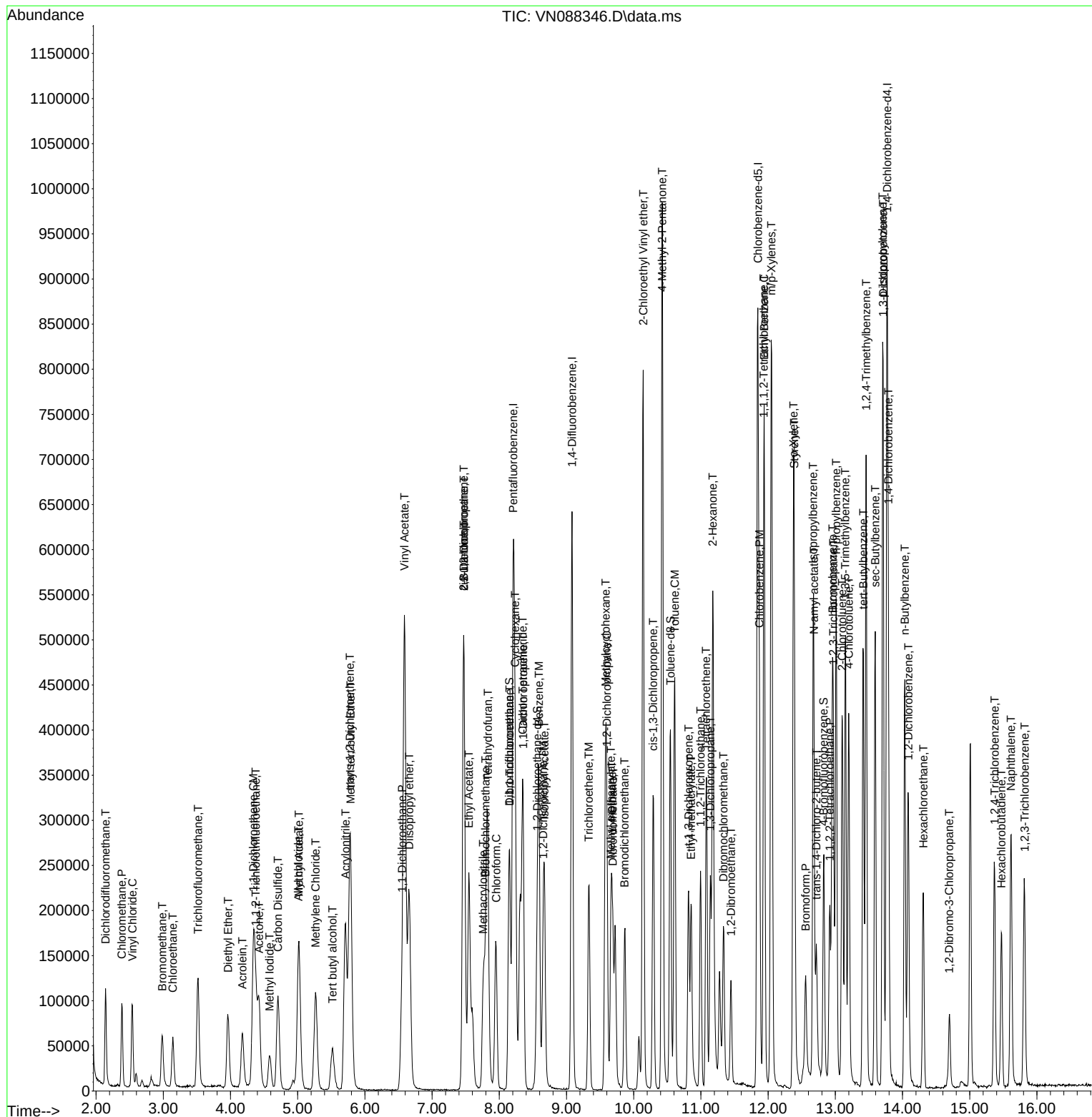
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Instrument :
MSVOA_N
ClientSampleId :
VSTDICC020

Manual Integrations APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025



Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088347.D
 Acq On : 24 Nov 2025 13:53
 Operator : JC\MD
 Sample : VSTDICCC050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 5 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDICCC050

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:11:39 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	254412	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	480905	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.847	117	425874	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	208615	50.000	ug/l	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	254050	55.205	ug/l	0.00
Spiked Amount	50.000	Range	74 - 125	Recovery	=	110.400%
35) Dibromofluoromethane	8.153	113	168216	51.013	ug/l	0.00
Spiked Amount	50.000	Range	75 - 124	Recovery	=	102.020%
50) Toluene-d8	10.547	98	618062	49.180	ug/l	0.00
Spiked Amount	50.000	Range	86 - 113	Recovery	=	98.360%
62) 4-Bromofluorobenzene	12.823	95	215443	48.802	ug/l	0.00
Spiked Amount	50.000	Range	77 - 121	Recovery	=	97.600%

Target Compounds					Qvalue	
2) Dichlorodifluoromethane	2.142	85	188518	60.616	ug/l	100
3) Chloromethane	2.383	50	203776	56.367	ug/l	100
4) Vinyl Chloride	2.536	62	206493	53.300	ug/l	100
5) Bromomethane	2.977	94	100800	44.679	ug/l	100
6) Chloroethane	3.142	64	128383	47.055	ug/l	100
7) Trichlorofluoromethane	3.512	101	277710	46.418	ug/l	100
8) Diethyl Ether	3.959	74	112943	49.408	ug/l	100
9) 1,1,2-Trichlorotrifluo...	4.365	101	143560	46.270	ug/l	100
10) Methyl Iodide	4.589	142	168409	56.580	ug/l	100
11) Tert butyl alcohol	5.512	59	205132	254.997	ug/l	100
12) 1,1-Dichloroethene	4.336	96	144499	43.959	ug/l	100
13) Acrolein	4.177	56	191880	218.057	ug/l	100
14) Allyl chloride	5.012	41	292223	49.615	ug/l	100
15) Acrylonitrile	5.706	53	593191	271.445	ug/l	100
16) Acetone	4.418	43	425884	191.549	ug/l	100
17) Carbon Disulfide	4.706	76	504570	49.738	ug/l	100
18) Methyl Acetate	5.018	43	266978	55.261	ug/l	100
19) Methyl tert-butyl Ether	5.783	73	637167	51.594	ug/l	100
20) Methylene Chloride	5.265	84	192304	49.396	ug/l	100
21) trans-1,2-Dichloroethene	5.771	96	174454	47.971	ug/l	100
22) Diisopropyl ether	6.659	45	656293	53.019	ug/l	100
23) Vinyl Acetate	6.588	43	2718764m	248.116	ug/l	
24) 1,1-Dichloroethane	6.559	63	362987	52.841	ug/l	100
25) 2-Butanone	7.465	43	757688	250.619	ug/l	100
26) 2,2-Dichloropropane	7.471	77	306308	49.612	ug/l	100
27) cis-1,2-Dichloroethene	7.471	96	210902	50.066	ug/l	100
28) Bromochloromethane	7.794	49	186871	58.241	ug/l	100
29) Tetrahydrofuran	7.824	42	545947	271.517	ug/l	100
30) Chloroform	7.947	83	354218	51.927	ug/l	100
31) Cyclohexane	8.235	56	288267	45.549	ug/l	100
32) 1,1,1-Trichloroethane	8.153	97	294555	48.942	ug/l	100
36) 1,1-Dichloropropene	8.353	75	236320	48.678	ug/l	100
37) Ethyl Acetate	7.547	43	346328	53.657	ug/l	100
38) Carbon Tetrachloride	8.347	117	240067	47.979	ug/l	100
39) Methylcyclohexane	9.582	83	253638	41.789	ug/l	100
40) Benzene	8.588	78	749637	50.260	ug/l	100

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088347.D
 Acq On : 24 Nov 2025 13:53
 Operator : JC\MD
 Sample : VSTDICCC050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 5 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDICCC050

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:11:39 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.759	41	171571	51.334	ug/l	100
42) 1,2-Dichloroethane	8.653	62	295993	54.896	ug/l	100
43) Isopropyl Acetate	8.671	43	536716	54.522	ug/l	100
44) Trichloroethene	9.329	130	171828	49.440	ug/l	100
45) 1,2-Dichloropropane	9.600	63	195340	51.585	ug/l	100
46) Dibromomethane	9.688	93	140875	52.056	ug/l	100
47) Bromodichloromethane	9.871	83	283447	52.293	ug/l	100
48) Methyl methacrylate	9.659	41	246767	54.300	ug/l	100
49) 1,4-Dioxane	9.676	88	63666	1111.677	ug/l #	100
51) 4-Methyl-2-Pentanone	10.423	43	1618000	277.304	ug/l	100
52) Toluene	10.606	92	439167	48.202	ug/l	100
53) t-1,3-Dichloropropene	10.812	75	303537	52.732	ug/l	100
54) cis-1,3-Dichloropropene	10.294	75	318360	52.127	ug/l	100
55) 1,1,2-Trichloroethane	10.994	97	169966	48.898	ug/l	100
56) Ethyl methacrylate	10.853	69	296224	53.440	ug/l	100
57) 1,3-Dichloropropane	11.141	76	309692	50.536	ug/l	100
58) 2-Chloroethyl Vinyl ether	10.141	63	875006	295.946	ug/l	100
59) 2-Hexanone	11.176	43	1048582	273.278	ug/l	100
60) Dibromochloromethane	11.335	129	196756	49.794	ug/l	100
61) 1,2-Dibromoethane	11.447	107	177630	49.512	ug/l	100
64) Tetrachloroethene	11.082	164	160566	53.914	ug/l	100
65) Chlorobenzene	11.870	112	471088	47.564	ug/l	100
66) 1,1,1,2-Tetrachloroethane	11.941	131	162993	49.826	ug/l	100
67) Ethyl Benzene	11.941	91	825262	47.473	ug/l	100
68) m/p-Xylenes	12.047	106	624414	96.067	ug/l	100
69) o-Xylene	12.376	106	296307	48.105	ug/l	100
70) Styrene	12.388	104	508032	50.349	ug/l	100
71) Bromoform	12.559	173	121394	49.795	ug/l #	100
73) Isopropylbenzene	12.670	105	756073	46.091	ug/l	100
74) N-amyl acetate	12.500	43	218031	46.667	ug/l	100
75) 1,1,2,2-Tetrachloroethane	12.917	83	235147	45.856	ug/l	100
76) 1,2,3-Trichloropropane	12.970	75	250728m	50.561	ug/l	
77) Bromobenzene	12.959	156	179949	50.105	ug/l	100
78) n-propylbenzene	13.012	91	926041	46.319	ug/l	100
79) 2-Chlorotoluene	13.100	91	563004	48.901	ug/l	100
80) 1,3,5-Trimethylbenzene	13.153	105	636506	46.704	ug/l	100
81) trans-1,4-Dichloro-2-b...	12.717	75	89717	49.717	ug/l #	100
82) 4-Chlorotoluene	13.200	91	595484	47.756	ug/l	100
83) tert-Butylbenzene	13.412	119	523419	43.467	ug/l	100
84) 1,2,4-Trimethylbenzene	13.459	105	649135	47.534	ug/l	100
85) sec-Butylbenzene	13.594	105	752927	42.729	ug/l	100
86) p-Isopropyltoluene	13.706	119	635661	44.782	ug/l	100
87) 1,3-Dichlorobenzene	13.711	146	334974	47.290	ug/l	100
88) 1,4-Dichlorobenzene	13.788	146	350784	45.940	ug/l	100
89) n-Butylbenzene	14.035	91	599399	42.911	ug/l	100
90) Hexachloroethane	14.306	117	111560	40.952	ug/l	100
91) 1,2-Dichlorobenzene	14.082	146	317314	46.414	ug/l	100
92) 1,2-Dibromo-3-Chloropr...	14.694	75	60137	49.387	ug/l	100
93) 1,2,4-Trichlorobenzene	15.364	180	185506	45.066	ug/l	100
94) Hexachlorobutadiene	15.470	225	61955	41.064	ug/l	100
95) Naphthalene	15.611	128	686671	48.217	ug/l	100
96) 1,2,3-Trichlorobenzene	15.811	180	182475	45.925	ug/l	100

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088347.D
Acq On : 24 Nov 2025 13:53
Operator : JC\MD
Sample : VSTDICCC050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VSTDICCC050

Manual Integrations
APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:11:39 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:08:44 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

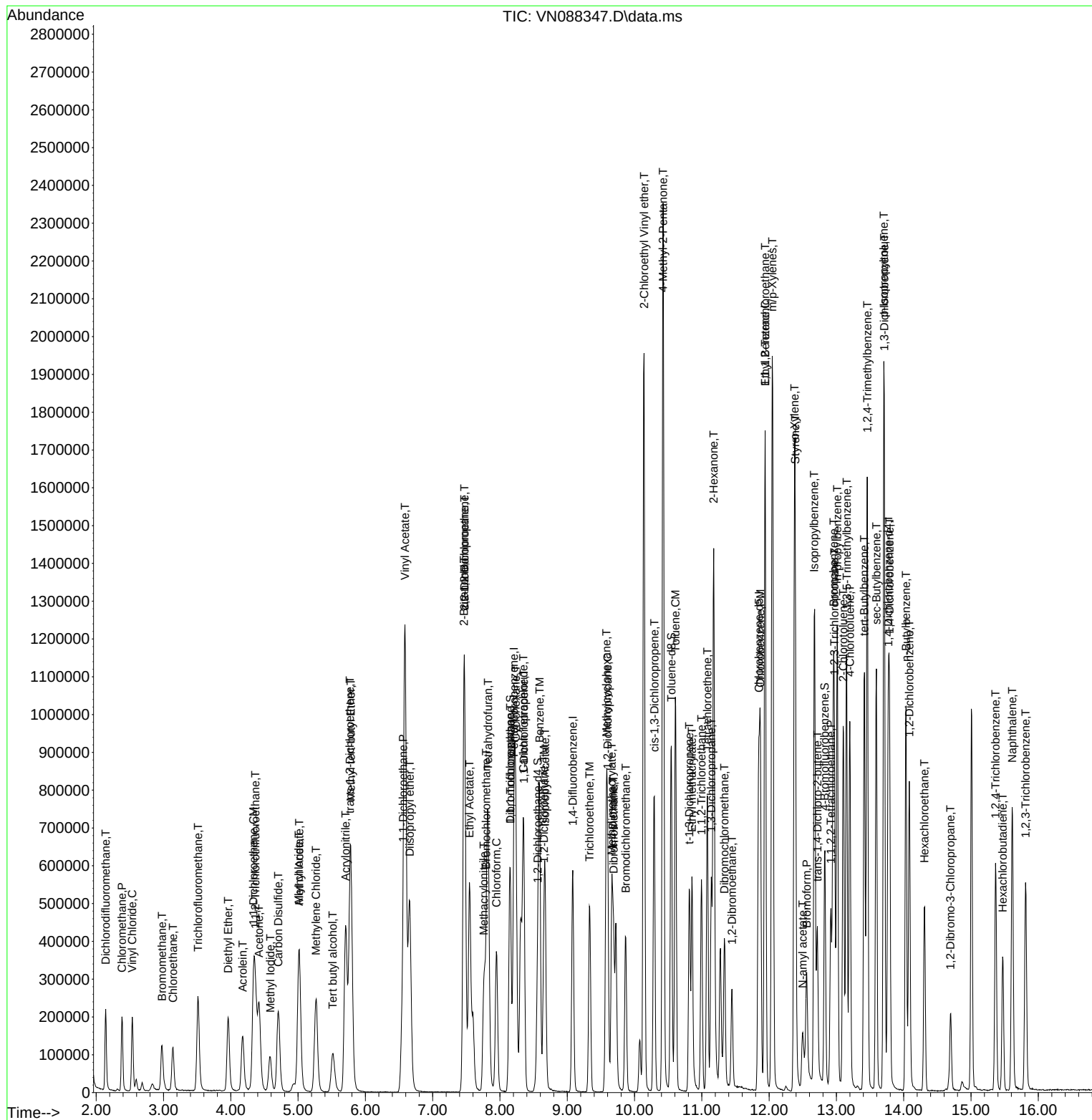
Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088347.D
Acq On : 24 Nov 2025 13:53
Operator : JC\MD
Sample : VSTDICCC050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VSTDICCC050

Manual Integrations APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:11:39 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:08:44 2025
Response via : Initial Calibration



Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088348.D
 Acq On : 24 Nov 2025 14:14
 Operator : JC\MD
 Sample : VSTDICC100
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 6 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDICC100

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:12:24 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	285895	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.083	114	501695	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.847	117	439316	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	219473	50.000	ug/l	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	504045	97.467	ug/l	0.00
Spiked Amount	50.000	Range	74 - 125	Recovery	=	194.940%#
35) Dibromofluoromethane	8.147	113	335348	97.484	ug/l	0.00
Spiked Amount	50.000	Range	75 - 124	Recovery	=	194.960%#
50) Toluene-d8	10.547	98	1312124	100.081	ug/l	0.00
Spiked Amount	50.000	Range	86 - 113	Recovery	=	200.160%#
62) 4-Bromofluorobenzene	12.829	95	467895	101.595	ug/l	0.00
Spiked Amount	50.000	Range	77 - 121	Recovery	=	203.200%#

Target Compounds					Qvalue
2) Dichlorodifluoromethane	2.142	85	479358	137.160	ug/l 100
3) Chloromethane	2.383	50	434116	106.858	ug/l 98
4) Vinyl Chloride	2.536	62	478320	109.869	ug/l 98
5) Bromomethane	2.965	94	221311	87.292	ug/l 99
6) Chloroethane	3.130	64	287091	93.637	ug/l 96
7) Trichlorofluoromethane	3.506	101	686944	102.176	ug/l 99
8) Diethyl Ether	3.959	74	229525	89.352	ug/l 99
9) 1,1,2-Trichlorotrifluo...	4.365	101	361718	103.745	ug/l 100
10) Methyl Iodide	4.577	142	377533	112.872	ug/l 97
11) Tert butyl alcohol	5.524	59	406566	449.741	ug/l 100
12) 1,1-Dichloroethene	4.336	96	340010	92.046	ug/l 96
13) Acrolein	4.177	56	409205	413.820	ug/l 99
14) Allyl chloride	5.012	41	647046m	97.762	ug/l
15) Acrylonitrile	5.706	53	1189524	484.386	ug/l 99
16) Acetone	4.418	43	872591	349.245	ug/l 98
17) Carbon Disulfide	4.706	76	1141513	100.133	ug/l 99
18) Methyl Acetate	5.018	43	555796	102.374	ug/l 100
19) Methyl tert-butyl Ether	5.783	73	1295144	93.325	ug/l 100
20) Methylene Chloride	5.265	84	392179	89.644	ug/l 99
21) trans-1,2-Dichloroethene	5.777	96	369984	90.533	ug/l 98
22) Diisopropyl ether	6.659	45	1349029	96.981	ug/l 97
23) Vinyl Acetate	6.589	43	5554188m	451.061	ug/l
24) 1,1-Dichloroethane	6.553	63	755476	97.866	ug/l 98
25) 2-Butanone	7.471	43	1542855	454.129	ug/l 97
26) 2,2-Dichloropropane	7.477	77	672523	96.933	ug/l 100
27) cis-1,2-Dichloroethene	7.471	96	427126	90.230	ug/l 98
28) Bromochloromethane	7.800	49	356867	98.975	ug/l 99
29) Tetrahydrofuran	7.824	42	1096740	485.379	ug/l 99
30) Chloroform	7.947	83	738399	96.326	ug/l 100
31) Cyclohexane	8.241	56	707339	99.459	ug/l 99
32) 1,1,1-Trichloroethane	8.147	97	666887	98.605	ug/l 98
36) 1,1-Dichloropropene	8.353	75	549319	108.461	ug/l 99
37) Ethyl Acetate	7.547	43	682857	101.412	ug/l 99
38) Carbon Tetrachloride	8.341	117	571861	109.553	ug/l 97
39) Methylcyclohexane	9.577	83	663987	104.863	ug/l 96
40) Benzene	8.588	78	1564367	100.538	ug/l 99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088348.D
 Acq On : 24 Nov 2025 14:14
 Operator : JC\MD
 Sample : VSTDICC100
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 6 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDICC100

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:12:24 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.759	41	349832	100.333	ug/l	98
42) 1,2-Dichloroethane	8.653	62	599011	106.490	ug/l	100
43) Isopropyl Acetate	8.671	43	1079559	105.122	ug/l	99
44) Trichloroethene	9.335	130	372568	102.756	ug/l	98
45) 1,2-Dichloropropane	9.600	63	396928	100.477	ug/l	96
46) Dibromomethane	9.688	93	284059	100.615	ug/l	99
47) Bromodichloromethane	9.871	83	585372	103.520	ug/l	100
48) Methyl methacrylate	9.659	41	512503	108.100	ug/l	99
49) 1,4-Dioxane	9.682	88	124110	2077.291	ug/l #	98
51) 4-Methyl-2-Pentanone	10.424	43	3302590	542.564	ug/l	100
52) Toluene	10.606	92	962754	101.291	ug/l	98
53) t-1,3-Dichloropropene	10.818	75	633621	105.515	ug/l	99
54) cis-1,3-Dichloropropene	10.294	75	656506	103.040	ug/l	97
55) 1,1,2-Trichloroethane	10.994	97	342175	94.361	ug/l	97
56) Ethyl methacrylate	10.853	69	625749	108.210	ug/l	99
57) 1,3-Dichloropropane	11.141	76	640348	100.162	ug/l	99
58) 2-Chloroethyl Vinyl ether	10.141	63	1692209	548.624	ug/l	100
59) 2-Hexanone	11.177	43	2217550	553.982	ug/l	99
60) Dibromochloromethane	11.335	129	410889	99.677	ug/l	98
61) 1,2-Dibromoethane	11.447	107	368152	98.366	ug/l	100
64) Tetrachloroethene	11.082	164	357404	116.335	ug/l	95
65) Chlorobenzene	11.871	112	1006420	98.505	ug/l	99
66) 1,1,1,2-Tetrachloroethane	11.941	131	338748	100.385	ug/l	99
67) Ethyl Benzene	11.941	91	1873691	104.486	ug/l	99
68) m/p-Xylenes	12.047	106	1384206	206.446	ug/l	97
69) o-Xylene	12.376	106	657970	103.552	ug/l	99
70) Styrene	12.388	104	1127962	108.366	ug/l	99
71) Bromoform	12.559	173	265738	105.669	ug/l #	98
73) Isopropylbenzene	12.671	105	1773457	102.764	ug/l	100
74) N-amyl acetate	12.488	43	587472	119.520	ug/l	95
75) 1,1,2,2-Tetrachloroethane	12.918	83	498007	92.311	ug/l	100
76) 1,2,3-Trichloropropane	12.971	75	516579m	99.018	ug/l	
77) Bromobenzene	12.959	156	379553	100.455	ug/l	99
78) n-propylbenzene	13.012	91	2164268	102.898	ug/l	99
79) 2-Chlorotoluene	13.106	91	1244218	102.723	ug/l	99
80) 1,3,5-Trimethylbenzene	13.153	105	1451677	101.248	ug/l	99
81) trans-1,4-Dichloro-2-b...	12.718	75	198381	104.496	ug/l #	88
82) 4-Chlorotoluene	13.200	91	1292288	98.511	ug/l	100
83) tert-Butylbenzene	13.418	119	1236180	97.579	ug/l	99
84) 1,2,4-Trimethylbenzene	13.459	105	1467849	102.168	ug/l	98
85) sec-Butylbenzene	13.594	105	1809286	97.599	ug/l	100
86) p-Isopropyltoluene	13.706	119	1507703	100.961	ug/l	99
87) 1,3-Dichlorobenzene	13.712	146	735647	98.718	ug/l	99
88) 1,4-Dichlorobenzene	13.788	146	746880	92.975	ug/l	99
89) n-Butylbenzene	14.035	91	1480732	100.761	ug/l	99
90) Hexachloroethane	14.312	117	265251	92.554	ug/l	99
91) 1,2-Dichlorobenzene	14.082	146	700211	97.354	ug/l	99
92) 1,2-Dibromo-3-Chloropr...	14.700	75	131734	102.833	ug/l	99
93) 1,2,4-Trichlorobenzene	15.364	180	419347	96.834	ug/l	97
94) Hexachlorobutadiene	15.476	225	155408	97.909	ug/l	97
95) Naphthalene	15.612	128	1528952	102.050	ug/l	99
96) 1,2,3-Trichlorobenzene	15.812	180	408194	97.651	ug/l	98

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088348.D
Acq On : 24 Nov 2025 14:14
Operator : JC\MD
Sample : VSTDICC100
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 6 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VSTDICC100

Manual Integrations
APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:12:24 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:08:44 2025
Response via : Initial Calibration

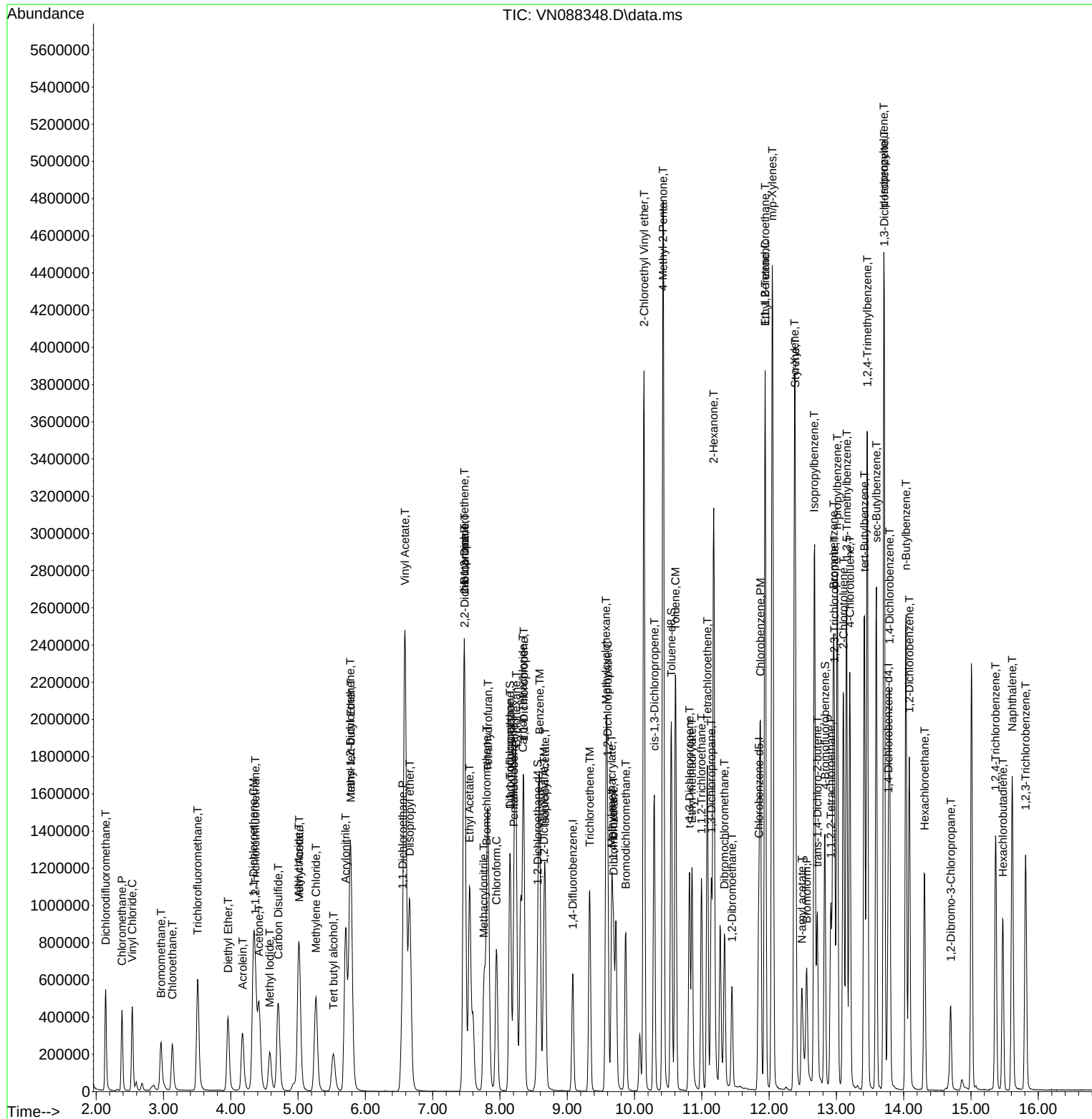
Compound	R.T.	Q	Ion	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Instrument :
MSVOA_N
ClientSampleId :
VSTDICC100

Manual Integrations

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025



Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088349.D
 Acq On : 24 Nov 2025 14:35
 Operator : JC\MD
 Sample : VSTDICC150
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 7 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDICC150

Quant Time: Nov 25 01:13:19 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Manual Integrations APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	278091	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.083	114	508326	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.847	117	457447	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	226673	50.000	ug/l	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	800654	159.167	ug/l	0.00
Spiked Amount 50.000	Range 74 - 125		Recovery = 318.340%#			
35) Dibromofluoromethane	8.147	113	514160	147.513	ug/l	0.00
Spiked Amount 50.000	Range 75 - 124		Recovery = 295.020%#			
50) Toluene-d8	10.547	98	2002008	150.709	ug/l	0.00
Spiked Amount 50.000	Range 86 - 113		Recovery = 301.420%#			
62) 4-Bromofluorobenzene	12.829	95	734676	157.441	ug/l	0.00
Spiked Amount 50.000	Range 77 - 121		Recovery = 314.880%#			
Target Compounds						
					Qvalue	
2) Dichlorodifluoromethane	2.142	85	614298	180.703	ug/l	97
3) Chloromethane	2.383	50	637070	161.216	ug/l	98
4) Vinyl Chloride	2.536	62	643786	152.025	ug/l	99
5) Bromomethane	2.948	94	327351	132.741	ug/l	99
6) Chloroethane	3.124	64	404469	135.623	ug/l	99
7) Trichlorofluoromethane	3.506	101	880178	134.591	ug/l	97
8) Diethyl Ether	3.959	74	342692	137.150	ug/l	100
9) 1,1,2-Trichlorotrifluo...	4.365	101	461517	136.083	ug/l	99
10) Methyl Iodide	4.583	142	530186	162.959	ug/l	96
11) Tert butyl alcohol	5.524	59	615624	700.111	ug/l	99
12) 1,1-Dichloroethene	4.336	96	461833	128.534	ug/l	95
13) Acrolein	4.177	56	614784	639.165	ug/l	98
14) Allyl chloride	5.012	41	947252m	147.136	ug/l	
15) Acrylonitrile	5.706	53	1745154	730.587	ug/l	100
16) Acetone	4.418	43	1310595	539.272	ug/l	100
17) Carbon Disulfide	4.700	76	1529256	137.911	ug/l	99
18) Methyl Acetate	5.018	43	822075	155.669	ug/l	100
19) Methyl tert-butyl Ether	5.783	73	1946194	144.173	ug/l	97
20) Methylene Chloride	5.259	84	565609	132.915	ug/l	99
21) trans-1,2-Dichloroethene	5.771	96	522186	131.362	ug/l	100
22) Diisopropyl ether	6.659	45	2022262	149.459	ug/l	98
23) Vinyl Acetate	6.589	43	8352858m	697.381	ug/l	
24) 1,1-Dichloroethane	6.553	63	1073175	142.923	ug/l	98
25) 2-Butanone	7.471	43	2317712	701.347	ug/l	96
26) 2,2-Dichloropropane	7.477	77	948461	140.541	ug/l	99
27) cis-1,2-Dichloroethene	7.471	96	621100	134.889	ug/l	99
28) Bromochloromethane	7.794	49	498418	142.113	ug/l	100
29) Tetrahydrofuran	7.824	42	1661991	756.181	ug/l	99
30) Chloroform	7.947	83	1072381	143.821	ug/l	95
31) Cyclohexane	8.236	56	925517	133.789	ug/l	98
32) 1,1,1-Trichloroethane	8.153	97	920717	139.956	ug/l	96
36) 1,1-Dichloropropene	8.353	75	747080	145.584	ug/l	100
37) Ethyl Acetate	7.547	43	1038194	152.172	ug/l	100
38) Carbon Tetrachloride	8.341	117	776182	146.756	ug/l	96
39) Methylcyclohexane	9.583	83	856176	133.452	ug/l	96
40) Benzene	8.588	78	2252306	142.862	ug/l	98

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088349.D
 Acq On : 24 Nov 2025 14:35
 Operator : JC\MD
 Sample : VSTDICC150
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 7 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDICC150

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:13:19 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:08:44 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.759	41	533051	150.887	ug/l	98
42) 1,2-Dichloroethane	8.653	62	895667	157.152	ug/l	99
43) Isopropyl Acetate	8.671	43	1638317	157.450	ug/l	99
44) Trichloroethene	9.335	130	529981	144.265	ug/l	98
45) 1,2-Dichloropropane	9.600	63	581336	145.238	ug/l	95
46) Dibromomethane	9.688	93	422737	147.782	ug/l	100
47) Bromodichloromethane	9.871	83	863631	150.736	ug/l	100
48) Methyl methacrylate	9.665	41	781838	162.758	ug/l	99
49) 1,4-Dioxane	9.683	88	191377	3161.388	ug/l #	97
51) 4-Methyl-2-Pentanone	10.424	43	4963362	804.767	ug/l	99
52) Toluene	10.612	92	1389323	144.264	ug/l	99
53) t-1,3-Dichloropropene	10.818	75	953623	156.732	ug/l	99
54) cis-1,3-Dichloropropene	10.294	75	975877	151.168	ug/l	98
55) 1,1,2-Trichloroethane	10.994	97	513073	139.644	ug/l	99
56) Ethyl methacrylate	10.853	69	954630	162.929	ug/l	99
57) 1,3-Dichloropropane	11.141	76	948252	146.389	ug/l	99
58) 2-Chloroethyl Vinyl ether	10.141	63	2298552	735.483	ug/l	100
59) 2-Hexanone	11.177	43	3427514	845.082	ug/l	99
60) Dibromochloromethane	11.335	129	615359	147.332	ug/l	98
61) 1,2-Dibromoethane	11.447	107	548222	144.568	ug/l	99
64) Tetrachloroethene	11.082	164	503663	157.444	ug/l	98
65) Chlorobenzene	11.871	112	1467895	137.978	ug/l	100
66) 1,1,1,2-Tetrachloroethane	11.941	131	494738	140.800	ug/l	98
67) Ethyl Benzene	11.941	91	2679329	143.490	ug/l	99
68) m/p-Xylenes	12.047	106	1999338	286.370	ug/l	98
69) o-Xylene	12.376	106	971419	146.823	ug/l	99
70) Styrene	12.388	104	1660474	153.203	ug/l	99
71) Bromoform	12.559	173	404703	154.550	ug/l #	99
73) Isopropylbenzene	12.671	105	2520465	141.411	ug/l	99
74) N-amyl acetate	12.482	43	1006304	198.228	ug/l #	95
75) 1,1,2,2-Tetrachloroethane	12.918	83	735899	132.074	ug/l	100
76) 1,2,3-Trichloropropane	12.971	75	778772m	144.533	ug/l	
77) Bromobenzene	12.959	156	554789	142.170	ug/l	97
78) n-propylbenzene	13.012	91	3057578	140.752	ug/l	100
79) 2-Chlorotoluene	13.100	91	1823307	145.751	ug/l	100
80) 1,3,5-Trimethylbenzene	13.153	105	2086957	140.933	ug/l	99
81) trans-1,4-Dichloro-2-b...	12.718	75	314465	160.381	ug/l #	91
82) 4-Chlorotoluene	13.200	91	1905793	140.664	ug/l	99
83) tert-Butylbenzene	13.418	119	1733611	132.498	ug/l	99
84) 1,2,4-Trimethylbenzene	13.459	105	2111285	142.286	ug/l	99
85) sec-Butylbenzene	13.594	105	2498053	130.473	ug/l	100
86) p-Isopropyltoluene	13.706	119	2089505	135.476	ug/l	99
87) 1,3-Dichlorobenzene	13.712	146	1070574	139.099	ug/l	100
88) 1,4-Dichlorobenzene	13.788	146	1093471	131.796	ug/l	99
89) n-Butylbenzene	14.035	91	2025634	133.462	ug/l	99
90) Hexachloroethane	14.306	117	376335	127.143	ug/l	99
91) 1,2-Dichlorobenzene	14.082	146	1023417	137.771	ug/l	100
92) 1,2-Dibromo-3-Chloropr...	14.700	75	204222	154.355	ug/l	100
93) 1,2,4-Trichlorobenzene	15.365	180	623560	139.416	ug/l	99
94) Hexachlorobutadiene	15.470	225	208495	127.182	ug/l	97
95) Naphthalene	15.612	128	2308447	149.183	ug/l	99
96) 1,2,3-Trichlorobenzene	15.812	180	605584	140.271	ug/l	98

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088349.D
Acq On : 24 Nov 2025 14:35
Operator : JC\MD
Sample : VSTDICC150
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VSTDICC150

Manual Integrations
APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:13:19 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:08:44 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

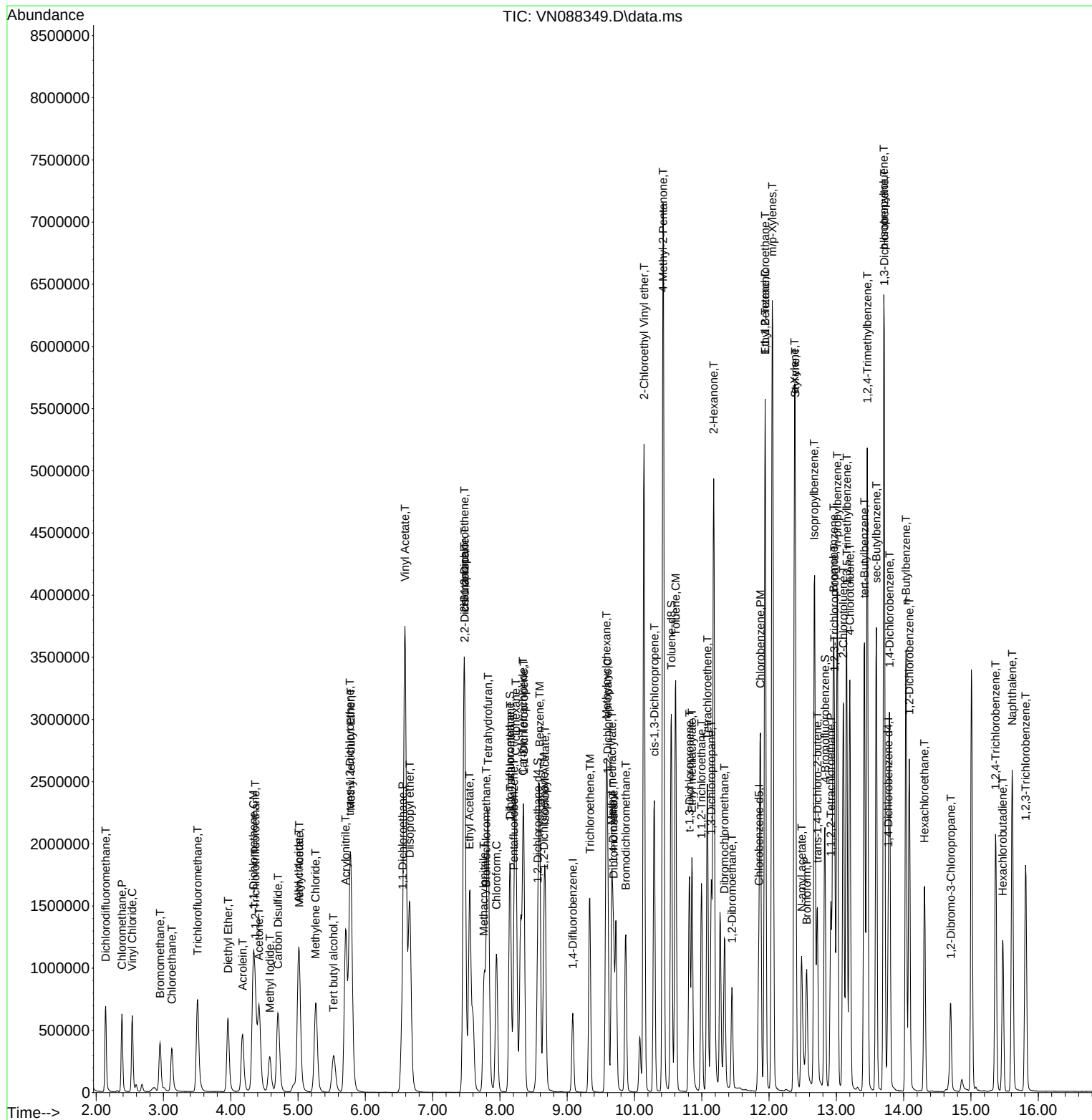
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Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\  
Data File : VN088349.D  
Acq On    : 24 Nov 2025  14:35  
Operator  : JC\MD  
Sample    : VSTDICC150  
Misc      : 5.0mL/MSVOA_N/WATER  
ALS Vial  : 7      Sample Multiplier: 1
```

Instrument :
MSVOA_N
ClientSampleId :
VSTDICC150

Manual Integrations

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:13:19 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:08:44 2025
Response via : Initial Calibration



Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088351.D
 Acq On : 24 Nov 2025 15:18
 Operator : JC\MD
 Sample : VSTDICV050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 9 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 ICVVN112425

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:39:30 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	264693	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	504031	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	443578	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	211823	50.000	ug/l	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	234844	47.098	ug/l	0.00
Spiked Amount	50.000	Range	74 - 125	Recovery	=	94.200%
35) Dibromofluoromethane	8.153	113	152840	43.757	ug/l	0.00
Spiked Amount	50.000	Range	75 - 124	Recovery	=	87.520%
50) Toluene-d8	10.547	98	574351	44.193	ug/l	0.00
Spiked Amount	50.000	Range	86 - 113	Recovery	=	88.380%
62) 4-Bromofluorobenzene	12.829	95	199878	44.823	ug/l	0.00
Spiked Amount	50.000	Range	77 - 121	Recovery	=	89.640%

Target Compounds					Qvalue	
2) Dichlorodifluoromethane	2.142	85	204306	51.389	ug/l	96
3) Chloromethane	2.383	50	224506	52.578	ug/l	98
4) Vinyl Chloride	2.536	62	216512	49.842	ug/l	99
5) Bromomethane	2.977	94	113722	54.393	ug/l	95
6) Chloroethane	3.142	64	138310	51.450	ug/l	96
7) Trichlorofluoromethane	3.512	101	304206	49.826	ug/l	96
8) Diethyl Ether	3.965	74	122332	53.384	ug/l	99
9) 1,1,2-Trichlorotrifluo...	4.365	101	153067	47.094	ug/l	96
10) Methyl Iodide	4.589	142	173671	53.976	ug/l	95
11) Tert butyl alcohol	5.518	59	213569	268.272	ug/l	99
12) 1,1-Dichloroethene	4.342	96	158096	48.957	ug/l	94
13) Acrolein	4.177	56	203235	266.656	ug/l	99
14) Allyl chloride	5.018	41	321979	53.793	ug/l	99
15) Acrylonitrile	5.706	53	637644	277.614	ug/l	99
16) Acetone	4.418	43	450459	249.797	ug/l	100
17) Carbon Disulfide	4.706	76	544067	51.558	ug/l	100
18) Methyl Acetate	5.018	43	290918	54.196	ug/l	99
19) Methyl tert-butyl Ether	5.783	73	694497	57.401	ug/l	95
20) Methylene Chloride	5.265	84	208952	54.158	ug/l	98
21) trans-1,2-Dichloroethene	5.777	96	191102	53.421	ug/l	99
22) Diisopropyl ether	6.653	45	719883	56.335	ug/l	97
23) Vinyl Acetate	6.588	43	2915087m	283.141	ug/l	
24) 1,1-Dichloroethane	6.559	63	394512	54.516	ug/l	99
25) 2-Butanone	7.471	43	807706	278.613	ug/l	97
26) 2,2-Dichloropropane	7.471	77	337031	53.957	ug/l	99
27) cis-1,2-Dichloroethene	7.471	96	223944	53.866	ug/l	99
28) Bromochloromethane	7.794	49	167723	46.526	ug/l	100
29) Tetrahydrofuran	7.824	42	581218	279.515	ug/l	99
30) Chloroform	7.947	83	383675	53.957	ug/l	95
31) Cyclohexane	8.241	56	316159	48.211	ug/l	94
32) 1,1,1-Trichloroethane	8.147	97	319795	51.150	ug/l	100
36) 1,1-Dichloropropene	8.353	75	253183	46.967	ug/l	98
37) Ethyl Acetate	7.547	43	364546	51.431	ug/l	99
38) Carbon Tetrachloride	8.341	117	262078	48.837	ug/l	98
39) Methylcyclohexane	9.577	83	276272	47.913	ug/l	98
40) Benzene	8.588	78	803742	50.800	ug/l	100

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088351.D
 Acq On : 24 Nov 2025 15:18
 Operator : JC\MD
 Sample : VSTDICV050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 9 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 ICVVN112425

Manual Integrations
 APPROVED

Reviewed By : John Carlone 11/25/2025
 Supervised By : Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:39:30 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.765	41	189164	53.883	ug/l	98
42) 1,2-Dichloroethane	8.653	62	318757	52.806	ug/l	99
43) Isopropyl Acetate	8.671	43	575762	53.165	ug/l	100
44) Trichloroethene	9.335	130	184844	49.444	ug/l	97
45) 1,2-Dichloropropane	9.600	63	211177	52.095	ug/l	96
46) Dibromomethane	9.688	93	152417	52.686	ug/l	100
47) Bromodichloromethane	9.871	83	307856	52.155	ug/l	100
48) Methyl methacrylate	9.665	41	269474	54.535	ug/l	99
49) 1,4-Dioxane	9.682	88	64188	1021.452	ug/l #	99
51) 4-Methyl-2-Pentanone	10.424	43	1745522	273.447	ug/l	100
52) Toluene	10.612	92	475044	51.998	ug/l	100
53) t-1,3-Dichloropropene	10.812	75	323712	53.428	ug/l	97
54) cis-1,3-Dichloropropene	10.294	75	344582	54.081	ug/l	98
55) 1,1,2-Trichloroethane	10.994	97	182138	51.530	ug/l	98
56) Ethyl methacrylate	10.853	69	323702	57.977	ug/l	98
57) 1,3-Dichloropropane	11.141	76	338609	53.102	ug/l	98
58) 2-Chloroethyl Vinyl ether	10.141	63	851755	264.613	ug/l	100
59) 2-Hexanone	11.176	43	1118254	278.086	ug/l	99
60) Dibromochloromethane	11.341	129	212150	52.650	ug/l	98
61) 1,2-Dibromoethane	11.447	107	191658	53.546	ug/l	99
64) Tetrachloroethene	11.082	164	164101	46.666	ug/l	96
65) Chlorobenzene	11.871	112	512644	51.452	ug/l	100
66) 1,1,1,2-Tetrachloroethane	11.941	131	174200	51.838	ug/l	98
67) Ethyl Benzene	11.941	91	899198	51.635	ug/l	100
68) m/p-Xylenes	12.047	106	679183	105.191	ug/l	99
69) o-Xylene	12.376	106	322403	52.376	ug/l	100
70) Styrene	12.388	104	550033	55.031	ug/l	100
71) Bromoform	12.559	173	132448	53.811	ug/l #	100
73) Isopropylbenzene	12.670	105	827973	52.866	ug/l	100
74) N-amyl acetate	12.500	43	221082m	41.449	ug/l	
75) 1,1,2,2-Tetrachloroethane	12.917	83	253948	50.155	ug/l	100
76) 1,2,3-Trichloropropane	12.970	75	269266m	54.274	ug/l	
77) Bromobenzene	12.959	156	191381	53.406	ug/l	98
78) n-propylbenzene	13.012	91	1004887	52.446	ug/l	100
79) 2-Chlorotoluene	13.106	91	599091	51.202	ug/l	99
80) 1,3,5-Trimethylbenzene	13.153	105	687007	52.936	ug/l	99
81) trans-1,4-Dichloro-2-b...	12.717	75	96389	55.117	ug/l #	95
82) 4-Chlorotoluene	13.200	91	628637	54.093	ug/l	99
83) tert-Butylbenzene	13.417	119	569932	51.660	ug/l	99
84) 1,2,4-Trimethylbenzene	13.459	105	703272	54.519	ug/l	98
85) sec-Butylbenzene	13.594	105	812817	51.285	ug/l	100
86) p-Isopropyltoluene	13.706	119	678617	52.216	ug/l	98
87) 1,3-Dichlorobenzene	13.712	146	357734	51.282	ug/l	99
88) 1,4-Dichlorobenzene	13.788	146	372290	50.949	ug/l	98
89) n-Butylbenzene	14.035	91	644062	51.040	ug/l	99
90) Hexachloroethane	14.306	117	118158	49.768	ug/l	97
91) 1,2-Dichlorobenzene	14.082	146	344212	52.435	ug/l	99
92) 1,2-Dibromo-3-Chloropr...	14.700	75	62186	50.621	ug/l	98
93) 1,2,4-Trichlorobenzene	15.370	180	200095	51.301	ug/l	99
94) Hexachlorobutadiene	15.476	225	64430	45.969	ug/l	97
95) Naphthalene	15.611	128	719827	53.258	ug/l	99
96) 1,2,3-Trichlorobenzene	15.811	180	188353	49.620	ug/l	97

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088351.D
Acq On : 24 Nov 2025 15:18
Operator : JC\MD
Sample : VSTDICV050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
ICVVN112425

Manual Integrations
APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025

Quant Time: Nov 25 01:39:30 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration

Compound	R.T.	Q	Ion	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Instrument :
MSVOA_N
ClientSampleId :
ICVVN112425

Manual Integrations APPROVED

Reviewed By :John Carlone 11/25/2025
Supervised By :Mahesh Dadoda 11/26/2025



Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088351.D
 Acq On : 24 Nov 2025 15:18
 Operator : JC\MD
 Sample : VSTDICV050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 9 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 ICSVN112425

Quant Time: Nov 25 01:39:30 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 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	Pentafluorobenzene	1.000	1.000	0.0	104	0.00
2 T	Dichlorodifluoromethane	0.751	0.772	-2.8	108	0.00
3 P	Chloromethane	0.807	0.848	-5.1	110	0.00
4 C	Vinyl Chloride	0.821	0.818	0.4#	105	0.00
5 T	Bromomethane	0.395	0.430	-8.9	113	0.00
6 T	Chloroethane	0.508	0.523	-3.0	108	0.00
7 T	Trichlorofluoromethane	1.153	1.149	0.3	110	0.00
8 T	Diethyl Ether	0.433	0.462	-6.7	108	0.00
9 T	1,1,2-Trichlorotrifluoroeth	0.614	0.578	5.9	107	0.00
10 T	Methyl Iodide	0.608	0.656	-7.9	103	0.00
11 T	Tert butyl alcohol	0.150	0.161	-7.3	104	0.00
12 CM	1,1-Dichloroethene	0.610	0.597	2.1#	109	0.00
13 T	Acrolein	0.144	0.154	-6.9	106	0.00
14 T	Allyl chloride	1.131	1.216	-7.5	110	0.00
15 T	Acrylonitrile	0.434	0.482	-11.1	107	0.00
16 T	Acetone	0.341	0.340	0.3	106	0.00
17 T	Carbon Disulfide	1.993	2.055	-3.1	108	0.00
18 T	Methyl Acetate	1.014	1.099	-8.4	109	0.00
19 T	Methyl tert-butyl Ether	2.285	2.624	-14.8	109	0.00
20 T	Methylene Chloride	0.729	0.789	-8.2	109	0.00
21 T	trans-1,2-Dichloroethene	0.676	0.722	-6.8	110	0.00
22 T	Diisopropyl ether	2.414	2.720	-12.7	110	0.00
23 T	Vinyl Acetate	1.945	2.203	-13.3	107	0.00
24 P	1,1-Dichloroethane	1.367	1.490	-9.0	109	0.00
25 T	2-Butanone	0.548	0.610	-11.3	107	0.00
26 T	2,2-Dichloropropane	1.180	1.273	-7.9	110	0.00
27 T	cis-1,2-Dichloroethene	0.785	0.846	-7.8	106	0.00
28 T	Bromochloromethane	0.681	0.634	6.9	90	0.00
29 T	Tetrahydrofuran	0.393	0.439	-11.7	106	0.00
30 C	Chloroform	1.343	1.450	-8.0#	108	0.00
31 T	Cyclohexane	1.239	1.194	3.6	110	0.00
32 T	1,1,1-Trichloroethane	1.181	1.208	-2.3	109	0.00
33 S	1,2-Dichloroethane-d4	0.942	0.887	5.8	92	0.00
34 I	1,4-Difluorobenzene	1.000	1.000	0.0	105	0.00
35 S	Dibromofluoromethane	0.346	0.303	12.4	91	0.00
36 T	1,1-Dichloropropene	0.535	0.502	6.2	107	0.00
37 T	Ethyl Acetate	0.703	0.723	-2.8	105	0.00
38 T	Carbon Tetrachloride	0.532	0.520	2.3	109	0.00
39 T	Methylcyclohexane	0.572	0.548	4.2	109	0.00
40 TM	Benzene	1.570	1.595	-1.6	107	0.00
41 T	Methacrylonitrile	0.348	0.375	-7.8	110	0.00
42 TM	1,2-Dichloroethane	0.599	0.632	-5.5	108	0.00
43 T	Isopropyl Acetate	1.074	1.142	-6.3	107	0.00
44 TM	Trichloroethene	0.371	0.367	1.1	108	0.00
45 C	1,2-Dichloropropane	0.402	0.419	-4.2#	108	0.00
46 T	Dibromomethane	0.287	0.302	-5.2	108	0.00
47 T	Bromodichloromethane	0.586	0.611	-4.3	109	0.00
48 T	Methyl methacrylate	0.490	0.535	-9.2	109	0.00

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088351.D
 Acq On : 24 Nov 2025 15:18
 Operator : JC\MD
 Sample : VSTDICV050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 9 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 ICSVN112425

Quant Time: Nov 25 01:39:30 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 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	1,4-Dioxane	0.006	0.006	0.0	101	0.00
50 S	Toluene-d8	1.289	1.140	11.6	93	0.00
51 T	4-Methyl-2-Pentanone	0.633	0.693	-9.5	108	0.00
52 CM	Toluene	0.906	0.942	-4.0#	108	0.00
53 T	t-1,3-Dichloropropene	0.601	0.642	-6.8	107	0.00
54 T	cis-1,3-Dichloropropene	0.632	0.684	-8.2	108	0.00
55 T	1,1,2-Trichloroethane	0.351	0.361	-2.8	107	0.00
56 T	Ethyl methacrylate	0.554	0.642	-15.9	109	0.00
57 T	1,3-Dichloropropane	0.633	0.672	-6.2	109	0.00
58 T	2-Chloroethyl Vinyl ether	0.319	0.338	-6.0	97	0.00
59 T	2-Hexanone	0.399	0.444	-11.3	107	0.00
60 T	Dibromochloromethane	0.400	0.421	-5.2	108	0.00
61 T	1,2-Dibromoethane	0.355	0.380	-7.0	108	0.00
62 S	4-Bromofluorobenzene	0.442	0.397	10.2	93	0.00
63 I	Chlorobenzene-d5	1.000	1.000	0.0	104	0.00
64 T	Tetrachloroethene	0.396	0.370	6.6	102	0.00
65 PM	Chlorobenzene	1.123	1.156	-2.9	109	0.00
66 T	1,1,1,2-Tetrachloroethane	0.379	0.393	-3.7	107	0.00
67 C	Ethyl Benzene	1.963	2.027	-3.3#	109	0.00
68 T	m/p-Xylenes	0.728	0.766	-5.2	109	0.00
69 T	o-Xylene	0.694	0.727	-4.8	109	0.00
70 T	Styrene	1.127	1.240	-10.0	108	0.00
71 P	Bromoform	0.277	0.299	-7.9	109	0.00
72 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	102	0.00
73 T	Isopropylbenzene	3.697	3.909	-5.7	110	0.00
74 T	N-ethyl acetate	1.259	1.044	17.1	101	0.00
75 P	1,1,2,2-Tetrachloroethane	1.195	1.199	-0.3	108	0.00
76 T	1,2,3-Trichloropropane	1.171	1.271	-8.5	107	0.00
77 T	Bromobenzene	0.846	0.903	-6.7	106	0.00
78 T	n-propylbenzene	4.523	4.744	-4.9	109	0.00
79 T	2-Chlorotoluene	2.762	2.828	-2.4	106	0.00
80 T	1,3,5-Trimethylbenzene	3.063	3.243	-5.9	108	0.00
81 T	trans-1,4-Dichloro-2-butene	0.413	0.455	-10.2	107	0.00
82 T	4-Chlorotoluene	2.743	2.968	-8.2	106	0.00
83 T	tert-Butylbenzene	2.604	2.691	-3.3	109	0.00
84 T	1,2,4-Trimethylbenzene	3.045	3.320	-9.0	108	0.00
85 T	sec-Butylbenzene	3.741	3.837	-2.6	108	0.00
86 T	p-Isopropyltoluene	3.068	3.204	-4.4	107	0.00
87 T	1,3-Dichlorobenzene	1.647	1.689	-2.6	107	0.00
88 T	1,4-Dichlorobenzene	1.725	1.758	-1.9	106	0.00
89 T	n-Butylbenzene	2.979	3.041	-2.1	107	0.00
90 T	Hexachloroethane	0.560	0.558	0.4	106	0.00
91 T	1,2-Dichlorobenzene	1.550	1.625	-4.8	108	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.290	0.294	-1.4	103	0.00
93 T	1,2,4-Trichlorobenzene	0.921	0.945	-2.6	108	0.00
94 T	Hexachlorobutadiene	0.331	0.304	8.2	104	0.00
95 T	Naphthalene	3.190	3.398	-6.5	105	0.00

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088351.D
Acq On : 24 Nov 2025 15:18
Operator : JC\MD
Sample : VSTDICV050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
ICVVN112425

Quant Time: Nov 25 01:39:30 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 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)
96 T	1,2,3-Trichlorobenzene	0.896	0.889	0.8	103	0.00

(#) = Out of Range

SPCC's out = 0 CCC's out = 6

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088351.D
 Acq On : 24 Nov 2025 15:18
 Operator : JC\MD
 Sample : VSTDICV050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 9 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 ICSVN112425

Quant Time: Nov 25 01:39:30 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 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	Pentafluorobenzene	50.000	50.000	0.0	104	0.00
2 T	Dichlorodifluoromethane	50.000	51.389	-2.8	108	0.00
3 P	Chloromethane	50.000	52.578	-5.2	110	0.00
4 C	Vinyl Chloride	50.000	49.842	0.3#	105	0.00
5 T	Bromomethane	50.000	54.393	-8.8	113	0.00
6 T	Chloroethane	50.000	51.450	-2.9	108	0.00
7 T	Trichlorofluoromethane	50.000	49.826	0.3	110	0.00
8 T	Diethyl Ether	50.000	53.384	-6.8	108	0.00
9 T	1,1,2-Trichlorotrifluoroeth	50.000	47.094	5.8	107	0.00
10 T	Methyl Iodide	50.000	53.976	-8.0	103	0.00
11 T	Tert butyl alcohol	250.000	268.272	-7.3	104	0.00
12 CM	1,1-Dichloroethene	50.000	48.957	2.1#	109	0.00
13 T	Acrolein	250.000	266.656	-6.7	106	0.00
14 T	Allyl chloride	50.000	53.793	-7.6	110	0.00
15 T	Acrylonitrile	250.000	277.614	-11.0	107	0.00
16 T	Acetone	250.000	249.797	0.1	106	0.00
17 T	Carbon Disulfide	50.000	51.558	-3.1	108	0.00
18 T	Methyl Acetate	50.000	54.196	-8.4	109	0.00
19 T	Methyl tert-butyl Ether	50.000	57.401	-14.8	109	0.00
20 T	Methylene Chloride	50.000	54.158	-8.3	109	0.00
21 T	trans-1,2-Dichloroethene	50.000	53.421	-6.8	110	0.00
22 T	Diisopropyl ether	50.000	56.335	-12.7	110	0.00
23 T	Vinyl Acetate	250.000	283.141	-13.3	107	0.00
24 P	1,1-Dichloroethane	50.000	54.516	-9.0	109	0.00
25 T	2-Butanone	250.000	278.613	-11.4	107	0.00
26 T	2,2-Dichloropropane	50.000	53.957	-7.9	110	0.00
27 T	cis-1,2-Dichloroethene	50.000	53.866	-7.7	106	0.00
28 T	Bromochloromethane	50.000	46.526	6.9	90	0.00
29 T	Tetrahydrofuran	250.000	279.515	-11.8	106	0.00
30 C	Chloroform	50.000	53.957	-7.9#	108	0.00
31 T	Cyclohexane	50.000	48.211	3.6	110	0.00
32 T	1,1,1-Trichloroethane	50.000	51.150	-2.3	109	0.00
33 S	1,2-Dichloroethane-d4	50.000	47.098	5.8	92	0.00
34 I	1,4-Difluorobenzene	50.000	50.000	0.0	105	0.00
35 S	Dibromofluoromethane	50.000	43.757	12.5	91	0.00
36 T	1,1-Dichloropropene	50.000	46.967	6.1	107	0.00
37 T	Ethyl Acetate	50.000	51.431	-2.9	105	0.00
38 T	Carbon Tetrachloride	50.000	48.837	2.3	109	0.00
39 T	Methylcyclohexane	50.000	47.913	4.2	109	0.00
40 TM	Benzene	50.000	50.800	-1.6	107	0.00
41 T	Methacrylonitrile	50.000	53.883	-7.8	110	0.00
42 TM	1,2-Dichloroethane	50.000	52.806	-5.6	108	0.00
43 T	Isopropyl Acetate	50.000	53.165	-6.3	107	0.00
44 TM	Trichloroethene	50.000	49.444	1.1	108	0.00
45 C	1,2-Dichloropropane	50.000	52.095	-4.2#	108	0.00
46 T	Dibromomethane	50.000	52.686	-5.4	108	0.00
47 T	Bromodichloromethane	50.000	52.155	-4.3	109	0.00
48 T	Methyl methacrylate	50.000	54.535	-9.1	109	0.00

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
 Data File : VN088351.D
 Acq On : 24 Nov 2025 15:18
 Operator : JC\MD
 Sample : VSTDICV050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 9 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 ICVVN112425

Quant Time: Nov 25 01:39:30 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 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	1,4-Dioxane	1000.000	1021.452	-2.1	101	0.00
50 S	Toluene-d8	50.000	44.193	11.6	93	0.00
51 T	4-Methyl-2-Pentanone	250.000	273.447	-9.4	108	0.00
52 CM	Toluene	50.000	51.998	-4.0#	108	0.00
53 T	t-1,3-Dichloropropene	50.000	53.428	-6.9	107	0.00
54 T	cis-1,3-Dichloropropene	50.000	54.081	-8.2	108	0.00
55 T	1,1,2-Trichloroethane	50.000	51.530	-3.1	107	0.00
56 T	Ethyl methacrylate	50.000	57.977	-16.0	109	0.00
57 T	1,3-Dichloropropane	50.000	53.102	-6.2	109	0.00
58 T	2-Chloroethyl Vinyl ether	250.000	264.613	-5.8	97	0.00
59 T	2-Hexanone	250.000	278.086	-11.2	107	0.00
60 T	Dibromochloromethane	50.000	52.650	-5.3	108	0.00
61 T	1,2-Dibromoethane	50.000	53.546	-7.1	108	0.00
62 S	4-Bromofluorobenzene	50.000	44.823	10.4	93	0.00
63 I	Chlorobenzene-d5	50.000	50.000	0.0	104	0.00
64 T	Tetrachloroethene	50.000	46.666	6.7	102	0.00
65 PM	Chlorobenzene	50.000	51.452	-2.9	109	0.00
66 T	1,1,1,2-Tetrachloroethane	50.000	51.838	-3.7	107	0.00
67 C	Ethyl Benzene	50.000	51.635	-3.3#	109	0.00
68 T	m/p-Xylenes	100.000	105.191	-5.2	109	0.00
69 T	o-Xylene	50.000	52.376	-4.8	109	0.00
70 T	Styrene	50.000	55.031	-10.1	108	0.00
71 P	Bromoform	50.000	53.811	-7.6	109	0.00
72 I	1,4-Dichlorobenzene-d4	50.000	50.000	0.0	102	0.00
73 T	Isopropylbenzene	50.000	52.866	-5.7	110	0.00
74 T	N-ethyl acetate	50.000	41.449	17.1	101	0.00
75 P	1,1,2,2-Tetrachloroethane	50.000	50.155	-0.3	108	0.00
76 T	1,2,3-Trichloropropane	50.000	54.274	-8.5	107	0.00
77 T	Bromobenzene	50.000	53.406	-6.8	106	0.00
78 T	n-propylbenzene	50.000	52.446	-4.9	109	0.00
79 T	2-Chlorotoluene	50.000	51.202	-2.4	106	0.00
80 T	1,3,5-Trimethylbenzene	50.000	52.936	-5.9	108	0.00
81 T	trans-1,4-Dichloro-2-butene	50.000	55.117	-10.2	107	0.00
82 T	4-Chlorotoluene	50.000	54.093	-8.2	106	0.00
83 T	tert-Butylbenzene	50.000	51.660	-3.3	109	0.00
84 T	1,2,4-Trimethylbenzene	50.000	54.519	-9.0	108	0.00
85 T	sec-Butylbenzene	50.000	51.285	-2.6	108	0.00
86 T	p-Isopropyltoluene	50.000	52.216	-4.4	107	0.00
87 T	1,3-Dichlorobenzene	50.000	51.282	-2.6	107	0.00
88 T	1,4-Dichlorobenzene	50.000	50.949	-1.9	106	0.00
89 T	n-Butylbenzene	50.000	51.040	-2.1	107	0.00
90 T	Hexachloroethane	50.000	49.768	0.5	106	0.00
91 T	1,2-Dichlorobenzene	50.000	52.435	-4.9	108	0.00
92 T	1,2-Dibromo-3-Chloropropane	50.000	50.621	-1.2	103	0.00
93 T	1,2,4-Trichlorobenzene	50.000	51.301	-2.6	108	0.00
94 T	Hexachlorobutadiene	50.000	45.969	8.1	104	0.00
95 T	Naphthalene	50.000	53.258	-6.5	105	0.00

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088351.D
Acq On : 24 Nov 2025 15:18
Operator : JC\MD
Sample : VSTDICV050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 9 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
ICVVN112425

Quant Time: Nov 25 01:39:30 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 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)
96 T	1,2,3-Trichlorobenzene	50.000	49.620	0.8	103	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6



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

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name:	<u>Alliance</u>	Contract:	<u>JAC005</u>
Lab Code:	<u>ACE</u>	SDG No.:	<u>Q3813</u>
Instrument ID:	<u>MSVOA_N</u>	Calibration Date/Time:	<u>12/10/2025</u> <u>10:01</u>
Lab File ID:	<u>VN088487.D</u>	Init. Calib. Date(s):	<u>11/24/2025</u> <u>11/24/2025</u>
Heated Purge: (Y/N)	<u>N</u>	Init. Calib. Time(s):	<u>12:38</u> <u>14:35</u>
GC Column:	<u>RXI-624</u>	ID:	<u>0.25</u> (mm)

COMPOUND	RRF	RRF050	MIN RRF	%D	MAX%D
Vinyl Chloride	0.821	0.760		-7.43	20
1,1-Dichloroethene	0.610	0.595		-2.46	20
1,1-Dichloroethane	1.367	1.557	0.1	13.9	20
cis-1,2-Dichloroethene	0.785	0.887		12.99	20
1,1,1-Trichloroethane	1.181	1.263		6.94	20
Benzene	1.570	1.702		8.41	20
1,2-Dichloroethane	0.599	0.732		22.2	20
Trichloroethene	0.371	0.360		-2.96	20
1,1,2-Trichloroethane	0.351	0.415		18.23	20
Tetrachloroethene	0.396	0.324		-18.18	20
1,2-Dichloroethane-d4	0.942	1.212		28.66	20
Dibromofluoromethane	0.346	0.417		20.52	20
Toluene-d8	1.289	1.476		14.51	20
4-Bromofluorobenzene	0.442	0.539		21.95	20

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

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088487.D
 Acq On : 10 Dec 2025 10:01
 Operator : JC\MD
 Sample : VSTDCCC050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDCCC050

Manual Integrations
 APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
 Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:02:25 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	249947	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.083	114	468726	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	435160	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	215555	50.000	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	8.559	65	302955	64.342	ug/l	0.00
Spiked Amount	50.000	Range	74 - 125	Recovery	= 128.680%#	
35) Dibromofluoromethane	8.141	113	195632	60.227	ug/l	-0.01
Spiked Amount	50.000	Range	75 - 124	Recovery	= 120.460%	
50) Toluene-d8	10.541	98	691793	57.239	ug/l	0.00
Spiked Amount	50.000	Range	86 - 113	Recovery	= 114.480%#	
62) 4-Bromofluorobenzene	12.823	95	252772	60.954	ug/l	0.00
Spiked Amount	50.000	Range	77 - 121	Recovery	= 121.900%#	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	2.142	85	167695	44.668	ug/l	91
3) Chloromethane	2.383	50	201467	49.966	ug/l	100
4) Vinyl Chloride	2.536	62	189874	46.289	ug/l	97
5) Bromomethane	2.983	94	99143	50.218	ug/l	96
6) Chloroethane	3.142	64	133011	52.398	ug/l	99
7) Trichlorofluoromethane	3.518	101	280845	48.714	ug/l	98
8) Diethyl Ether	3.959	74	125443	57.971	ug/l	99
9) 1,1,2-Trichlorotrifluo...	4.371	101	141992	46.263	ug/l	100
10) Methyl Iodide	4.589	142	138200	45.486	ug/l	93
11) Tert butyl alcohol	5.518	59	165296	219.884	ug/l	99
12) 1,1-Dichloroethene	4.342	96	148632	48.741	ug/l	96
13) Acrolein	4.177	56	162170	225.329	ug/l	99
14) Allyl chloride	5.012	41	299049	52.910	ug/l	99
15) Acrylonitrile	5.706	53	612439	282.371	ug/l	99
16) Acetone	4.424	43	447189	262.614	ug/l	100
17) Carbon Disulfide	4.712	76	464289	46.593	ug/l	99
18) Methyl Acetate	5.018	43	298996	58.987	ug/l	97
19) Methyl tert-butyl Ether	5.777	73	692131	60.581	ug/l	98
20) Methylene Chloride	5.265	84	200448	55.019	ug/l	95
21) trans-1,2-Dichloroethene	5.777	96	177775	52.627	ug/l	98
22) Diisopropyl ether	6.653	45	747296	61.930	ug/l	94
23) Vinyl Acetate	6.589	43	3322004	341.700	ug/l	98
24) 1,1-Dichloroethane	6.553	63	389228	56.959	ug/l	100
25) 2-Butanone	7.465	43	753036	275.080	ug/l	95
26) 2,2-Dichloropropane	7.477	77	326426	55.342	ug/l	99
27) cis-1,2-Dichloroethene	7.465	96	221695	56.471	ug/l	97
28) Bromochloromethane	7.794	49	201797	59.281	ug/l	96
29) Tetrahydrofuran	7.824	42	572840	291.738	ug/l	98
30) Chloroform	7.947	83	402977	60.015	ug/l	97
31) Cyclohexane	8.236	56	281621	45.478	ug/l	97
32) 1,1,1-Trichloroethane	8.147	97	315657	53.467	ug/l	100
36) 1,1-Dichloropropene	8.353	75	242718	48.417	ug/l	99
37) Ethyl Acetate	7.541	43	354481	53.777	ug/l	98
38) Carbon Tetrachloride	8.341	117	258761	51.851	ug/l	96
39) Methylcyclohexane	9.577	83	223278	41.639	ug/l	95
40) Benzene	8.583	78	797999	54.236	ug/l	99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088487.D
 Acq On : 10 Dec 2025 10:01
 Operator : JC\MD
 Sample : VSTDCCC050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VSTDCCC050

Manual Integrations
 APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
 Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:02:25 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.759	41	181692	55.653	ug/l	98
42) 1,2-Dichloroethane	8.653	62	343288	61.153	ug/l	98
43) Isopropyl Acetate	8.671	43	559447	55.549	ug/l	98
44) Trichloroethene	9.330	130	168949	48.597	ug/l	99
45) 1,2-Dichloropropane	9.594	63	213364	56.599	ug/l	96
46) Dibromomethane	9.688	93	155026	57.624	ug/l	99
47) Bromodichloromethane	9.865	83	317877	57.909	ug/l	96
48) Methyl methacrylate	9.659	41	272761	59.358	ug/l	95
49) 1,4-Dioxane	9.677	88	51271	877.353	ug/l #	93
51) 4-Methyl-2-Pentanone	10.424	43	1763923	297.144	ug/l	100
52) Toluene	10.606	92	492242	57.939	ug/l	97
53) t-1,3-Dichloropropene	10.812	75	328893	58.372	ug/l	97
54) cis-1,3-Dichloropropene	10.288	75	351363	59.299	ug/l	94
55) 1,1,2-Trichloroethane	10.994	97	194682	59.227	ug/l	99
56) Ethyl methacrylate	10.853	69	324689	62.534	ug/l	98
57) 1,3-Dichloropropane	11.141	76	349572	58.951	ug/l	99
58) 2-Chloroethyl Vinyl ether	10.135	63	941759	314.612	ug/l	99
59) 2-Hexanone	11.177	43	1127392	301.475	ug/l	100
60) Dibromochloromethane	11.335	129	225026	60.052	ug/l	97
61) 1,2-Dibromoethane	11.447	107	190908	57.354	ug/l	97
64) Tetrachloroethene	11.082	164	141141	40.913	ug/l	95
65) Chlorobenzene	11.871	112	516995	52.892	ug/l	100
66) 1,1,1,2-Tetrachloroethane	11.935	131	184325	55.912	ug/l	99
67) Ethyl Benzene	11.941	91	906264	53.048	ug/l	98
68) m/p-Xylenes	12.047	106	684681	108.094	ug/l	99
69) o-Xylene	12.376	106	328328	54.370	ug/l	98
70) Styrene	12.388	104	573055	58.444	ug/l	99
71) Bromoform	12.553	173	137979	57.142	ug/l #	98
73) Isopropylbenzene	12.671	105	815726	51.182	ug/l	99
74) N-amyl acetate	12.500	43	313119m	57.688	ug/l	
75) 1,1,2,2-Tetrachloroethane	12.912	83	290099	56.303	ug/l	98
76) 1,2,3-Trichloropropane	12.971	75	273402m	54.153	ug/l	
77) Bromobenzene	12.959	156	196972	54.015	ug/l	96
78) n-propylbenzene	13.012	91	1007713	51.683	ug/l	98
79) 2-Chlorotoluene	13.100	91	633474	53.203	ug/l	99
80) 1,3,5-Trimethylbenzene	13.147	105	691734	52.378	ug/l	98
81) trans-1,4-Dichloro-2-b...	12.718	75	100486	56.465	ug/l #	87
82) 4-Chlorotoluene	13.200	91	669947	56.650	ug/l	97
83) tert-Butylbenzene	13.412	119	554818	49.419	ug/l	99
84) 1,2,4-Trimethylbenzene	13.459	105	722571	55.045	ug/l	97
85) sec-Butylbenzene	13.594	105	775324	48.072	ug/l	99
86) p-Isopropyltoluene	13.706	119	655321	49.550	ug/l	99
87) 1,3-Dichlorobenzene	13.712	146	376733	53.071	ug/l	99
88) 1,4-Dichlorobenzene	13.788	146	381762	51.341	ug/l	98
89) n-Butylbenzene	14.029	91	601498	46.841	ug/l	99
90) Hexachloroethane	14.306	117	120963	50.067	ug/l	100
91) 1,2-Dichlorobenzene	14.082	146	354636	53.088	ug/l	100
92) 1,2-Dibromo-3-Chloropr...	14.694	75	66316	53.048	ug/l	92
93) 1,2,4-Trichlorobenzene	15.364	180	190088	47.891	ug/l	97
94) Hexachlorobutadiene	15.470	225	57329	40.194	ug/l	95
95) Naphthalene	15.612	128	689531	50.134	ug/l	100
96) 1,2,3-Trichlorobenzene	15.812	180	185706	48.076	ug/l	98

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088487.D
Acq On : 10 Dec 2025 10:01
Operator : JC\MD
Sample : VSTDCCC050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VSTDCCC050

Manual Integrations
APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:02:25 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

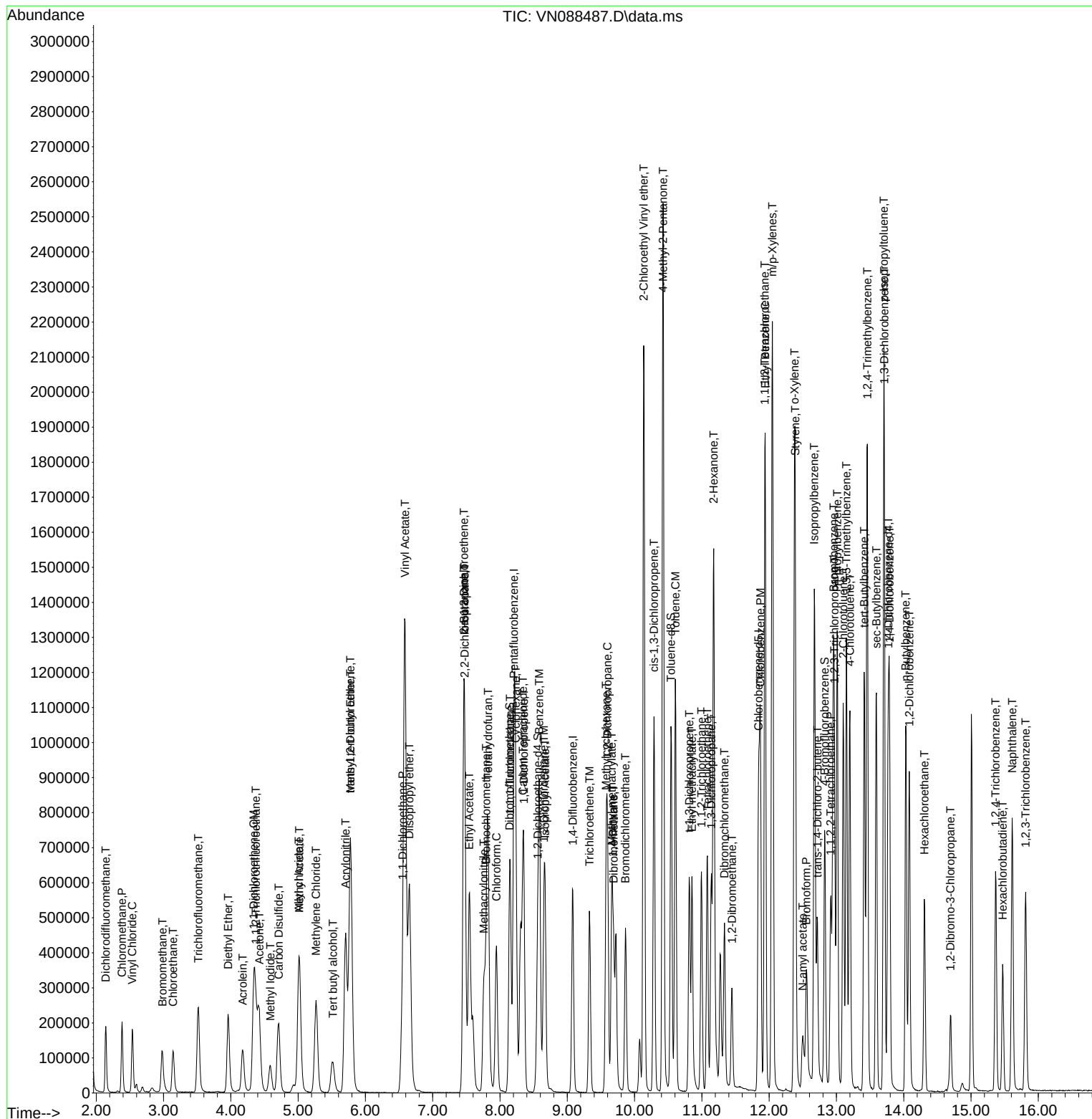
Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088487.D
Acq On : 10 Dec 2025 10:01
Operator : JC\MD
Sample : VSTDCCC050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VSTDCCC050

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:02:25 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration



Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088487.D
 Acq On : 10 Dec 2025 10:01
 Operator : JC\MD
 Sample : VSTDCCC050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 MSVOA_N
 LabSampleId :
 VSTDCCC050

Quant Time: Dec 11 02:02:25 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 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	Pentafluorobenzene	1.000	1.000	0.0	98	0.00
2 T	Dichlorodifluoromethane	0.751	0.671	10.7	89	0.00
3 P	Chloromethane	0.807	0.806	0.1	99	0.00
4 C	Vinyl Chloride	0.821	0.760	7.4#	92	0.00
5 T	Bromomethane	0.395	0.397	-0.5	98	0.00
6 T	Chloroethane	0.508	0.532	-4.7	104	0.00
7 T	Trichlorofluoromethane	1.153	1.124	2.5	101	0.00
8 T	Diethyl Ether	0.433	0.502	-15.9	111	0.00
9 T	1,1,2-Trichlorotrifluoroeth	0.614	0.568	7.5	99	0.00
10 T	Methyl Iodide	0.608	0.553	9.0	82	0.00
11 T	Tert butyl alcohol	0.150	0.132	12.0	81	0.00
12 CM	1,1-Dichloroethene	0.610	0.595	2.5#	103	0.00
13 T	Acrolein	0.144	0.130	9.7	85	0.00
14 T	Allyl chloride	1.131	1.196	-5.7	102	0.00
15 T	Acrylonitrile	0.434	0.490	-12.9	103	0.00
16 T	Acetone	0.341	0.358	-5.0	105	0.00
17 T	Carbon Disulfide	1.993	1.858	6.8	92	0.00
18 T	Methyl Acetate	1.014	1.196	-17.9	112	0.00
19 T	Methyl tert-butyl Ether	2.285	2.769	-21.2	109	0.00
20 T	Methylene Chloride	0.729	0.802	-10.0	104	0.00
21 T	trans-1,2-Dichloroethene	0.676	0.711	-5.2	102	0.00
22 T	Diisopropyl ether	2.414	2.990	-23.9	114	0.00
23 T	Vinyl Acetate	1.945	2.658	-36.7#	122	0.00
24 P	1,1-Dichloroethane	1.367	1.557	-13.9	107	0.00
25 T	2-Butanone	0.548	0.603	-10.0	99	0.00
26 T	2,2-Dichloropropane	1.180	1.306	-10.7	107	0.00
27 T	cis-1,2-Dichloroethene	0.785	0.887	-13.0	105	0.00
28 T	Bromochloromethane	0.681	0.807	-18.5	108	0.00
29 T	Tetrahydrofuran	0.393	0.458	-16.5	105	0.00
30 C	Chloroform	1.343	1.612	-20.0#	114	0.00
31 T	Cyclohexane	1.239	1.127	9.0	98	0.00
32 T	1,1,1-Trichloroethane	1.181	1.263	-6.9	107	0.00
33 S	1,2-Dichloroethane-d4	0.942	1.212	-28.7#	119	0.00
34 I	1,4-Difluorobenzene	1.000	1.000	0.0	97	0.00
35 S	Dibromofluoromethane	0.346	0.417	-20.5	116	-0.01
36 T	1,1-Dichloropropene	0.535	0.518	3.2	103	0.00
37 T	Ethyl Acetate	0.703	0.756	-7.5	102	0.00
38 T	Carbon Tetrachloride	0.532	0.552	-3.8	108	0.00
39 T	Methylcyclohexane	0.572	0.476	16.8	88	0.00
40 TM	Benzene	1.570	1.702	-8.4	106	0.00
41 T	Methacrylonitrile	0.348	0.388	-11.5	106	0.00
42 TM	1,2-Dichloroethane	0.599	0.732	-22.2	116	0.00
43 T	Isopropyl Acetate	1.074	1.194	-11.2	104	0.00
44 TM	Trichloroethene	0.371	0.360	3.0	98	0.00
45 C	1,2-Dichloropropane	0.402	0.455	-13.2#	109	0.00
46 T	Dibromomethane	0.287	0.331	-15.3	110	0.00
47 T	Bromodichloromethane	0.586	0.678	-15.7	112	0.00
48 T	Methyl methacrylate	0.490	0.582	-18.8	111	0.00

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088487.D
 Acq On : 10 Dec 2025 10:01
 Operator : JC\MD
 Sample : VSTDCCC050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 MSVOA_N
 LabSampleId :
 VSTDCCC050

Quant Time: Dec 11 02:02:25 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 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	1,4-Dioxane	0.006	0.005	16.7	81	0.00
50 S	Toluene-d8	1.289	1.476	-14.5	112	0.00
51 T	4-Methyl-2-Pentanone	0.633	0.753	-19.0	109	0.00
52 CM	Toluene	0.906	1.050	-15.9#	112	0.00
53 T	t-1,3-Dichloropropene	0.601	0.702	-16.8	108	0.00
54 T	cis-1,3-Dichloropropene	0.632	0.750	-18.7	110	0.00
55 T	1,1,2-Trichloroethane	0.351	0.415	-18.2	115	0.00
56 T	Ethyl methacrylate	0.554	0.693	-25.1#	110	0.00
57 T	1,3-Dichloropropane	0.633	0.746	-17.9	113	0.00
58 T	2-Chloroethyl Vinyl ether	0.319	0.402	-26.0#	108	0.00
59 T	2-Hexanone	0.399	0.481	-20.6	108	0.00
60 T	Dibromochloromethane	0.400	0.480	-20.0	114	0.00
61 T	1,2-Dibromoethane	0.355	0.407	-14.6	107	0.00
62 S	4-Bromofluorobenzene	0.442	0.539	-21.9	117	0.00
63 I	Chlorobenzene-d5	1.000	1.000	0.0	102	0.00
64 T	Tetrachloroethene	0.396	0.324	18.2	88	0.00
65 PM	Chlorobenzene	1.123	1.188	-5.8	110	0.00
66 T	1,1,1,2-Tetrachloroethane	0.379	0.424	-11.9	113	0.00
67 C	Ethyl Benzene	1.963	2.083	-6.1#	110	0.00
68 T	m/p-Xylenes	0.728	0.787	-8.1	110	0.00
69 T	o-Xylene	0.694	0.754	-8.6	111	0.00
70 T	Styrene	1.127	1.317	-16.9	113	0.00
71 P	Bromoform	0.277	0.317	-14.4	114	0.00
72 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	103	0.00
73 T	Isopropylbenzene	3.697	3.784	-2.4	108	0.00
74 T	N-amyl acetate	1.259	1.453	-15.4	144	0.00
75 P	1,1,2,2-Tetrachloroethane	1.195	1.346	-12.6	123	0.00
76 T	1,2,3-Trichloropropane	1.171	1.268	-8.3	109	0.00
77 T	Bromobenzene	0.846	0.914	-8.0	109	0.00
78 T	n-propylbenzene	4.523	4.675	-3.4	109	0.00
79 T	2-Chlorotoluene	2.762	2.939	-6.4	113	0.00
80 T	1,3,5-Trimethylbenzene	3.063	3.209	-4.8	109	0.00
81 T	trans-1,4-Dichloro-2-butene	0.413	0.466	-12.8	112	0.00
82 T	4-Chlorotoluene	2.743	3.108	-13.3	113	0.00
83 T	tert-Butylbenzene	2.604	2.574	1.2	106	0.00
84 T	1,2,4-Trimethylbenzene	3.045	3.352	-10.1	111	0.00
85 T	sec-Butylbenzene	3.741	3.597	3.8	103	0.00
86 T	p-Isopropyltoluene	3.068	3.040	0.9	103	0.00
87 T	1,3-Dichlorobenzene	1.647	1.748	-6.1	112	0.00
88 T	1,4-Dichlorobenzene	1.725	1.771	-2.7	109	0.00
89 T	n-Butylbenzene	2.979	2.790	6.3	100	0.00
90 T	Hexachloroethane	0.560	0.561	-0.2	108	0.00
91 T	1,2-Dichlorobenzene	1.550	1.645	-6.1	112	0.00
92 T	1,2-Dibromo-3-Chloropropane	0.290	0.308	-6.2	110	0.00
93 T	1,2,4-Trichlorobenzene	0.921	0.882	4.2	102	0.00
94 T	Hexachlorobutadiene	0.331	0.266	19.6	93	0.00
95 T	Naphthalene	3.190	3.199	-0.3	100	0.00

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088487.D
Acq On : 10 Dec 2025 10:01
Operator : JC\MD
Sample : VSTDCCC050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_N
LabSampleId :
VSTDCCC050

Quant Time: Dec 11 02:02:25 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 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)
96 T	1,2,3-Trichlorobenzene	0.896	0.862	3.8	102	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088487.D
 Acq On : 10 Dec 2025 10:01
 Operator : JC\MD
 Sample : VSTDCCC050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 MSVOA_N
 LabSampleId :
 VSTDCCC050

Quant Time: Dec 11 02:02:25 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 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	Pentafluorobenzene	50.000	50.000	0.0	98	0.00
2 T	Dichlorodifluoromethane	50.000	44.668	10.7	89	0.00
3 P	Chloromethane	50.000	49.966	0.1	99	0.00
4 C	Vinyl Chloride	50.000	46.289	7.4#	92	0.00
5 T	Bromomethane	50.000	50.218	-0.4	98	0.00
6 T	Chloroethane	50.000	52.398	-4.8	104	0.00
7 T	Trichlorofluoromethane	50.000	48.714	2.6	101	0.00
8 T	Diethyl Ether	50.000	57.971	-15.9	111	0.00
9 T	1,1,2-Trichlorotrifluoroeth	50.000	46.263	7.5	99	0.00
10 T	Methyl Iodide	50.000	45.486	9.0	82	0.00
11 T	Tert butyl alcohol	250.000	219.884	12.0	81	0.00
12 CM	1,1-Dichloroethene	50.000	48.741	2.5#	103	0.00
13 T	Acrolein	250.000	225.329	9.9	85	0.00
14 T	Allyl chloride	50.000	52.910	-5.8	102	0.00
15 T	Acrylonitrile	250.000	282.371	-12.9	103	0.00
16 T	Acetone	250.000	262.614	-5.0	105	0.00
17 T	Carbon Disulfide	50.000	46.593	6.8	92	0.00
18 T	Methyl Acetate	50.000	58.987	-18.0	112	0.00
19 T	Methyl tert-butyl Ether	50.000	60.581	-21.2	109	0.00
20 T	Methylene Chloride	50.000	55.019	-10.0	104	0.00
21 T	trans-1,2-Dichloroethene	50.000	52.627	-5.3	102	0.00
22 T	Diisopropyl ether	50.000	61.930	-23.9	114	0.00
23 T	Vinyl Acetate	250.000	341.700	-36.7#	122	0.00
24 P	1,1-Dichloroethane	50.000	56.959	-13.9	107	0.00
25 T	2-Butanone	250.000	275.080	-10.0	99	0.00
26 T	2,2-Dichloropropane	50.000	55.342	-10.7	107	0.00
27 T	cis-1,2-Dichloroethene	50.000	56.471	-12.9	105	0.00
28 T	Bromochloromethane	50.000	59.281	-18.6	108	0.00
29 T	Tetrahydrofuran	250.000	291.738	-16.7	105	0.00
30 C	Chloroform	50.000	60.015	-20.0#	114	0.00
31 T	Cyclohexane	50.000	45.478	9.0	98	0.00
32 T	1,1,1-Trichloroethane	50.000	53.467	-6.9	107	0.00
33 S	1,2-Dichloroethane-d4	50.000	64.342	-28.7#	119	0.00
34 I	1,4-Difluorobenzene	50.000	50.000	0.0	97	0.00
35 S	Dibromofluoromethane	50.000	60.227	-20.5	116	-0.01
36 T	1,1-Dichloropropene	50.000	48.417	3.2	103	0.00
37 T	Ethyl Acetate	50.000	53.777	-7.6	102	0.00
38 T	Carbon Tetrachloride	50.000	51.851	-3.7	108	0.00
39 T	Methylcyclohexane	50.000	41.639	16.7	88	0.00
40 TM	Benzene	50.000	54.236	-8.5	106	0.00
41 T	Methacrylonitrile	50.000	55.653	-11.3	106	0.00
42 TM	1,2-Dichloroethane	50.000	61.153	-22.3	116	0.00
43 T	Isopropyl Acetate	50.000	55.549	-11.1	104	0.00
44 TM	Trichloroethene	50.000	48.597	2.8	98	0.00
45 C	1,2-Dichloropropane	50.000	56.599	-13.2#	109	0.00
46 T	Dibromomethane	50.000	57.624	-15.2	110	0.00
47 T	Bromodichloromethane	50.000	57.909	-15.8	112	0.00
48 T	Methyl methacrylate	50.000	59.358	-18.7	111	0.00

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088487.D
 Acq On : 10 Dec 2025 10:01
 Operator : JC\MD
 Sample : VSTDCCC050
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 3 Sample Multiplier: 1

Instrument :
 MSVOA_N
 LabSampleId :
 VSTDCCC050

Quant Time: Dec 11 02:02:25 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 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	1,4-Dioxane	1000.000	877.353	12.3	81	0.00
50 S	Toluene-d8	50.000	57.239	-14.5	112	0.00
51 T	4-Methyl-2-Pentanone	250.000	297.144	-18.9	109	0.00
52 CM	Toluene	50.000	57.939	-15.9#	112	0.00
53 T	t-1,3-Dichloropropene	50.000	58.372	-16.7	108	0.00
54 T	cis-1,3-Dichloropropene	50.000	59.299	-18.6	110	0.00
55 T	1,1,2-Trichloroethane	50.000	59.227	-18.5	115	0.00
56 T	Ethyl methacrylate	50.000	62.534	-25.1#	110	0.00
57 T	1,3-Dichloropropane	50.000	58.951	-17.9	113	0.00
58 T	2-Chloroethyl Vinyl ether	250.000	314.612	-25.8#	108	0.00
59 T	2-Hexanone	250.000	301.475	-20.6	108	0.00
60 T	Dibromochloromethane	50.000	60.052	-20.1	114	0.00
61 T	1,2-Dibromoethane	50.000	57.354	-14.7	107	0.00
62 S	4-Bromofluorobenzene	50.000	60.954	-21.9	117	0.00
63 I	Chlorobenzene-d5	50.000	50.000	0.0	102	0.00
64 T	Tetrachloroethene	50.000	40.913	18.2	88	0.00
65 PM	Chlorobenzene	50.000	52.892	-5.8	110	0.00
66 T	1,1,1,2-Tetrachloroethane	50.000	55.912	-11.8	113	0.00
67 C	Ethyl Benzene	50.000	53.048	-6.1#	110	0.00
68 T	m/p-Xylenes	100.000	108.094	-8.1	110	0.00
69 T	o-Xylene	50.000	54.370	-8.7	111	0.00
70 T	Styrene	50.000	58.444	-16.9	113	0.00
71 P	Bromoform	50.000	57.142	-14.3	114	0.00
72 I	1,4-Dichlorobenzene-d4	50.000	50.000	0.0	103	0.00
73 T	Isopropylbenzene	50.000	51.182	-2.4	108	0.00
74 T	N-amyl acetate	50.000	57.688	-15.4	144	0.00
75 P	1,1,2,2-Tetrachloroethane	50.000	56.303	-12.6	123	0.00
76 T	1,2,3-Trichloropropane	50.000	54.153	-8.3	109	0.00
77 T	Bromobenzene	50.000	54.015	-8.0	109	0.00
78 T	n-propylbenzene	50.000	51.683	-3.4	109	0.00
79 T	2-Chlorotoluene	50.000	53.203	-6.4	113	0.00
80 T	1,3,5-Trimethylbenzene	50.000	52.378	-4.8	109	0.00
81 T	trans-1,4-Dichloro-2-butene	50.000	56.465	-12.9	112	0.00
82 T	4-Chlorotoluene	50.000	56.650	-13.3	113	0.00
83 T	tert-Butylbenzene	50.000	49.419	1.2	106	0.00
84 T	1,2,4-Trimethylbenzene	50.000	55.045	-10.1	111	0.00
85 T	sec-Butylbenzene	50.000	48.072	3.9	103	0.00
86 T	p-Isopropyltoluene	50.000	49.550	0.9	103	0.00
87 T	1,3-Dichlorobenzene	50.000	53.071	-6.1	112	0.00
88 T	1,4-Dichlorobenzene	50.000	51.341	-2.7	109	0.00
89 T	n-Butylbenzene	50.000	46.841	6.3	100	0.00
90 T	Hexachloroethane	50.000	50.067	-0.1	108	0.00
91 T	1,2-Dichlorobenzene	50.000	53.088	-6.2	112	0.00
92 T	1,2-Dibromo-3-Chloropropane	50.000	53.048	-6.1	110	0.00
93 T	1,2,4-Trichlorobenzene	50.000	47.891	4.2	102	0.00
94 T	Hexachlorobutadiene	50.000	40.194	19.6	93	0.00
95 T	Naphthalene	50.000	50.134	-0.3	100	0.00

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088487.D
Acq On : 10 Dec 2025 10:01
Operator : JC\MD
Sample : VSTDCCC050
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 3 Sample Multiplier: 1

Instrument :
MSVOA_N
LabSampleId :
VSTDCCC050

Quant Time: Dec 11 02:02:25 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 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)
96 T	1,2,3-Trichlorobenzene	50.000	48.076	3.8	102	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6



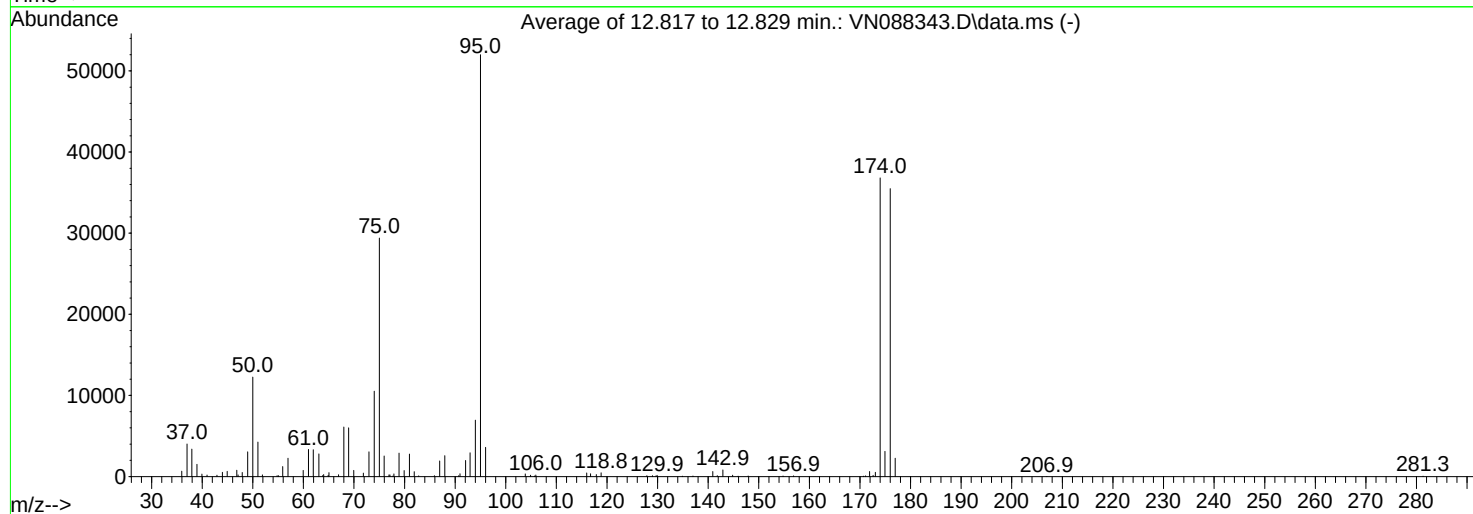
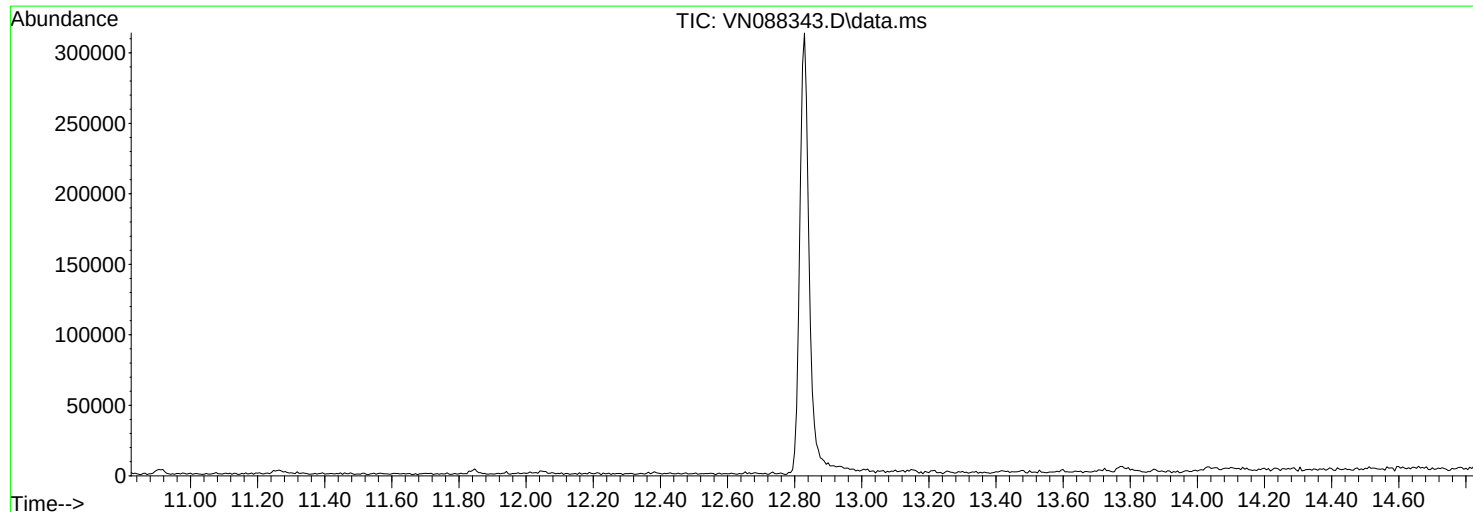
QC SAMPLE DATA

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN112425\
Data File : VN088343.D
Acq On : 24 Nov 2025 08:17
Operator : JC\MD
Sample : BFB
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
BFB

Integration File: RTEINT.P

Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Title : SW846 8260
Last Update : Tue Nov 25 01:34:52 2025



AutoFind: Scans 1847, 1848, 1849; Background Corrected with Scan 1839

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.6	12249	PASS
75	95	30	60	56.6	29403	PASS
95	95	100	100	100.0	51987	PASS
96	95	5	9	6.9	3605	PASS
173	174	0.00	2	1.4	523	PASS
174	95	50	100	70.8	36808	PASS
175	174	5	9	8.4	3099	PASS
176	174	95	101	96.4	35493	PASS
177	176	5	9	6.4	2260	PASS

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	660	47.90	508	61.95	3309	72.95	3051
37.00	4014	49.00	3039	63.05	2784	74.00	10530
37.95	3391	50.00	12249	63.80	113	75.00	29403
38.95	1502	51.00	4245	64.00	255	75.95	2531
39.95	311	51.90	213	64.90	158	76.90	202
40.95	180	54.80	110	65.05	474	77.10	198
42.90	161	55.10	103	66.95	229	77.70	63
44.00	531	55.90	1233	68.00	6110	77.90	320
44.95	637	56.95	2258	68.95	5997	78.90	2897
46.85	771	59.95	755	69.95	751	79.90	742
47.10	213	61.00	3348	71.85	421	80.95	2778

Average of 12.817 to 12.829 min.: VN088343.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
81.90	605	96.00	3605	129.70	84	156.90	87
82.80	89	103.85	320	129.90	147	170.70	51
85.90	119	104.90	161	134.90	52	171.10	82
86.95	1933	105.70	75	137.00	60	171.90	617
87.95	2571	105.95	190	140.90	629	172.60	144
90.70	103	116.00	445	141.80	113	173.05	523
90.95	348	116.75	347	142.90	817	174.00	36808
92.05	1981	117.90	250	144.85	179	174.95	3099
92.95	2935	118.85	465	145.90	56	176.00	35493
94.00	6957	127.90	108	147.90	68	176.95	2260
95.00	51987	129.00	114	154.80	69	206.95	15

Average of 12.817 to 12.829 min.: VN088343.D\data.ms

BFB

Modified:subtracted

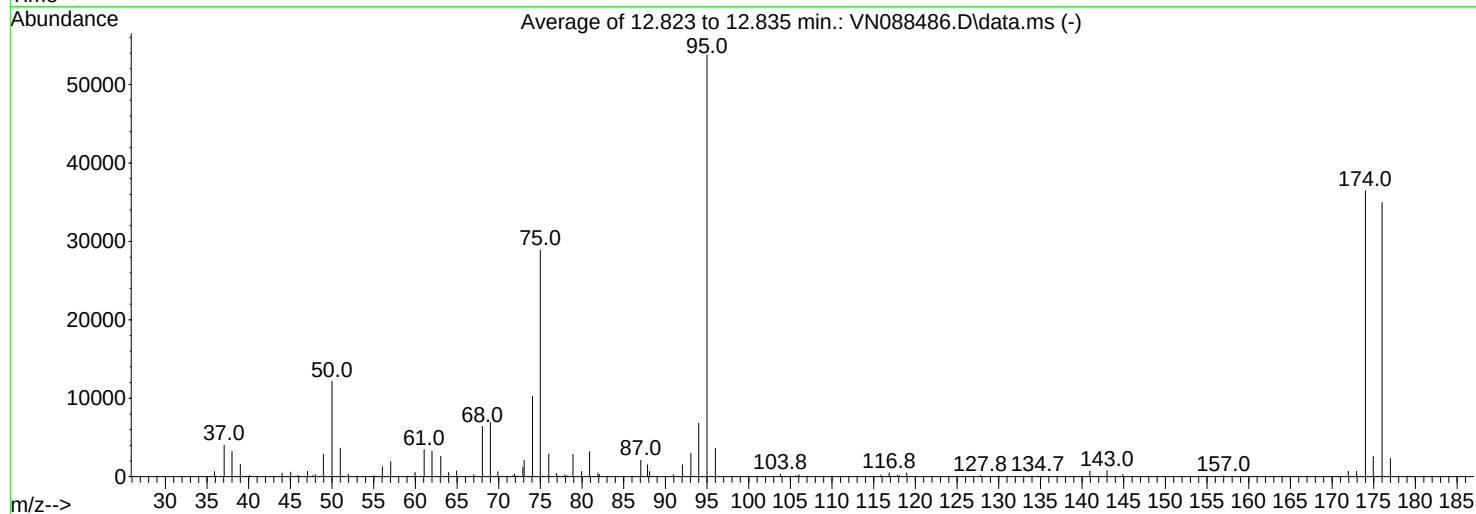
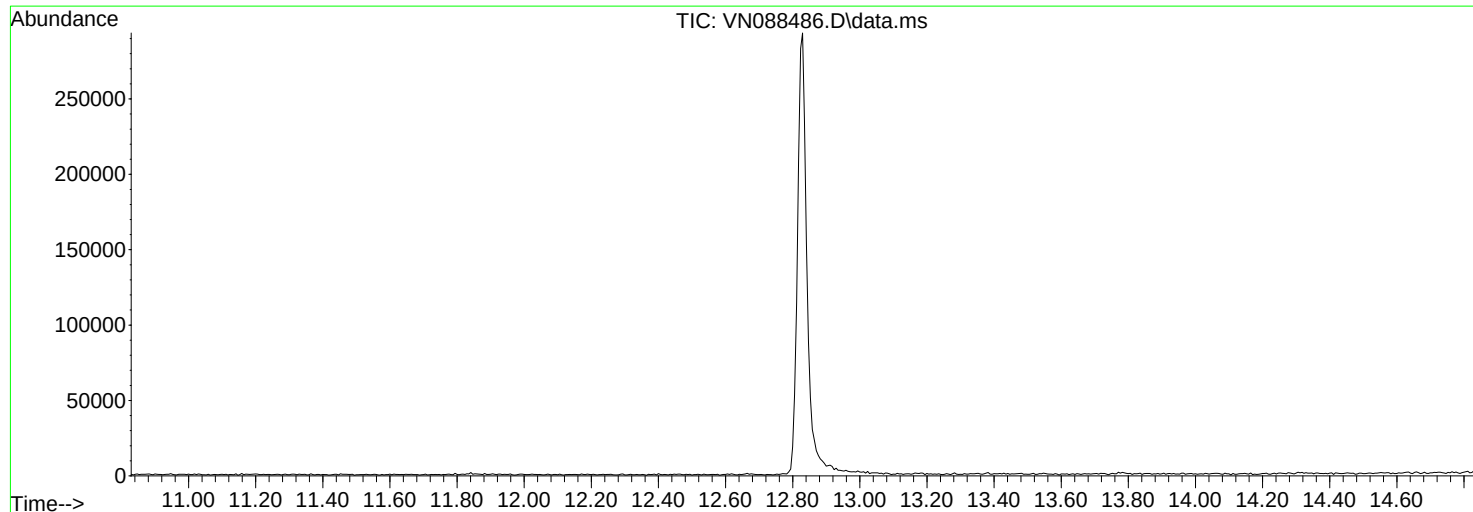
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
281.30	53						

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088486.D
Acq On : 10 Dec 2025 09:29
Operator : JC\MD
Sample : BFB
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 2 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
BFB

Integration File: RTEINT.P

Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Title : SW846 8260
Last Update : Tue Nov 25 01:34:52 2025



AutoFind: Scans 1848, 1849, 1850; Background Corrected with Scan 1839

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.6	12138	PASS
75	95	30	60	53.7	28864	PASS
95	95	100	100	100.0	53787	PASS
96	95	5	9	6.8	3638	PASS
173	174	0.00	2	1.9	705	PASS
174	95	50	100	67.7	36437	PASS
175	174	5	9	7.0	2550	PASS
176	174	95	101	95.9	34960	PASS
177	176	5	9	6.6	2300	PASS

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	633	48.00	275	61.05	3456	71.90	321
37.05	4024	48.95	2868	62.00	3257	72.20	90
38.00	3221	50.00	12138	63.05	2595	72.90	118
39.00	1574	51.00	3627	64.00	541	73.05	207
40.10	144	51.95	300	64.95	737	74.05	10249
44.00	426	52.90	61	66.00	56	75.00	28864
45.05	569	54.90	78	67.00	248	76.00	2869
45.90	158	55.10	95	68.05	6399	76.95	415
46.10	64	56.05	1274	69.00	6922	77.20	68
47.05	671	57.05	1927	69.90	633	77.70	58
47.70	132	59.95	560	71.70	114	77.95	231

Average of 12.823 to 12.835 min.: VN088486.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
78.20	128	93.05	2978	118.10	124	147.80	59
78.90	2843	94.00	6804	118.95	460	155.00	52
79.95	653	95.00	53787	127.80	161	157.00	106
80.90	3200	96.00	3638	128.00	51	170.80	68
81.90	474	103.80	332	129.80	52	171.95	680
82.10	244	105.60	74	130.10	87	172.95	705
87.05	2099	105.80	113	134.70	68	174.00	36437
87.85	1506	106.05	228	135.10	55	174.95	2550
88.10	645	115.85	178	140.95	720	176.00	34960
90.95	248	116.85	491	143.00	775	177.00	2300
92.05	1527	117.85	188	144.90	312		



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

Report of Analysis

Client: JACOBS Engineering Group, Inc.
Project: Former Schlumberger STC PTC Site D3868221
Client Sample ID: VN1210WBL01
Lab Sample ID: VN1210WBL01
Analytical Method: 8260D
Sample Wt/Vol: 5 mL

Level: LOW
Final Vol: 5000 uL

Date Collected:
Date Received:
SDG No.: Q3813
Matrix: Water
% Solid: 0
Test: VOCMS Group3

CAS Number	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Date Ana.	BatchID
TARGETS									
75-01-4	Vinyl Chloride	0.26	U	1	0.26	1.00	ug/L	12/10/25 10:57	VN121025
75-35-4	1,1-Dichloroethene	0.23	U	1	0.23	1.00	ug/L	12/10/25 10:57	VN121025
75-34-3	1,1-Dichloroethane	0.23	U	1	0.23	1.00	ug/L	12/10/25 10:57	VN121025
156-59-2	cis-1,2-Dichloroethene	0.19	U	1	0.19	1.00	ug/L	12/10/25 10:57	VN121025
71-55-6	1,1,1-Trichloroethane	0.20	U	1	0.20	1.00	ug/L	12/10/25 10:57	VN121025
71-43-2	Benzene	0.15	U	1	0.15	1.00	ug/L	12/10/25 10:57	VN121025
107-06-2	1,2-Dichloroethane	0.22	U	1	0.22	1.00	ug/L	12/10/25 10:57	VN121025
79-01-6	Trichloroethene	0.090	U	1	0.090	1.00	ug/L	12/10/25 10:57	VN121025
79-00-5	1,1,2-Trichloroethane	0.21	U	1	0.21	1.00	ug/L	12/10/25 10:57	VN121025
127-18-4	Tetrachloroethene	0.23	U	1	0.23	1.00	ug/L	12/10/25 10:57	VN121025
SURROGATES									
17060-07-0	1,2-Dichloroethane-d4	57.8			70 (74) - 130 (125)	116%	SPK: 50		
1868-53-7	Dibromofluoromethane	50.8			70 (75) - 130 (124)	102%	SPK: 50		
2037-26-5	Toluene-d8	47.0			70 (86) - 130 (113)	94%	SPK: 50		
460-00-4	4-Bromofluorobenzene	48.0			70 (77) - 130 (121)	96%	SPK: 50		
INTERNAL STANDARDS									
		Area Count							
363-72-4	Pentafluorobenzene	199000							
540-36-3	1,4-Difluorobenzene	460000							
3114-55-4	Chlorobenzene-d5	467000							
3855-82-1	1,4-Dichlorobenzene-d4	211000							

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088489.D
 Acq On : 10 Dec 2025 10:57
 Operator : JC\MD
 Sample : VN1210WBL01
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 5 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VN1210WBL01

Quant Time: Dec 11 02:03:46 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.200	168	199142	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	459524	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	467279	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	211178	50.000	ug/l	0.00

System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	216905	57.819	ug/l	0.00
Spiked Amount	50.000	Range	74 - 125	Recovery	=	115.640%
35) Dibromofluoromethane	8.147	113	161740	50.790	ug/l	0.00
Spiked Amount	50.000	Range	75 - 124	Recovery	=	101.580%
50) Toluene-d8	10.541	98	557070	47.015	ug/l	0.00
Spiked Amount	50.000	Range	86 - 113	Recovery	=	94.040%
62) 4-Bromofluorobenzene	12.823	95	195010	47.967	ug/l	0.00
Spiked Amount	50.000	Range	77 - 121	Recovery	=	95.940%

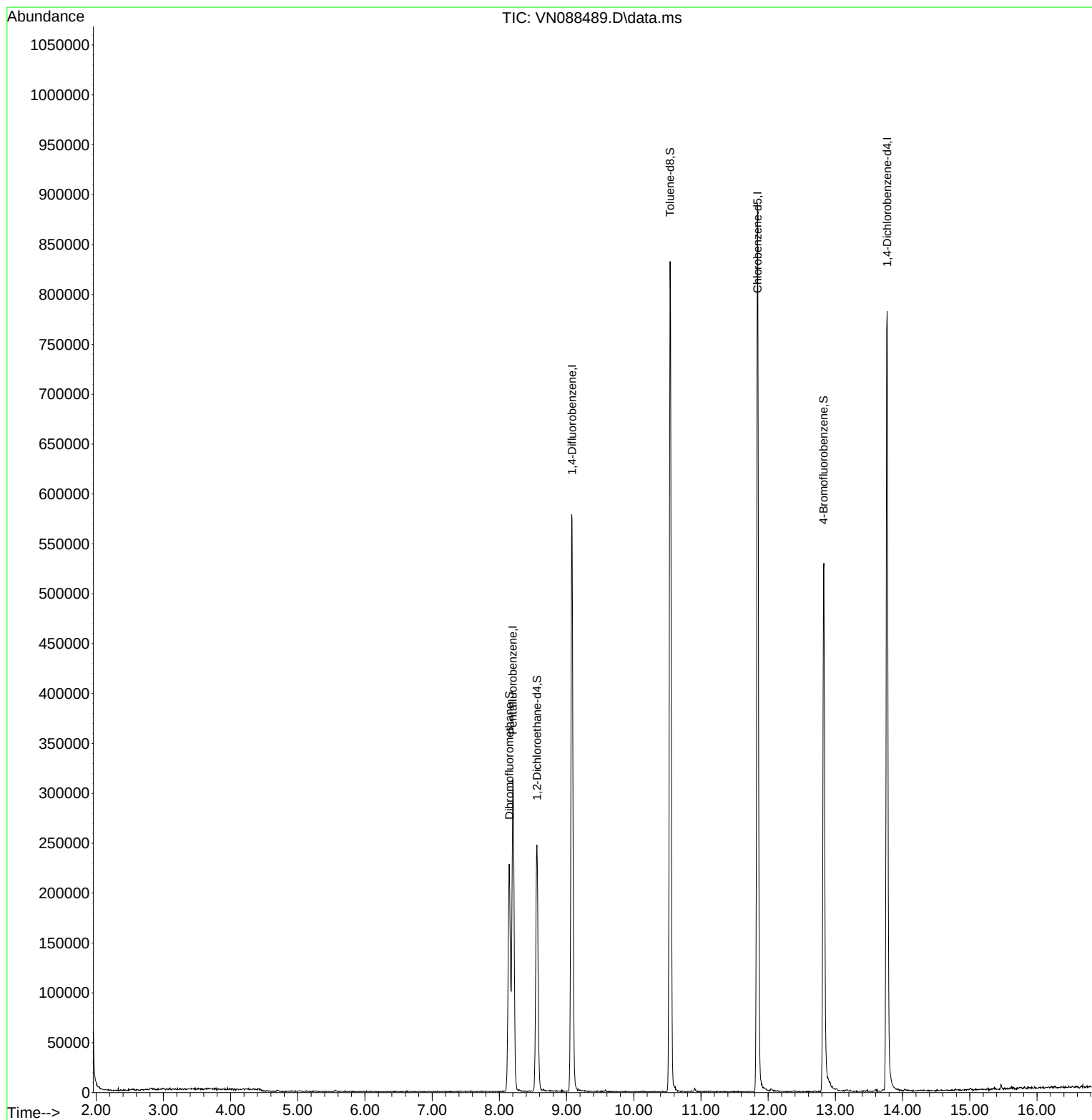
Target Compounds	Qvalue

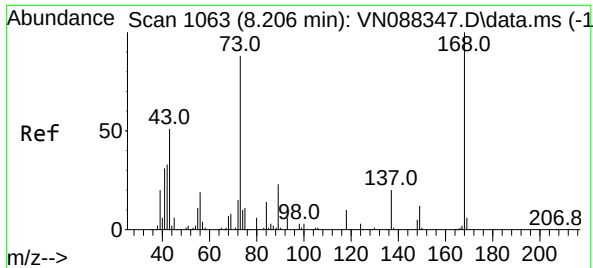
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088489.D
Acq On : 10 Dec 2025 10:57
Operator : JC\MD
Sample : VN1210WBL01
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 5 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VN1210WBL01

Quant Time: Dec 11 02:03:46 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration

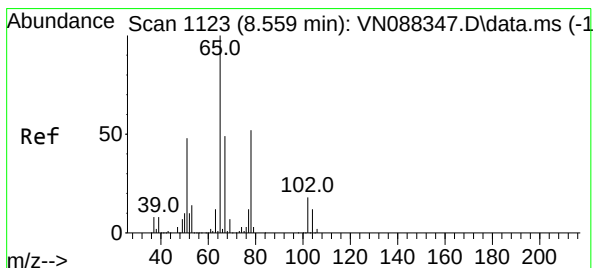
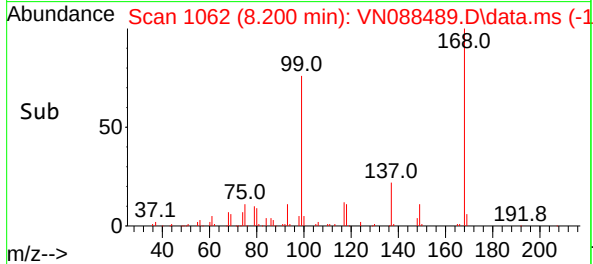
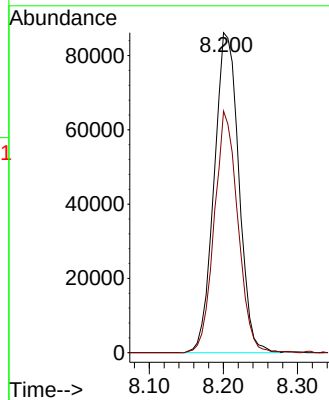
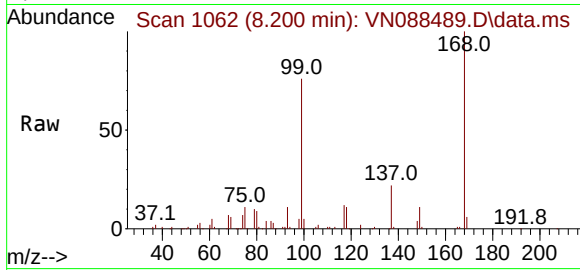




#1
Pentafluorobenzene
Concen: 50.000 ug/l
RT: 8.200 min Scan# 1063
Delta R.T. -0.006 min
Lab File: VN088489.D
Acq: 10 Dec 2025 10:57

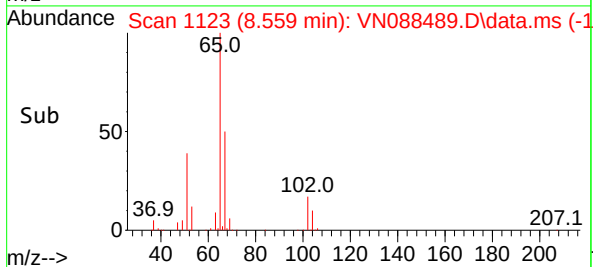
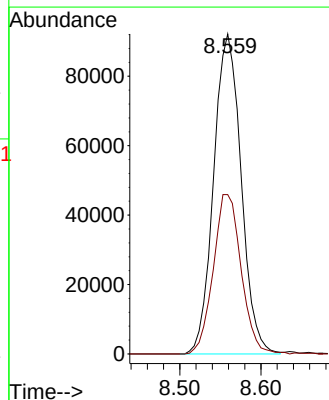
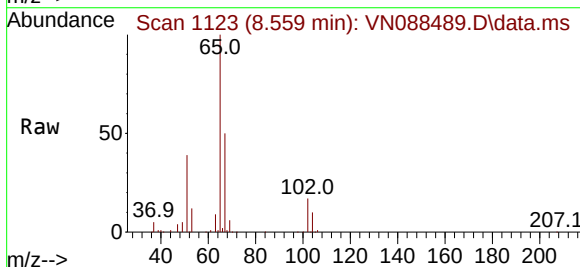
Instrument :
MSVOA_N
ClientSampleId :
VN1210WBL01

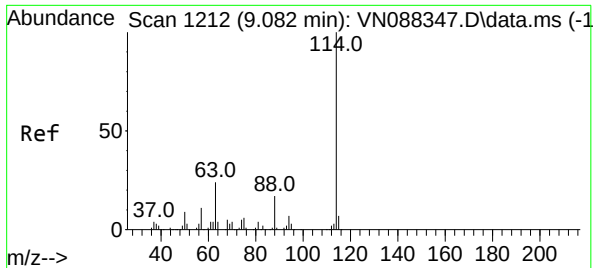
Tgt Ion:168 Resp: 199142
Ion Ratio Lower Upper
168 100
99 75.5 57.1 85.7



#33
1,2-Dichloroethane-d4
Concen: 57.819 ug/l
RT: 8.559 min Scan# 1123
Delta R.T. 0.000 min
Lab File: VN088489.D
Acq: 10 Dec 2025 10:57

Tgt Ion: 65 Resp: 216905
Ion Ratio Lower Upper
65 100
67 50.6 0.0 100.8





#34

1,4-Difluorobenzene

Concen: 50.000 ug/l

RT: 9.082 min Scan# 1

Delta R.T. 0.000 min

Lab File: VN088489.D

Acq: 10 Dec 2025 10:57

Instrument :

MSVOA_N

ClientSampleId :

VN1210WBL01

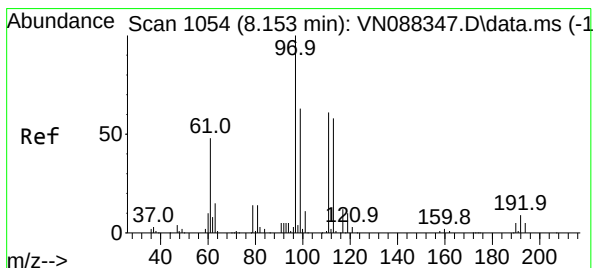
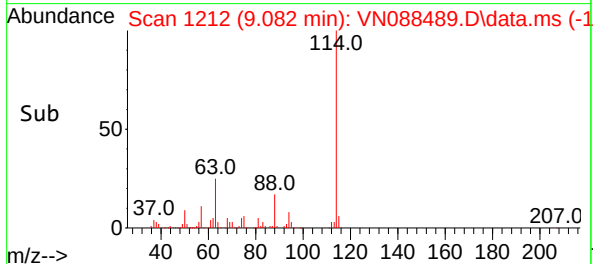
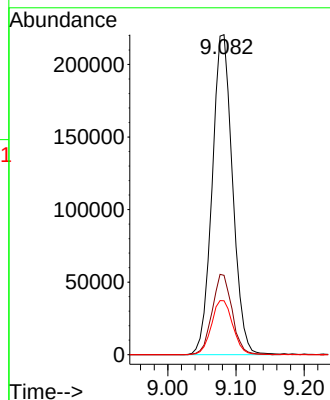
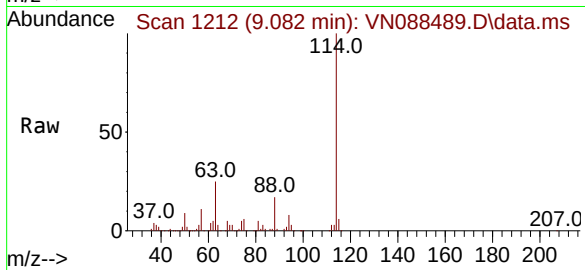
Tgt Ion:114 Resp: 459524

Ion Ratio Lower Upper

114 100

63 24.8 0.0 49.0

88 16.8 0.0 34.0



#35

Dibromofluoromethane

Concen: 50.790 ug/l

RT: 8.147 min Scan# 1053

Delta R.T. -0.006 min

Lab File: VN088489.D

Acq: 10 Dec 2025 10:57

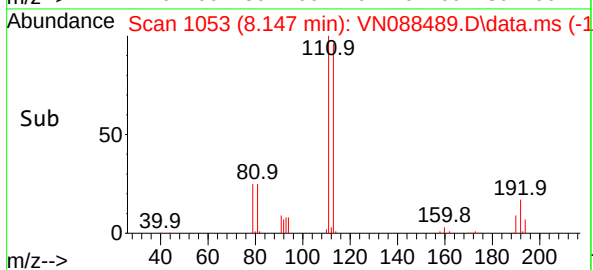
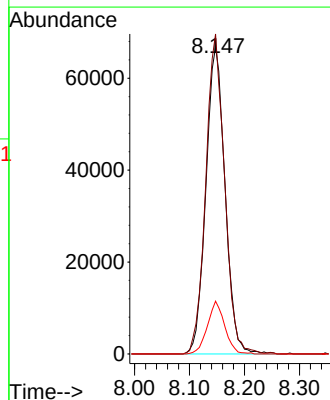
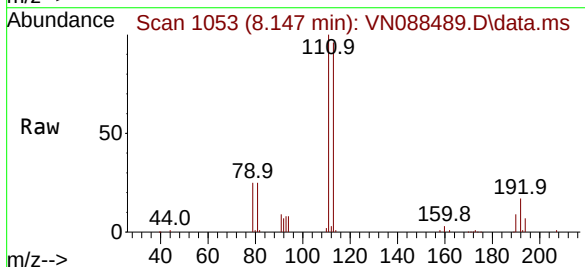
Tgt Ion:113 Resp: 161740

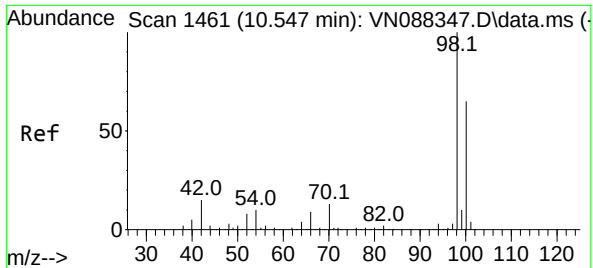
Ion Ratio Lower Upper

113 100

111 102.5 82.5 123.7

192 15.6 12.8 19.2

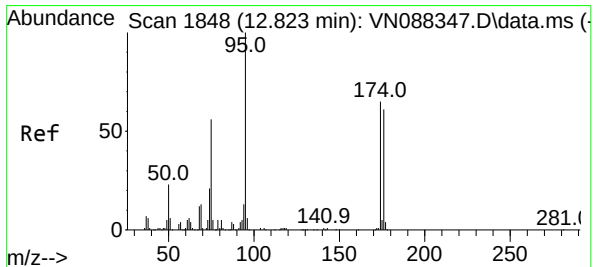
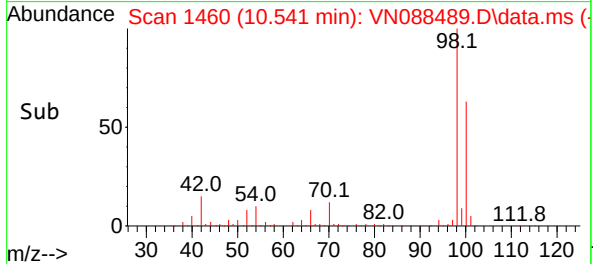
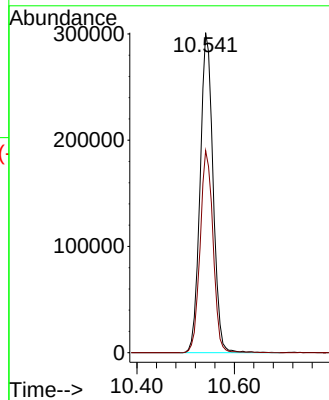
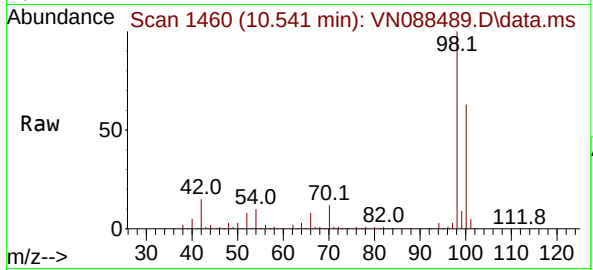




#50
Toluene-d8
Concen: 47.015 ug/l
RT: 10.541 min Scan# 1461
Delta R.T. -0.006 min
Lab File: VN088489.D
Acq: 10 Dec 2025 10:57

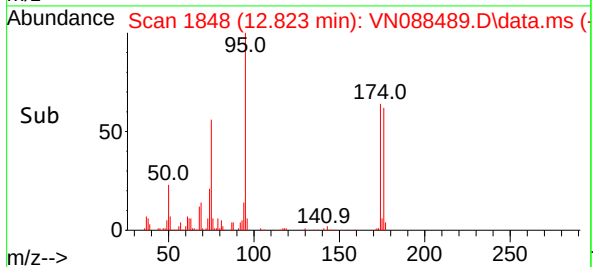
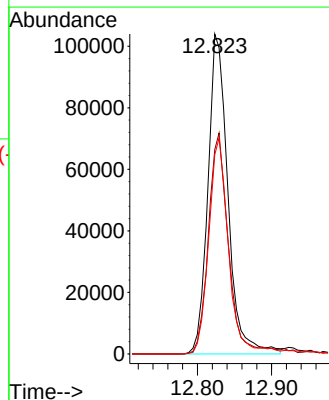
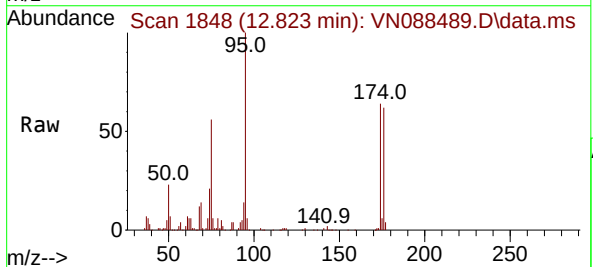
Instrument :
MSVOA_N
ClientSampleId :
VN1210WBL01

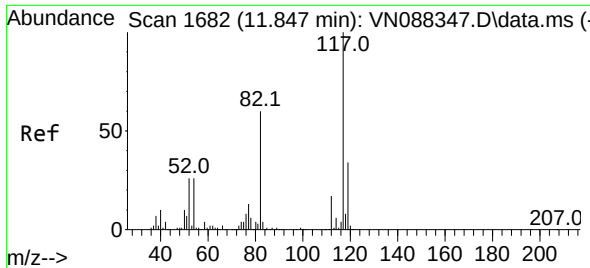
Tgt Ion: 98 Resp: 557070
Ion Ratio Lower Upper
98 100
100 63.2 52.2 78.2



#62
4-Bromofluorobenzene
Concen: 47.967 ug/l
RT: 12.823 min Scan# 1848
Delta R.T. 0.000 min
Lab File: VN088489.D
Acq: 10 Dec 2025 10:57

Tgt Ion: 95 Resp: 195010
Ion Ratio Lower Upper
95 100
174 70.0 0.0 139.0
176 65.3 0.0 132.4

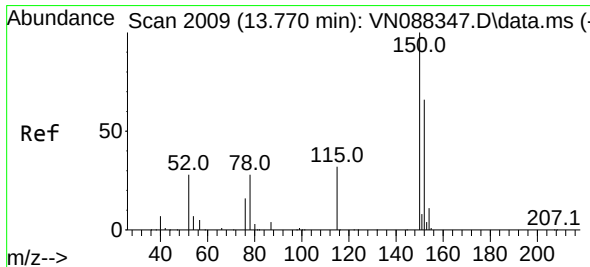
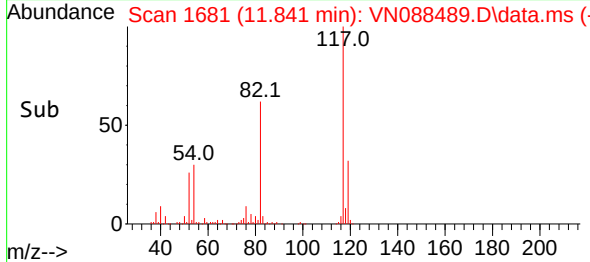
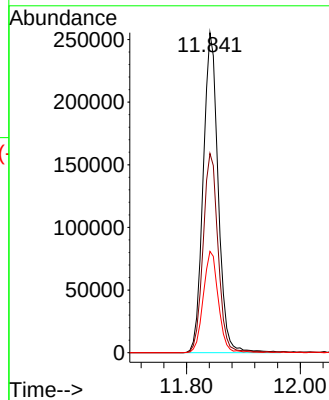
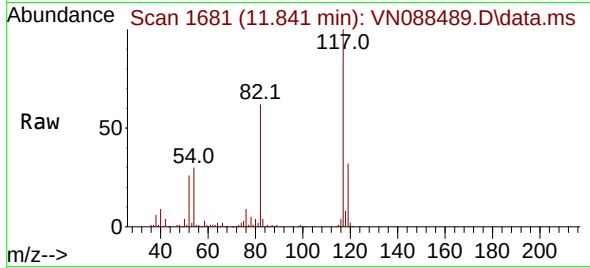




#63
Chlorobenzene-d5
Concen: 50.000 ug/l
RT: 11.841 min Scan# 11
Delta R.T. -0.006 min
Lab File: VN088489.D
Acq: 10 Dec 2025 10:57

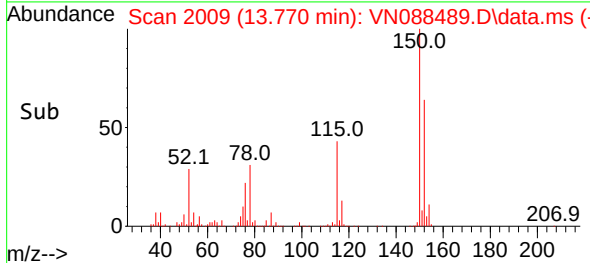
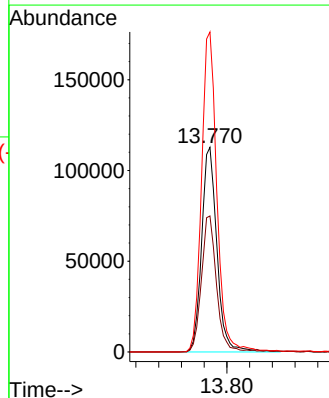
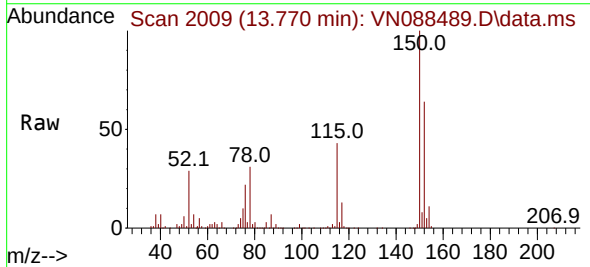
Instrument :
MSVOA_N
ClientSampleId :
VN1210WBL01

Tgt Ion	Ratio	Lower	Upper
117	100		
82	62.2	47.8	71.8
119	31.6	26.9	40.3



#72
1,4-Dichlorobenzene-d4
Concen: 50.000 ug/l
RT: 13.770 min Scan# 2009
Delta R.T. 0.000 min
Lab File: VN088489.D
Acq: 10 Dec 2025 10:57

Tgt Ion	Ratio	Lower	Upper
152	100		
115	64.7	33.0	98.9
150	156.6	0.0	349.0





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

Report of Analysis

Client: JACOBS Engineering Group, Inc.
Project: Former Schlumberger STC PTC Site D3868221
Client Sample ID: VN1210WBS01
Lab Sample ID: VN1210WBS01
Analytical Method: 8260D
Sample Wt/Vol: 5 mL

Level: LOW
Final Vol: 5000 uL

Date Collected:
Date Received:
SDG No.: Q3813
Matrix: Water
% Solid: 0
Test: VOCMS Group3

CAS Number	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Date Ana.	BatchID
TARGETS									
75-01-4	Vinyl Chloride	18.9		1	0.26	1.00	ug/L	12/10/25 12:03	VN121025
75-35-4	1,1-Dichloroethene	18.6		1	0.23	1.00	ug/L	12/10/25 12:03	VN121025
75-34-3	1,1-Dichloroethane	20.5		1	0.23	1.00	ug/L	12/10/25 12:03	VN121025
156-59-2	cis-1,2-Dichloroethene	19.4		1	0.19	1.00	ug/L	12/10/25 12:03	VN121025
71-55-6	1,1,1-Trichloroethane	20.6		1	0.20	1.00	ug/L	12/10/25 12:03	VN121025
71-43-2	Benzene	20.0		1	0.15	1.00	ug/L	12/10/25 12:03	VN121025
107-06-2	1,2-Dichloroethane	22.5		1	0.22	1.00	ug/L	12/10/25 12:03	VN121025
79-01-6	Trichloroethene	18.4		1	0.090	1.00	ug/L	12/10/25 12:03	VN121025
79-00-5	1,1,2-Trichloroethane	21.3		1	0.21	1.00	ug/L	12/10/25 12:03	VN121025
127-18-4	Tetrachloroethene	17.4		1	0.23	1.00	ug/L	12/10/25 12:03	VN121025
SURROGATES									
17060-07-0	1,2-Dichloroethane-d4	57.3			70 (74) - 130 (125)	115%	SPK: 50		
1868-53-7	Dibromofluoromethane	55.6			70 (75) - 130 (124)	111%	SPK: 50		
2037-26-5	Toluene-d8	53.9			70 (86) - 130 (113)	108%	SPK: 50		
460-00-4	4-Bromofluorobenzene	55.1			70 (77) - 130 (121)	110%	SPK: 50		
INTERNAL STANDARDS									
		Area Count							
363-72-4	Pentafluorobenzene	280000							
540-36-3	1,4-Difluorobenzene	513000							
3114-55-4	Chlorobenzene-d5	464000							
3855-82-1	1,4-Dichlorobenzene-d4	225000							

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088491.D
 Acq On : 10 Dec 2025 12:03
 Operator : JC\MD
 Sample : VN1210WBS01
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 7 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VN1210WBS01

Manual Integrations
 APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
 Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:04:57 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	279896	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.082	114	512638	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	464243	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.770	152	225326	50.000	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	8.559	65	302126	57.300	ug/l	0.00
Spiked Amount	50.000	Range	74 - 125	Recovery	= 114.600%	
35) Dibromofluoromethane	8.147	113	197450	55.580	ug/l	0.00
Spiked Amount	50.000	Range	75 - 124	Recovery	= 111.160%	
50) Toluene-d8	10.541	98	712188	53.879	ug/l	0.00
Spiked Amount	50.000	Range	86 - 113	Recovery	= 107.760%	
62) 4-Bromofluorobenzene	12.829	95	249748	55.066	ug/l	0.00
Spiked Amount	50.000	Range	77 - 121	Recovery	= 110.140%	

Target Compounds

						Qvalue
2) Dichlorodifluoromethane	2.142	85	82749	19.683	ug/l	97
3) Chloromethane	2.383	50	86390	19.133	ug/l	99
4) Vinyl Chloride	2.536	62	86755	18.887	ug/l	99
5) Bromomethane	2.989	94	42404	19.180	ug/l	100
6) Chloroethane	3.147	64	56571	19.901	ug/l	97
7) Trichlorofluoromethane	3.518	101	131030	20.296	ug/l	95
8) Diethyl Ether	3.959	74	47849	19.747	ug/l	90
9) 1,1,2-Trichlorotrifluo...	4.371	101	68173	19.835	ug/l	99
10) Methyl Iodide	4.583	142	58580	17.217	ug/l #	92
11) Tert butyl alcohol	5.512	59	70533	83.787	ug/l	98
12) 1,1-Dichloroethene	4.342	96	63472	18.587	ug/l	96
13) Acrolein	4.183	56	70604	87.605	ug/l	94
14) Allyl chloride	5.012	41	120689	19.068	ug/l	97
15) Acrylonitrile	5.706	53	241627	99.484	ug/l	99
16) Acetone	4.424	43	206481	108.282	ug/l	95
17) Carbon Disulfide	4.706	76	200301	17.950	ug/l	97
18) Methyl Acetate	5.024	43	119208	21.002	ug/l	100
19) Methyl tert-butyl Ether	5.783	73	266679	20.844	ug/l	94
20) Methylene Chloride	5.265	84	80934	19.838	ug/l	97
21) trans-1,2-Dichloroethene	5.777	96	72315	19.117	ug/l	99
22) Diisopropyl ether	6.659	45	289254	21.406	ug/l	96
23) Vinyl Acetate	6.588	43	1260159	115.750	ug/l	99
24) 1,1-Dichloroethane	6.553	63	156969	20.513	ug/l	97
25) 2-Butanone	7.465	43	317156	103.459	ug/l	95
26) 2,2-Dichloropropane	7.477	77	136406	20.652	ug/l	99
27) cis-1,2-Dichloroethene	7.465	96	85160	19.371	ug/l	94
28) Bromochloromethane	7.794	49	76036	19.947	ug/l	96
29) Tetrahydrofuran	7.824	42	220027	100.066	ug/l	98
30) Chloroform	7.947	83	158499	21.079	ug/l	93
31) Cyclohexane	8.241	56	133815	19.297	ug/l	98
32) 1,1,1-Trichloroethane	8.147	97	136127	20.590	ug/l	98
36) 1,1-Dichloropropene	8.353	75	105160	19.180	ug/l	98
37) Ethyl Acetate	7.547	43	135954	18.859	ug/l	98
38) Carbon Tetrachloride	8.341	117	114063	20.898	ug/l	95
39) Methylcyclohexane	9.582	83	106499	18.160	ug/l	98
40) Benzene	8.582	78	322165	20.020	ug/l	99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088491.D
 Acq On : 10 Dec 2025 12:03
 Operator : JC\MD
 Sample : VN1210WBS01
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 7 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VN1210WBS01

Manual Integrations
 APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
 Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:04:57 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.759	41	74755	20.936	ug/l	98
42) 1,2-Dichloroethane	8.653	62	138256	22.519	ug/l	99
43) Isopropyl Acetate	8.671	43	220654	20.033	ug/l	99
44) Trichloroethene	9.329	130	69870	18.376	ug/l	98
45) 1,2-Dichloropropane	9.600	63	85464	20.729	ug/l	97
46) Dibromomethane	9.688	93	60983	20.726	ug/l	98
47) Bromodichloromethane	9.865	83	129700	21.604	ug/l	98
48) Methyl methacrylate	9.659	41	103591	20.612	ug/l	98
49) 1,4-Dioxane	9.682	88	21469	335.910	ug/l #	92
51) 4-Methyl-2-Pentanone	10.423	43	692727	106.698	ug/l	99
52) Toluene	10.606	92	194573	20.940	ug/l	100
53) t-1,3-Dichloropropene	10.818	75	125115	20.303	ug/l	99
54) cis-1,3-Dichloropropene	10.288	75	132169	20.395	ug/l	99
55) 1,1,2-Trichloroethane	10.994	97	76463	21.269	ug/l	98
56) Ethyl methacrylate	10.859	69	115793	20.391	ug/l	99
57) 1,3-Dichloropropane	11.141	76	134721	20.773	ug/l	98
58) 2-Chloroethyl Vinyl ether	10.141	63	279608	85.407	ug/l	99
59) 2-Hexanone	11.176	43	413196	101.028	ug/l	98
60) Dibromochloromethane	11.335	129	88020	21.478	ug/l	100
61) 1,2-Dibromoethane	11.447	107	77397	21.260	ug/l	98
64) Tetrachloroethene	11.082	164	64200	17.444	ug/l	95
65) Chlorobenzene	11.870	112	204424	19.604	ug/l	100
66) 1,1,1,2-Tetrachloroethane	11.935	131	72826	20.707	ug/l	98
67) Ethyl Benzene	11.941	91	350926	19.254	ug/l	98
68) m/p-Xylenes	12.047	106	264504	39.142	ug/l	97
69) o-Xylene	12.376	106	123765	19.211	ug/l	99
70) Styrene	12.388	104	210279	20.102	ug/l	99
71) Bromoform	12.559	173	54485	21.151	ug/l #	97
73) Isopropylbenzene	12.670	105	316021	18.969	ug/l	100
74) N-amyl acetate	12.682	43	98399m	17.343	ug/l	
75) 1,1,2,2-Tetrachloroethane	12.917	83	118148	21.936	ug/l	96
76) 1,2,3-Trichloropropane	12.970	75	111030m	21.038	ug/l	
77) Bromobenzene	12.959	156	77783	20.405	ug/l	96
78) n-propylbenzene	13.012	91	407902	20.013	ug/l	99
79) 2-Chlorotoluene	13.100	91	247457	19.882	ug/l	98
80) 1,3,5-Trimethylbenzene	13.147	105	272542	19.742	ug/l	98
81) trans-1,4-Dichloro-2-b...	12.717	75	34219	18.394	ug/l #	92
82) 4-Chlorotoluene	13.200	91	257740	20.849	ug/l	100
83) tert-Butylbenzene	13.412	119	226056	19.262	ug/l	99
84) 1,2,4-Trimethylbenzene	13.459	105	274739	20.022	ug/l	98
85) sec-Butylbenzene	13.594	105	329448	19.541	ug/l	99
86) p-Isopropyltoluene	13.706	119	272515	19.712	ug/l	99
87) 1,3-Dichlorobenzene	13.711	146	147679	19.901	ug/l	99
88) 1,4-Dichlorobenzene	13.788	146	151712	19.518	ug/l	97
89) n-Butylbenzene	14.035	91	255518	19.036	ug/l	97
90) Hexachloroethane	14.311	117	48753	19.304	ug/l	99
91) 1,2-Dichlorobenzene	14.082	146	139106	19.921	ug/l	100
92) 1,2-Dibromo-3-Chloropr...	14.700	75	24058	18.410	ug/l	95
93) 1,2,4-Trichlorobenzene	15.364	180	75376	18.167	ug/l	99
94) Hexachlorobutadiene	15.470	225	28573	19.164	ug/l	96
95) Naphthalene	15.611	128	252994	17.597	ug/l	98
96) 1,2,3-Trichlorobenzene	15.811	180	70909	17.561	ug/l	94

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088491.D
Acq On : 10 Dec 2025 12:03
Operator : JC\MD
Sample : VN1210WBS01
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VN1210WBS01

Manual Integrations
APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:04:57 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

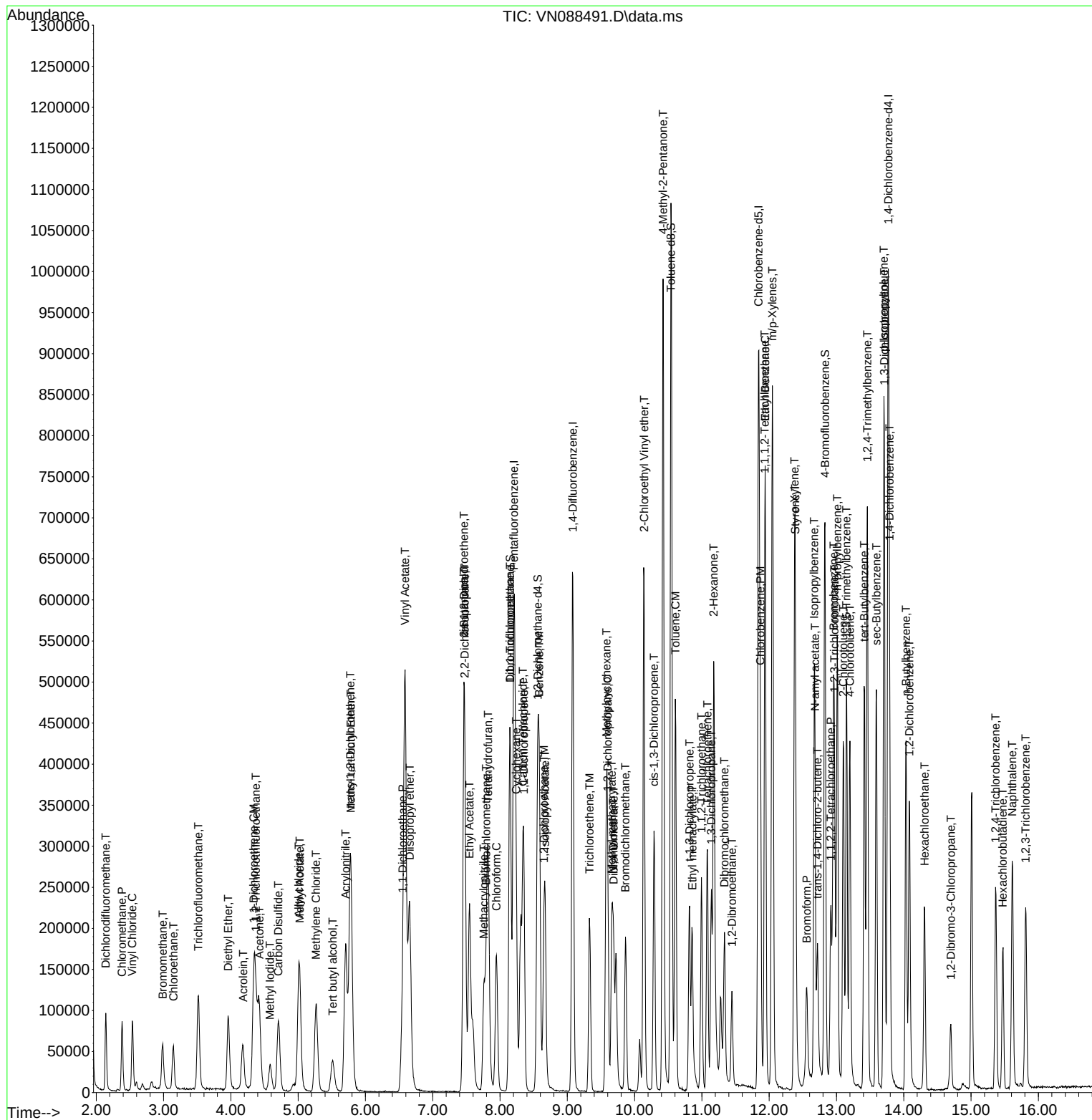
Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088491.D
Acq On : 10 Dec 2025 12:03
Operator : JC\MD
Sample : VN1210WBS01
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 7 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VN1210WBS01

Manual Integrations APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:04:57 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration





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

Report of Analysis

Client: JACOBS Engineering Group, Inc.
Project: Former Schlumberger STC PTC Site D3868221
Client Sample ID: VN1210WBSD01
Lab Sample ID: VN1210WBSD01
Analytical Method: 8260D
Sample Wt/Vol: 5 mL

Level: LOW
Final Vol: 5000 uL

Date Collected:
Date Received:
SDG No.: Q3813
Matrix: Water
% Solid: 0
Test: VOCMS Group3

CAS Number	Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Date Ana.	BatchID
TARGETS									
75-01-4	Vinyl Chloride	18.1		1	0.26	1.00	ug/L	12/10/25 13:45	VN121025
75-35-4	1,1-Dichloroethene	19.2		1	0.23	1.00	ug/L	12/10/25 13:45	VN121025
75-34-3	1,1-Dichloroethane	20.7		1	0.23	1.00	ug/L	12/10/25 13:45	VN121025
156-59-2	cis-1,2-Dichloroethene	20.0		1	0.19	1.00	ug/L	12/10/25 13:45	VN121025
71-55-6	1,1,1-Trichloroethane	20.3		1	0.20	1.00	ug/L	12/10/25 13:45	VN121025
71-43-2	Benzene	19.0		1	0.15	1.00	ug/L	12/10/25 13:45	VN121025
107-06-2	1,2-Dichloroethane	21.3		1	0.22	1.00	ug/L	12/10/25 13:45	VN121025
79-01-6	Trichloroethene	17.3		1	0.090	1.00	ug/L	12/10/25 13:45	VN121025
79-00-5	1,1,2-Trichloroethane	20.8		1	0.21	1.00	ug/L	12/10/25 13:45	VN121025
127-18-4	Tetrachloroethene	14.3		1	0.23	1.00	ug/L	12/10/25 13:45	VN121025
SURROGATES									
17060-07-0	1,2-Dichloroethane-d4	60.8			70 (74) - 130 (125)	122%	SPK: 50		
1868-53-7	Dibromofluoromethane	55.3			70 (75) - 130 (124)	111%	SPK: 50		
2037-26-5	Toluene-d8	52.5			70 (86) - 130 (113)	105%	SPK: 50		
460-00-4	4-Bromofluorobenzene	54.1			70 (77) - 130 (121)	108%	SPK: 50		
INTERNAL STANDARDS									
		Area Count							
363-72-4	Pentafluorobenzene	227000							
540-36-3	1,4-Difluorobenzene	441000							
3114-55-4	Chlorobenzene-d5	408000							
3855-82-1	1,4-Dichlorobenzene-d4	200000							

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

A = Aldol-Condensation Reaction Products

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088496.D
 Acq On : 10 Dec 2025 13:45
 Operator : JC\MD
 Sample : VN1210WBSD01
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 12 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VN1210WBSD01

Manual Integrations
 APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
 Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:06:59 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

Internal Standards						
1) Pentafluorobenzene	8.206	168	226609	50.000	ug/l	0.00
34) 1,4-Difluorobenzene	9.083	114	440776	50.000	ug/l	0.00
63) Chlorobenzene-d5	11.841	117	408174	50.000	ug/l	0.00
72) 1,4-Dichlorobenzene-d4	13.771	152	199717	50.000	ug/l	0.00
System Monitoring Compounds						
33) 1,2-Dichloroethane-d4	8.559	65	259490	60.787	ug/l	0.00
Spiked Amount 50.000	Range 74 - 125		Recovery = 121.580%			
35) Dibromofluoromethane	8.147	113	169025	55.335	ug/l	0.00
Spiked Amount 50.000	Range 75 - 124		Recovery = 110.680%			
50) Toluene-d8	10.541	98	597142	52.541	ug/l	0.00
Spiked Amount 50.000	Range 86 - 113		Recovery = 105.080%			
62) 4-Bromofluorobenzene	12.823	95	210912	54.085	ug/l	0.00
Spiked Amount 50.000	Range 77 - 121		Recovery = 108.160%			
Target Compounds					Qvalue	
2) Dichlorodifluoromethane	2.142	85	62439	18.345	ug/l	96
3) Chloromethane	2.383	50	67502	18.465	ug/l	98
4) Vinyl Chloride	2.536	62	67189	18.067	ug/l	99
5) Bromomethane	2.989	94	33391	18.655	ug/l	90
6) Chloroethane	3.148	64	43783	19.024	ug/l	99
7) Trichlorofluoromethane	3.524	101	99969	19.126	ug/l	92
8) Diethyl Ether	3.959	74	38362	19.554	ug/l	92
9) 1,1,2-Trichlorotrifluo...	4.377	101	52513	18.872	ug/l	98
10) Methyl Iodide	4.583	142	42947	15.591	ug/l #	93
11) Tert butyl alcohol	5.506	59	60652	88.991	ug/l	99
12) 1,1-Dichloroethene	4.342	96	53154	19.226	ug/l	89
13) Acrolein	4.177	56	52703	80.771	ug/l	100
14) Allyl chloride	5.018	41	97887	19.102	ug/l	98
15) Acrylonitrile	5.706	53	206874	105.204	ug/l	98
16) Acetone	4.418	43	226535	146.735	ug/l	98
17) Carbon Disulfide	4.712	76	161159	17.839	ug/l	99
18) Methyl Acetate	5.018	43	101935	22.181	ug/l	100
19) Methyl tert-butyl Ether	5.789	73	211986	20.466	ug/l	99
20) Methylene Chloride	5.265	84	66444	20.116	ug/l	98
21) trans-1,2-Dichloroethene	5.783	96	58805	19.201	ug/l	98
22) Diisopropyl ether	6.653	45	230841	21.101	ug/l	91
23) Vinyl Acetate	6.589	43	1022501	116.006	ug/l	98
24) 1,1-Dichloroethane	6.559	63	128321	20.712	ug/l	95
25) 2-Butanone	7.465	43	288097	116.079	ug/l	94
26) 2,2-Dichloropropane	7.471	77	105983	19.819	ug/l	99
27) cis-1,2-Dichloroethene	7.471	96	71205	20.006	ug/l	98
28) Bromochloromethane	7.794	49	88987	28.833	ug/l	100
29) Tetrahydrofuran	7.824	42	178261	100.135	ug/l	99
30) Chloroform	7.947	83	131389	21.583	ug/l	99
31) Cyclohexane	8.236	56	96701	17.224	ug/l	96
32) 1,1,1-Trichloroethane	8.153	97	108515	20.273	ug/l	95
36) 1,1-Dichloropropene	8.353	75	82081	17.412	ug/l	98
37) Ethyl Acetate	7.541	43	118034	19.042	ug/l	98
38) Carbon Tetrachloride	8.341	117	87318	18.606	ug/l	99
39) Methylcyclohexane	9.577	83	75150	14.903	ug/l	98
40) Benzene	8.588	78	263185	19.022	ug/l	99

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
 Data File : VN088496.D
 Acq On : 10 Dec 2025 13:45
 Operator : JC\MD
 Sample : VN1210WBSD01
 Misc : 5.0mL/MSVOA_N/WATER
 ALS Vial : 12 Sample Multiplier: 1

Instrument :
 MSVOA_N
 ClientSampleId :
 VN1210WBSD01

Manual Integrations
 APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
 Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:06:59 2025
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
 Quant Title : SW846 8260
 QLast Update : Tue Nov 25 01:34:52 2025
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) Methacrylonitrile	7.765	41	60031	19.554	ug/l	98
42) 1,2-Dichloroethane	8.653	62	112287	21.271	ug/l	98
43) Isopropyl Acetate	8.671	43	178268	18.823	ug/l	99
44) Trichloroethene	9.330	130	56577	17.306	ug/l	99
45) 1,2-Dichloropropane	9.606	63	70358	19.847	ug/l	97
46) Dibromomethane	9.694	93	51460	20.341	ug/l	98
47) Bromodichloromethane	9.865	83	105403	20.419	ug/l	98
48) Methyl methacrylate	9.659	41	80824	18.704	ug/l	100
49) 1,4-Dioxane	9.677	88	19429	353.552	ug/l #	95
51) 4-Methyl-2-Pentanone	10.424	43	567860	101.725	ug/l	100
52) Toluene	10.606	92	156589	19.600	ug/l	98
53) t-1,3-Dichloropropene	10.818	75	99689	18.815	ug/l	100
54) cis-1,3-Dichloropropene	10.288	75	105841	18.995	ug/l	98
55) 1,1,2-Trichloroethane	10.994	97	64166	20.759	ug/l	96
56) Ethyl methacrylate	10.853	69	91116	18.661	ug/l	98
57) 1,3-Dichloropropane	11.141	76	112040	20.092	ug/l	99
58) 2-Chloroethyl Vinyl ether	10.141	63	126034	44.774	ug/l	98
59) 2-Hexanone	11.177	43	340552	96.841	ug/l	99
60) Dibromochloromethane	11.329	129	71113	20.181	ug/l	100
61) 1,2-Dibromoethane	11.447	107	63175	20.183	ug/l	99
64) Tetrachloroethene	11.082	164	46267	14.298	ug/l	92
65) Chlorobenzene	11.865	112	165806	18.085	ug/l	94
66) 1,1,1,2-Tetrachloroethane	11.935	131	59129	19.122	ug/l	98
67) Ethyl Benzene	11.941	91	276056	17.227	ug/l	98
68) m/p-Xylenes	12.047	106	205689	34.620	ug/l	98
69) o-Xylene	12.376	106	98717	17.428	ug/l	96
70) Styrene	12.388	104	166487	18.102	ug/l	99
71) Bromoform	12.559	173	42890	18.937	ug/l #	99
73) Isopropylbenzene	12.676	105	237264	16.067	ug/l	99
74) N-amyl acetate	12.688	43	99912m	19.867	ug/l	
75) 1,1,2,2-Tetrachloroethane	12.918	83	92597	19.397	ug/l	98
76) 1,2,3-Trichloropropane	12.971	75	91617m	19.586	ug/l	
77) Bromobenzene	12.959	156	62228	18.418	ug/l	98
78) n-propylbenzene	13.012	91	308833	17.095	ug/l	99
79) 2-Chlorotoluene	13.100	91	194938	17.670	ug/l	98
80) 1,3,5-Trimethylbenzene	13.147	105	208192	17.014	ug/l	99
81) trans-1,4-Dichloro-2-b...	12.718	75	27006	16.379	ug/l #	92
82) 4-Chlorotoluene	13.200	91	202428	18.474	ug/l	99
83) tert-Butylbenzene	13.412	119	166323	15.990	ug/l	98
84) 1,2,4-Trimethylbenzene	13.459	105	215051	17.682	ug/l	97
85) sec-Butylbenzene	13.594	105	242366	16.219	ug/l	99
86) p-Isopropyltoluene	13.706	119	198002	16.159	ug/l	99
87) 1,3-Dichlorobenzene	13.712	146	117572	17.876	ug/l	99
88) 1,4-Dichlorobenzene	13.788	146	121032	17.568	ug/l	97
89) n-Butylbenzene	14.035	91	184645	15.519	ug/l	99
90) Hexachloroethane	14.306	117	38861	17.360	ug/l	99
91) 1,2-Dichlorobenzene	14.082	146	111046	17.942	ug/l	98
92) 1,2-Dibromo-3-Chloropr...	14.700	75	20968	18.103	ug/l	93
93) 1,2,4-Trichlorobenzene	15.365	180	57086	15.523	ug/l	96
94) Hexachlorobutadiene	15.470	225	19943	15.091	ug/l	94
95) Naphthalene	15.617	128	195728	15.359	ug/l	100
96) 1,2,3-Trichlorobenzene	15.812	180	56108	15.677	ug/l	96

Data Path : Z:\voasrv\HPCHEM1\MSVOA_N\Data\VN121025\
Data File : VN088496.D
Acq On : 10 Dec 2025 13:45
Operator : JC\MD
Sample : VN1210WBSD01
Misc : 5.0mL/MSVOA_N/WATER
ALS Vial : 12 Sample Multiplier: 1

Instrument :
MSVOA_N
ClientSampleId :
VN1210WBSD01

Manual Integrations
APPROVED

Reviewed By :Mahesh Dadoda 12/11/2025
Supervised By :Semsettin Yesilyurt 12/11/2025

Quant Time: Dec 11 02:06:59 2025
Quant Method : Z:\voasrv\HPCHEM1\MSVOA_N\methods\82N112425W.M
Quant Title : SW846 8260
QLast Update : Tue Nov 25 01:34:52 2025
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

Instrument :
MSVOA_N
ClientSampleId :
VN1210WBSD01

Manual Integrations

[illegible]

Manual Integration Report

Sequence:	VN112425	Instrument	MSVOA_n
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Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDICC001	VN088344.D	1,1-Dichloroethene	JOHN	11/25/2025 9:35:55 AM	MMDadoda	11/26/2025 1:51:48 PM	Peak Integrated by Software
VSTDICC001	VN088344.D	1,2,3-Trichloropropane	JOHN	11/25/2025 9:35:55 AM	MMDadoda	11/26/2025 1:51:48 PM	Peak Integrated by Software
VSTDICC001	VN088344.D	1,4-Dichlorobenzene	JOHN	11/25/2025 9:35:55 AM	MMDadoda	11/26/2025 1:51:48 PM	Peak Integrated by Software
VSTDICC001	VN088344.D	2-Hexanone	JOHN	11/25/2025 9:35:55 AM	MMDadoda	11/26/2025 1:51:48 PM	Peak Integrated by Software
VSTDICC001	VN088344.D	cis-1,2-Dichloroethene	JOHN	11/25/2025 9:35:55 AM	MMDadoda	11/26/2025 1:51:48 PM	Peak Integrated by Software
VSTDICC001	VN088344.D	Diisopropyl ether	JOHN	11/25/2025 9:35:55 AM	MMDadoda	11/26/2025 1:51:48 PM	Peak Integrated by Software
VSTDICC005	VN088345.D	1,2,3-Trichloropropane	JOHN	11/25/2025 9:36:00 AM	MMDadoda	11/26/2025 1:51:51 PM	Peak Integrated by Software
VSTDICC005	VN088345.D	Vinyl Acetate	JOHN	11/25/2025 9:36:00 AM	MMDadoda	11/26/2025 1:51:51 PM	Peak Integrated by Software
VSTDICC020	VN088346.D	1,2,3-Trichloropropane	JOHN	11/25/2025 9:36:04 AM	MMDadoda	11/26/2025 1:51:55 PM	Peak Integrated by Software
VSTDICC020	VN088346.D	N-amyl acetate	JOHN	11/25/2025 9:36:04 AM	MMDadoda	11/26/2025 1:51:55 PM	Peak Integrated by Software
VSTDICC020	VN088346.D	Vinyl Acetate	JOHN	11/25/2025 9:36:04 AM	MMDadoda	11/26/2025 1:51:55 PM	Peak Integrated by Software
VSTDICCC050	VN088347.D	1,2,3-Trichloropropane	JOHN	11/25/2025 9:36:10 AM	MMDadoda	11/26/2025 1:51:58 PM	Peak Integrated by Software
VSTDICCC050	VN088347.D	Vinyl Acetate	JOHN	11/25/2025 9:36:10 AM	MMDadoda	11/26/2025 1:51:58 PM	Peak Integrated by Software

Manual Integration Report

Sequence:

VN112425

Instrument

MSVOA_n

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDICC100	VN088348.D	1,2,3-Trichloropropane	JOHN	11/25/2025 9:36:15 AM	MMDadoda	11/26/2025 1:52:01 PM	Peak Integrated by Software
VSTDICC100	VN088348.D	Allyl chloride	JOHN	11/25/2025 9:36:15 AM	MMDadoda	11/26/2025 1:52:01 PM	Peak Integrated by Software
VSTDICC100	VN088348.D	Vinyl Acetate	JOHN	11/25/2025 9:36:15 AM	MMDadoda	11/26/2025 1:52:01 PM	Peak Integrated by Software
VSTDICC150	VN088349.D	1,2,3-Trichloropropane	JOHN	11/25/2025 9:36:20 AM	MMDadoda	11/26/2025 1:52:04 PM	Peak Integrated by Software
VSTDICC150	VN088349.D	Allyl chloride	JOHN	11/25/2025 9:36:20 AM	MMDadoda	11/26/2025 1:52:04 PM	Peak Integrated by Software
VSTDICC150	VN088349.D	Vinyl Acetate	JOHN	11/25/2025 9:36:20 AM	MMDadoda	11/26/2025 1:52:04 PM	Peak Integrated by Software
VSTDICV050	VN088351.D	1,2,3-Trichloropropane	JOHN	11/25/2025 9:36:25 AM	MMDadoda	11/26/2025 1:52:07 PM	Peak Integrated by Software
VSTDICV050	VN088351.D	N-amyl acetate	JOHN	11/25/2025 9:36:25 AM	MMDadoda	11/26/2025 1:52:07 PM	Peak Integrated by Software
VSTDICV050	VN088351.D	Vinyl Acetate	JOHN	11/25/2025 9:36:25 AM	MMDadoda	11/26/2025 1:52:07 PM	Peak Integrated by Software

Manual Integration Report

Sequence:

VN121025

Instrument

MSVOA_n

Sample ID	File ID	Parameter	Review By	Review On	Supervised By	Supervised On	Reason
VSTDCCC050	VN088487.D	1,2,3-Trichloropropane	MMDadoda	12/11/2025 10:00:31 AM	sam	12/11/2025 12:32:28 PM	Peak Integrated by Software
VSTDCCC050	VN088487.D	N-amyl acetate	MMDadoda	12/11/2025 10:00:31 AM	sam	12/11/2025 12:32:28 PM	Peak Integrated by Software
VN1210WBS01	VN088491.D	1,2,3-Trichloropropane	MMDadoda	12/11/2025 10:00:38 AM	sam	12/11/2025 12:32:43 PM	Peak Integrated by Software
VN1210WBS01	VN088491.D	N-amyl acetate	MMDadoda	12/11/2025 10:00:38 AM	sam	12/11/2025 12:32:43 PM	Peak Integrated by Software
VN1210WBSD0 1	VN088496.D	1,2,3-Trichloropropane	MMDadoda	12/11/2025 10:00:43 AM	sam	12/11/2025 12:32:38 PM	Peak Integrated by Software
VN1210WBSD0 1	VN088496.D	N-amyl acetate	MMDadoda	12/11/2025 10:00:43 AM	sam	12/11/2025 12:32:38 PM	Peak Integrated by Software
VSTDCCC050	VN088514.D	1,2,3-Trichloropropane	MMDadoda	12/11/2025 10:00:46 AM	sam	12/11/2025 12:32:49 PM	Peak Integrated by Software
VSTDCCC050	VN088514.D	N-amyl acetate	MMDadoda	12/11/2025 10:00:46 AM	sam	12/11/2025 12:32:49 PM	Peak Integrated by Software

Instrument ID: **MSVOA_N**

Daily Analysis Runlog For Sequence/QC Batch ID # VN112425

Review By	John Carlone	Review On	11/25/2025 9:36:43 AM		
Supervise By	Maresh Dadoda	Supervise On	11/26/2025 1:52:19 PM		
SubDirectory	VN112425	HP Acquire Method	MSVOA_N	HP Processing Method	82N112425W.M
STD. NAME		STD REF.#			
Tune/Reschk		VP136378			
Initial Calibration Stds		VP136444,VP136445,VP136446,VP136447,VP136448,VP136449			
CCC					
Internal Standard/PEM					
ICV/I.BLK		VP136450			
Surrogate Standard					
MS/MSD Standard					
LCS Standard					

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VN088343.D	24 Nov 2025 08:17	JC\MD	Ok
2	VSTDIC001	VN088344.D	24 Nov 2025 12:38	JC\MD	Ok,M
3	VSTDIC005	VN088345.D	24 Nov 2025 13:11	JC\MD	Ok,M
4	VSTDIC020	VN088346.D	24 Nov 2025 13:32	JC\MD	Ok,M
5	VSTDIC050	VN088347.D	24 Nov 2025 13:53	JC\MD	Ok,M
6	VSTDIC100	VN088348.D	24 Nov 2025 14:14	JC\MD	Ok,M
7	VSTDIC150	VN088349.D	24 Nov 2025 14:35	JC\MD	Ok,M
8	IBLK	VN088350.D	24 Nov 2025 14:56	JC\MD	Ok
9	VSTDICV050	VN088351.D	24 Nov 2025 15:18	JC\MD	Ok,M

M : Manual Integration

Instrument ID: **MSVOA_N**

Daily Analysis Runlog For Sequence/QC Batch ID # VN121025

Review By	Mahesh Dadoda	Review On	12/11/2025 11:46:28 AM
Supervise By	Semsettin Yesilyurt	Supervise On	12/11/2025 12:33:13 PM
SubDirectory	VN121025	HP Acquire Method	HP Processing Method 82N112425W.M
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	VP136601		
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	VP136602,VP136603		

Sr#	SampleId	Data File Name	Date-Time	Operator	Status
1	BFB	VN088486.D	10 Dec 2025 09:29	JC\MD	Ok
2	VSTDCCC050	VN088487.D	10 Dec 2025 10:01	JC\MD	Ok,M
3	VN1210MBL01	VN088488.D	10 Dec 2025 10:36	JC\MD	Ok
4	VN1210WBL01	VN088489.D	10 Dec 2025 10:57	JC\MD	Ok
5	VN1210MBS01	VN088490.D	10 Dec 2025 11:30	JC\MD	Ok,M
6	VN1210WBS01	VN088491.D	10 Dec 2025 12:03	JC\MD	Ok,M
7	Q3813-01	VN088492.D	10 Dec 2025 12:23	JC\MD	Ok
8	Q3813-03	VN088493.D	10 Dec 2025 12:44	JC\MD	Ok
9	Q3813-04	VN088494.D	10 Dec 2025 13:04	JC\MD	Ok
10	Q3770-01DL	VN088495.D	10 Dec 2025 13:25	JC\MD	Ok
11	VN1210WBSD01	VN088496.D	10 Dec 2025 13:45	JC\MD	Ok,M
12	Q3809-15	VN088497.D	10 Dec 2025 14:06	JC\MD	ReRun
13	Q3814-02	VN088498.D	10 Dec 2025 14:27	JC\MD	Ok
14	Q3814-04	VN088499.D	10 Dec 2025 14:47	JC\MD	Ok
15	Q3814-06	VN088500.D	10 Dec 2025 15:08	JC\MD	Ok
16	Q3814-08	VN088501.D	10 Dec 2025 15:29	JC\MD	Ok
17	Q3814-10	VN088502.D	10 Dec 2025 15:50	JC\MD	Ok
18	Q3814-12	VN088503.D	10 Dec 2025 16:10	JC\MD	Ok
19	Q3814-14	VN088504.D	10 Dec 2025 16:31	JC\MD	Ok
20	Q3814-16	VN088505.D	10 Dec 2025 16:52	JC\MD	Ok
21	Q3815-02	VN088506.D	10 Dec 2025 17:13	JC\MD	Ok

Instrument ID: **MSVOA_N**

Daily Analysis Runlog For Sequence/QC Batch ID # VN121025

Review By	Maresh Dadoda	Review On	12/11/2025 11:46:28 AM
Supervise By	Semsettin Yesilyurt	Supervise On	12/11/2025 12:33:13 PM
SubDirectory	VN121025	HP Acquire Method	HP Processing Method 82N112425W.M
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	VP136601		
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	VP136602,VP136603		

22	Q3826-02	VN088507.D	10 Dec 2025 17:34	JC\MD	Ok
23	Q3826-04	VN088508.D	10 Dec 2025 17:54	JC\MD	Ok
24	Q3826-06	VN088509.D	10 Dec 2025 18:15	JC\MD	Ok
25	Q3826-08	VN088510.D	10 Dec 2025 18:36	JC\MD	Ok
26	Q3826-10	VN088511.D	10 Dec 2025 18:57	JC\MD	Ok
27	Q3826-12	VN088512.D	10 Dec 2025 19:18	JC\MD	Ok
28	Q3826-14	VN088513.D	10 Dec 2025 19:38	JC\MD	Ok
29	VSTDCCC050	VN088514.D	10 Dec 2025 19:59	JC\MD	Ok,M

M : Manual Integration

Instrument ID: MSVOA_N

Daily Analysis Runlog For Sequence/QC Batch ID # VN112425

Review By	John Carlone	Review On	11/25/2025 9:36:43 AM
Supervise By	Maresh Dadoda	Supervise On	11/26/2025 1:52:19 PM
SubDirectory	VN112425	HP Acquire Method	MSVOA_N HP Processing Method 82N112425W.M

STD. NAME	STD REF.#
Tune/Reschk	VP136378
Initial Calibration Stds	VP136444,VP136445,VP136446,VP136447,VP136448,VP136449
CCC	
Internal Standard/PEM	
ICV/I.BLK	VP136450
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VN088343.D	24 Nov 2025 08:17		JC\MD	Ok
2	VSTDICC001	VSTDICC001	VN088344.D	24 Nov 2025 12:38		JC\MD	Ok,M
3	VSTDICC005	VSTDICC005	VN088345.D	24 Nov 2025 13:11	COM.#74 Peak not detected in 1 and 5 PPB	JC\MD	Ok,M
4	VSTDICC020	VSTDICC020	VN088346.D	24 Nov 2025 13:32		JC\MD	Ok,M
5	VSTDICCC050	VSTDICCC050	VN088347.D	24 Nov 2025 13:53	Method failed for Comp. #74	JC\MD	Ok,M
6	VSTDICC100	VSTDICC100	VN088348.D	24 Nov 2025 14:14		JC\MD	Ok,M
7	VSTDICC150	VSTDICC150	VN088349.D	24 Nov 2025 14:35		JC\MD	Ok,M
8	IBLK	IBLK	VN088350.D	24 Nov 2025 14:56		JC\MD	Ok
9	VSTDICV050	ICVVN112425	VN088351.D	24 Nov 2025 15:18		JC\MD	Ok,M

M : Manual Integration

Instrument ID: MSVOA_N

Daily Analysis Runlog For Sequence/QC Batch ID # VN121025

Review By	Mahesh Dadoda	Review On	12/11/2025 11:46:28 AM
Supervise By	Semsettin Yesilyurt	Supervise On	12/11/2025 12:33:13 PM
SubDirectory	VN121025	HP Acquire Method	HP Processing Method 82N112425W.M

STD. NAME	STD REF.#
Tune/Reschk Initial Calibration Stds	VP136601
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	VP136602,VP136603

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VN088486.D	10 Dec 2025 09:29		JC\MD	Ok
2	VSTDCCC050	VSTDCCC050	VN088487.D	10 Dec 2025 10:01	CCC failed High For Com.#42	JC\MD	Ok,M
3	VN1210MBL01	VN1210MBL01	VN088488.D	10 Dec 2025 10:36		JC\MD	Ok
4	VN1210WBL01	VN1210WBL01	VN088489.D	10 Dec 2025 10:57		JC\MD	Ok
5	VN1210MBS01	VN1210MBS01	VN088490.D	10 Dec 2025 11:30		JC\MD	Ok,M
6	VN1210WBS01	VN1210WBS01	VN088491.D	10 Dec 2025 12:03		JC\MD	Ok,M
7	Q3813-01	BR-04DR-451-120825	VN088492.D	10 Dec 2025 12:23	vial A pH<2 CCC failed high	JC\MD	Ok
8	Q3813-03	EB01-120825	VN088493.D	10 Dec 2025 12:44	vial A pH<2 EB	JC\MD	Ok
9	Q3813-04	TB01-120825	VN088494.D	10 Dec 2025 13:04	vial A pH<2 TB	JC\MD	Ok
10	Q3770-01DL	4207DL	VN088495.D	10 Dec 2025 13:25		JC\MD	Ok
11	VN1210WBSD01	VN1210WBSD01	VN088496.D	10 Dec 2025 13:45	BSD failed Low for com.#73	JC\MD	Ok,M
12	Q3809-15	TRIP	VN088497.D	10 Dec 2025 14:06	vial A pH<2 TB;BSD Failed Low	JC\MD	ReRun
13	Q3814-02	TP-5	VN088498.D	10 Dec 2025 14:27	vial A pH#5.0	JC\MD	Ok
14	Q3814-04	TP-6	VN088499.D	10 Dec 2025 14:47	vial A pH#5.0	JC\MD	Ok
15	Q3814-06	TP-7	VN088500.D	10 Dec 2025 15:08	vial A pH#5.0	JC\MD	Ok
16	Q3814-08	TP-8	VN088501.D	10 Dec 2025 15:29	vial A pH#5.0	JC\MD	Ok
17	Q3814-10	TP-9	VN088502.D	10 Dec 2025 15:50	vial A pH#5.0	JC\MD	Ok
18	Q3814-12	TP-12	VN088503.D	10 Dec 2025 16:10	vial A pH#5.0	JC\MD	Ok

Instrument ID: MSVOA_N

Daily Analysis Runlog For Sequence/QC Batch ID # VN121025

Review By	Maresh Dadoda	Review On	12/11/2025 11:46:28 AM
Supervise By	Semsettin Yesilyurt	Supervise On	12/11/2025 12:33:13 PM
SubDirectory	VN121025	HP Acquire Method	HP Processing Method 82N112425W.M
STD. NAME	STD REF.#		
Tune/Reschk Initial Calibration Stds	VP136601		
CCC Internal Standard/PEM ICV/I.BLK Surrogate Standard MS/MSD Standard LCS Standard	VP136602,VP136603		

19	Q3814-14	TP-10	VN088504.D	10 Dec 2025 16:31	vial A pH#5.0	JC\MD	Ok
20	Q3814-16	TP-4	VN088505.D	10 Dec 2025 16:52	vial A pH#5.0	JC\MD	Ok
21	Q3815-02	RE	VN088506.D	10 Dec 2025 17:13	vial A pH#5.0	JC\MD	Ok
22	Q3826-02	TP-13	VN088507.D	10 Dec 2025 17:34	vial A pH#5.0	JC\MD	Ok
23	Q3826-04	TP-14	VN088508.D	10 Dec 2025 17:54	vial A pH#5.0	JC\MD	Ok
24	Q3826-06	TP-15	VN088509.D	10 Dec 2025 18:15	vial A pH#5.0	JC\MD	Ok
25	Q3826-08	TP-11	VN088510.D	10 Dec 2025 18:36	vial A pH#5.0	JC\MD	Ok
26	Q3826-10	TP-1	VN088511.D	10 Dec 2025 18:57	vial A pH#5.0	JC\MD	Ok
27	Q3826-12	TP-2	VN088512.D	10 Dec 2025 19:18	vial A pH#5.0 Surrogate fail	JC\MD	Ok
28	Q3826-14	TP-3	VN088513.D	10 Dec 2025 19:38	vial A pH#5.0	JC\MD	Ok
29	VSTDCCC050	VSTDCCC050EC	VN088514.D	10 Dec 2025 19:59		JC\MD	Ok,M

M : Manual Integration

Prep Standard - Chemical Standard Summary

Order ID : Q3813

Test : VOCMS Group3

Prepbatch ID :

Sequence ID/Qc Batch ID: VN121025,

Standard ID :

VP135878,VP136027,VP136145,VP136354,VP136376,VP136562,VP136566,VP136601,VP136602,VP136603,

Chemical ID :

V13392,V14291,V14511,V14512,V14533,V14534,V14640,V14641,V14642,V14667,V14669,V14672,V14697,V14698,V14701,V14735,V14738,V14813,V14816,V14844,V14909,V14926,V14931,V14935,V14936,V14937,V14955,V14956,V15122,V15123,V15124,V15125,W3112,

VOC STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
617	8260 Surrogate, 400PPM	VP135878	10/22/2025	04/20/2026	Semsettin Yesilyurt	None	None	Maresh Dadoda
								10/23/2025

FROM 0.40000ml of V14909 + 24.60000ml of V14926 = Final Quantity: 25.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
257	8260 Calibration Working STD Mix-First source, 160PPM	VP136027	11/04/2025	12/15/2025	Semsettin Yesilyurt	None	None	Maresh Dadoda
								11/04/2025

FROM 0.40000ml of V14844 + 1.00000ml of V14511 + 1.00000ml of V14512 + 1.00000ml of V14533 + 1.00000ml of V14534 + 1.00000ml of V14701 + 1.00000ml of V14735 + 1.00000ml of V14738 + 1.00000ml of V14813 + 1.00000ml of V14816 + 1.00000ml of V14955 + 1.00000ml of V14956 + 1.50000ml of V14697 + 1.50000ml of V14698 + 10.60000ml of V14931 = Final Quantity: 25.000 ml

VOC STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
247	8260 Internal Standard, 250PPM	VP136145	11/11/2025	04/30/2026	Semsettin Yesilyurt	None	None	Maresh Dadoda
								11/12/2025

FROM 0.25000ml of V14291 + 24.75000ml of V14937 = Final Quantity: 25.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
51	8260 Working STD (Acrolein) -first source, 800PPM	VP136354	11/20/2025	12/19/2025	Semsettin Yesilyurt	None	None	Maresh Dadoda
								11/21/2025

FROM 1.00000ml of V15122 + 1.00000ml of V15123 + 1.00000ml of V15124 + 1.00000ml of V15125 + 21.00000ml of V14937 = Final Quantity: 25.000 ml

VOC STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
218	BFB, 25PPM	VP136376	11/24/2025	05/24/2026	Semsettin Yesilyurt	None	None	Maresh Dadoda
								11/25/2025

FROM 0.50000ml of V13392 + 49.50000ml of V14936 = Final Quantity: 50.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1810	8260 Working Std(2-CVE)-800ppm	VP136562	12/08/2025	06/08/2026	Semsettin Yesilyurt	None	None	Maresh Dadoda
								12/10/2025

FROM 1.00000ml of V14641 + 1.00000ml of V14642 + 1.20000ml of V14640 + 36.80000ml of V14935 = Final Quantity: 40.000 ml

VOC STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
719	8260 Working STD (BCM)-First source, 400PPM	VP136566	12/08/2025	06/08/2026	Semsettin Yesilyurt	None	None	Maresh Dadoda
								12/10/2025

FROM 1.00000ml of V14667 + 1.50000ml of V14669 + 1.50000ml of V14672 + 16.00000ml of V14935 = Final Quantity: 20.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
589	BFB TUNE CHECK	VP136601	12/10/2025	12/11/2025	John Carlone	None	None	Maresh Dadoda
								12/12/2025

FROM 39.98400ml of W3112 + 0.01600ml of VP136376 = Final Quantity: 40.000 ml

[illegible]

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
620	50 PPB CCC, 8260-Water	VP136603	12/10/2025	12/11/2025	John Carlone	None	None	Mahesh Dadoda 12/12/2025
<u>FROM</u> 39.94450ml of W3112 + 0.00500ml of VP135878 + 0.00500ml of VP136566 + 0.00800ml of VP136145 + 0.01250ml of VP136027 + 0.01250ml of VP136354 + 0.01250ml of VP136562 = Final Quantity: 40.000 ml								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30067 / BFB tuneing solution	A0191805	11/24/2026	11/24/2025 / sam	01/13/2023 / SAM	V13392

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555581 / Custom Standard, 8260 Internal Std [CS 5179-1]	A0210184	11/11/2026	11/11/2025 / sam	04/15/2024 / SAM	V14291

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	04/30/2026	10/31/2025 / sam	09/17/2024 / SAM	V14511

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	04/30/2026	10/31/2025 / sam	09/17/2024 / SAM	V14512

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	04/30/2026	10/31/2025 / sam	09/18/2024 / SAM	V14533

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	04/30/2026	10/31/2025 / sam	09/18/2024 / SAM	V14534

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/08/2026	12/08/2025 / sam	12/06/2024 / SAM	V14640

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/08/2026	12/08/2025 / sam	12/06/2024 / SAM	V14641

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/08/2026	12/08/2025 / sam	12/06/2024 / SAM	V14642

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30225 / VOA Mix, bromochloromethane, 2000ug/mL, P&TM, 1mL/ampul	A0214960	06/08/2026	12/08/2025 / sam	12/09/2024 / SAM	V14667

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30225 / VOA Mix, bromochloromethane, 2000ug/mL, P&TM, 1mL/ampul	A0214960	06/08/2026	12/08/2025 / sam	12/09/2024 / SAM	V14669

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30225 / VOA Mix, bromochloromethane, 2000ug/mL, P&TM, 1mL/ampul	A0214960	06/08/2026	12/08/2025 / sam	12/09/2024 / SAM	V14672

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	04/30/2026	10/31/2025 / sam	12/17/2024 / SAM	V14697

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	04/30/2026	10/31/2025 / sam	12/17/2024 / SAM	V14698

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	04/30/2026	10/31/2025 / sam	12/17/2024 / SAM	V14701

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	04/30/2026	10/31/2025 / sam	12/17/2024 / SAM	V14735

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	04/30/2026	10/31/2025 / sam	12/17/2024 / SAM	V14738

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	A0220471	04/30/2026	10/31/2025 / sam	01/08/2025 / SAM	V14813

LOTS

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	A0220471	04/30/2026	10/31/2025 / sam	01/08/2025 / SAM	V14816

LOTS

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30470 / VOA Stock Solution, tert-butanol std, 1mL, P&TM	A0217535	03/22/2026	09/22/2025 / sam	01/21/2025 / SAM	V14844

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555582 / Custom Mixture, 8260 A/B Surrogate Mix [CS 5179-2]	A0223904	04/22/2026	10/22/2025 / sam	03/24/2025 / SAM	V14909

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	24G0262002	04/20/2026	10/20/2025 / sam	05/09/2025 / SAM	V14926

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	24G0262002	04/27/2026	10/27/2025 / sam	05/09/2025 / SAM	V14931

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	24G0262002	06/08/2026	12/08/2025 / sam	05/09/2025 / SAM	V14935

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	24G0262002	05/24/2026	11/24/2025 / sam	05/09/2025 / SAM	V14936

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA9077-02 / Methanol, Purge/Trap (cs=6x1L)	24G0262002	04/30/2026	10/31/2025 / Amit	05/09/2025 / SAM	V14937

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	A0222076	04/30/2026	10/31/2025 / sam	05/19/2025 / SAM	V14955

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	A0222076	04/30/2026	10/31/2025 / sam	05/19/2025 / SAM	V14956

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	111925	12/19/2025	11/20/2025 / sam	11/20/2025 / sam	V15122

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	111925	12/19/2025	11/20/2025 / sam	11/20/2025 / sam	V15123

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	111925	12/19/2025	11/20/2025 / sam	11/20/2025 / sam	V15124

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	111925	12/19/2025	11/20/2025 / sam	11/20/2025 / sam	V15125

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



Ree 03117/24

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#: BUTB

Solvent(s): Lot#
Methanol EG359-USQ12Weight(s) shown below were combined and diluted to (mL): 100.0 0.021 Balance Uncertainty
Flask Uncertainty

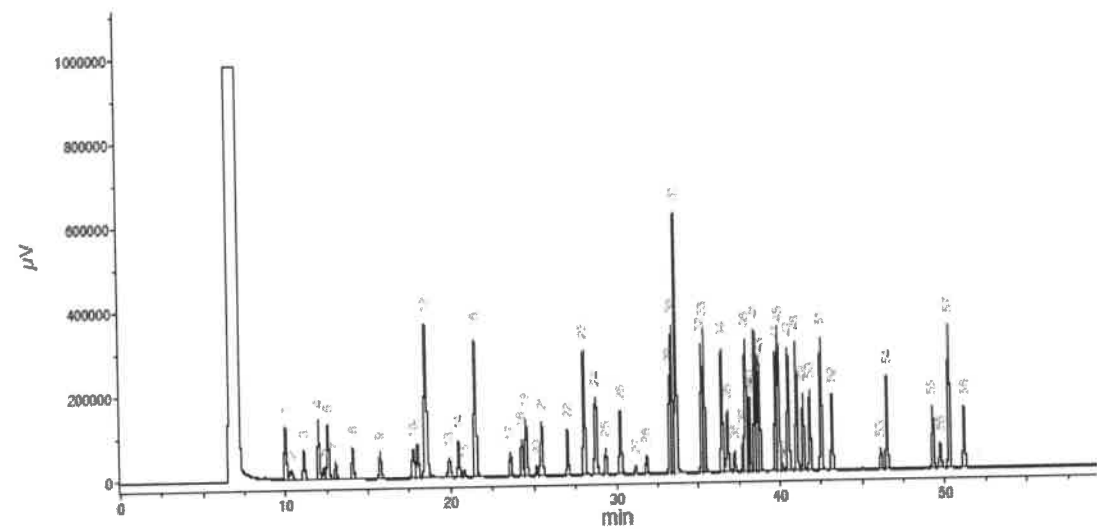
Formulated By:	Prashant Chauhan	021624
Reviewed By:	Pedro L. Renteria	021624
DATE		

Compound	(K049)	Lot	Dir.	Initial	Initial	Nominal	Purity	Purity	Uncertainty	Target	Actual	Actual	Expanded	SDS Information		
	Part Number	Number	Factor	Vol. (mL)	Conc. (µg/mL)	Conc. (µg/mL)	(%)	Uncertainty	Pipette (mL)	Weight(g)	Weight(g)	Conc (µg/mL)	Uncertainty	(Solvent Safety Info. On Attached pg.)	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)	or-rat 2480mg/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)	or-rat 700mg/kg
3. Carbon disulfide	(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)	or-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	1478-11-5	N/A	N/A
5. trans-1,4-Dichloro-2-butene	(0486)	MKBP6041V	NA	NA	NA	2000	96.5	0.2	NA	0.20731	0.20746	2001.7	8.4	110-57-6	N/A	N/A
6. Diethyl ether	(0153)	IK18CAS000C	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20040	2001.5	8.1	60-29-7	N/A	N/A
7. Ethyl methacrylate	(0381)	06128PX	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20230	2002.3	8.2	97-63-2	N/A	or-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)	or-rat 75mg/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)	or-rat 2480mg/kg
10. Methacrylonitrile	(0442)	00427ET	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20221	2001.4	8.2	128-98-7	1 ppm (3mg/m3/8H) (skin)	or-rat 127mg/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)	or-rat 277mg/kg
12. Methyl methacrylate	(0404)	MKGW6137V	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)	or-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)	or-rat 780mg/kg
14. 2-Nitropropane	(0461)	HG002JK	NA	NA	NA	2000	97.3	0.2	NA	0.20560	0.20577	2001.6	8.3	78-46-9	10 ppm (35mg/m3/8H)	or-rat 720mg/kg
15. Perchloroethane	(0460)	14A001	NA	NA	NA	2000	98	0.2	NA	0.20413	0.20430	2001.6	8.3	78-01-7	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	78-13-1	1000 ppm (7600mg/m3/8H)	or-rat 435g/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	or-rat 915mg/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	or-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	40003.2	2000	NA	NA	0.017	NA	NA	1999.6	23.0	156-60-5	N/A	or-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	or-rat 820mg/kg
22. 1,1-Dichloroethane	32261	102023	0.10	10.00	20001.6	2000	NA	NA	0.042	NA	NA	1999.8	20.5	75-35-4	1 ppm (4mg/m3/8H)	or-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)	or-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)	or-rat 2350mg/kg
25. Chloroform	95321	020724	0.10	10.00	20024.0	2000	NA	NA	0.042	NA	NA	2001.3	20.5	67-66-3	60 ppm (240mg/m3) (CL)	or-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	or-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	or-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	2019.8	20.8	127-18-4	25 ppm (170mg/m3/8H) (final)	or-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)	or-rat 10300mg/kg
31. 1,2-Dibromo-3-chloropropane	35161	112322	0.05	5.00	40018.5	2000	NA	NA	0.017	NA	NA	2000.3	22.9	86-12-8	0.001 ppm	or-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)	or-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)	or-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)	or-rat 1847mg/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	or-rat 3600mg/kg
36. 1,1-Dichloropropene	35161	112322	0.05	5.00	40012.1	2000	NA	NA	0.017	NA	NA	2000.1	28.7	563-58-6	N/A	N/A
37. cis-1,3-Dichloropropene	35161	112322	0.05	5.00	40010.0	2000	NA	NA	0.017	NA	NA	2000.0	23.0	10061-01-5	N/A	N/A
38. trans-1,3-Dichloropropene	35161	112322	0.05	5.00	40017.6	2000	NA	NA	0.017	NA	NA	2000.4	23.0	10061-02-6	N/A	N/A
39. Hexachloro-1,3-butadiene	35161	112322	0.05	5.00	40021.9	2000	NA	NA	0.017	NA	NA	2000.6	29.7	87-68-3	0.02 ppm (0.24mg/m3/8H)	or-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	830-20-6	N/A	or-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)	or-rat 800mg/kg
42. 1,1,2-Trichloroethane	35161	112322	0.05	5.00	40006.6	2000	NA	NA	0.017	NA	NA	1999.8	23.0	79-00-5	10 ppm (45mg/m3/8H) (skin)	or-rat 936mg/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)	or-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)	or-rat 149.8mg/kg
45. Benzene	35162	050823	0.05	5.00	40006.0	2000	NA	NA	0.017	NA	NA	1999.7	22.9	71-43-2	1 ppm	or-rat 4894mg/kg
46. Bromobenzene	35162	050823	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	104-51-8	N/A	or-rat 2699mg/kg
47. n-Butyl 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)	or-rat >2000mg/kg
48. Ethyl benzene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	99-87-6	N/A	or-rat 4750mg/kg
49. p-Isopropyl toluene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	91-20-3	10 ppm (50mg/m3/8H)	or-rat 490mg/kg
50. Naphthalene	35162	050823	0.05	5.00	40005.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	100-42-5	100 ppm	or-rat 5000mg/kg
51. Styrene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-98-3	200 ppm	or-rat 5000mg/kg
52. Toluene	35162	050823	0.05	5.00	40006.2	2000	NA	NA	0.017	NA	NA	1999.6	23.0	87-81-6	N/A	or-mus 1390mg/kg
53. 1,2,3-Trichlorobenzene	35162	050823	0.05	5.00	40003.1	2000	NA	NA	0.017	NA	NA	1999.8	22.9	120-82-1	5 ppm (CL) (40mg/m3)	or-rat 756mg/kg
54. 1,2,4-Trichlorobenzene	35162	050823	0.05	5.00	40006.8	2000	NA	NA	0.017	NA	NA	1999.6	23.0	95-63-6	N/A	or-rat 5g/kg
55. 1,2,4-Trimethylbenzene	35162	050823	0.05	5.00	40001.6	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-87-8	N/A	or-rat 5000mg/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	108-38-3	100 ppm (435mg/m3/8H)	or-rat 5g/kg
57. m-Xylene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	96-06-6	N/A	N/A
58. tert-Butyl benzene	35163	101923	0.05	5.00	40001.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	135-98-8	N/A	or-rat 2240mg/kg
59. sec-Butyl benzene	35163	101923	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-90-7	75 ppm (350mg/m3/8H)	or-rat 2290mg/kg
60. Chlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.5	22.9	95-49-8	50 ppm (250mg/m3/8H)	or-rat 3900mg/kg
61. 2-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	or-rat 2100mg/kg
62. 4-Chlorotoluene	35163	101923	0.05	5.00	40003.3	2000	NA	NA	0.017	NA	NA	1999.7	22.9	95-50-1	50 ppm (300mg/m3) (CL)	or-rat 500mg/kg
63. 1,2-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	or-mus 1062mg/kg
64. 1,3-Dichlorobenzene	35163	101923	0.05	5.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	22.9	108-46-7	75 ppm (450mg/m3/8H)	or-rat 500mg/kg
65. 1,4-Dichlorobenzene																

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., Hydrogen(make-up)=40mL/min., Air(make-up)=230mL/min.
Oven Profile: Temp. 1=35°C (Time 1=10 min.), Temp 2=200°C (Time 2=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	10.53
3	1,1-Dichloroethane	11.10
4	Acetonitrile	12.60
5	Iodomethane	12.91
6	Allyl chloride	13.56
7	Carbon disulfide/Methylene chloride	13.94
8	trans-1,2-Dichloroethane	14.07
9	1,1-Dichloroethane	15.74
10	2,2-Dichloropropane	17.74
11	cis-1,2-Dichloroethane	18.00
12	Methoxyvinyltoluene/Methyl acrylate/Chloroform	18.49
13	Isobutanol/1,1,1-Trichloroethane	18.91
14	1,1-Dichloropropane	20.46
15	Carbon tetrachloride	20.79
16	Benzene/1,2-Dichloroethane	21.48
17	Trichloroethane	23.88
18	1,2-Dichloropropane	24.52
19	Methyl methacrylate	25.13
20	Bromochloropropane	25.46
21	Dibromomethane/2-Pentopropane	27.07
22	cis-1,2-Dichloropropane	28.03
23	Toluene	28.73
24	Ethyl methacrylate/trans-1,2-Dichloropropane	29.34
25	1,1,2-Trichloroethane	30.34
26	Tetrachloroethane/1,2-Dichloropropane	31.16
27	Dibromochloromethane	32.84
28	1,2-Dibromomethane	33.26
29	Chlorobenzene	33.40
30	Ethylbenzene/1,1,1,2-Tetrachloroethane	33.85
31	m-Xylene/p-Xylene	35.33
32	o-Xylene	35.70
33	Styrene	35.70
34	Isopropylbenzene/Bromofarm	36.48
35	cis-1,4-Dichloro-3-butene	36.80
36	1,1,2-Trichloropropane	37.23
37	1,2,2-Trichloropropane	37.77
38	n-Propylbenzene	37.92
39	trans-1,4-Dichloro-3-butene	38.05
40	Bromobenzene	38.14
41	1,3,5-Trimethylbenzene	38.50
42	Chlorobenzene	38.63
43	4-Chlorobenzene	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-Trichlorobenzene	41.42
50	1,4-Dichlorobenzene	41.83
51	n-Butylbenzene	42.52
52	1,2-Dichlorobenzene	42.18
53	1,2-Dibromo-3-chloropropane	46.12
54	Nitrobenzene	46.40
55	1,2,4-Trifluorobenzene	49.28
56	Hexachlorocyclopentadiene	49.72
57	Naphthalene	50.56
58	1,2,3-Trichlorobenzene	51.16

Safety Data Sheet (SDS)

GHS/OSHA Compliant

Section I Product and Company Identification

IDENTITY ANALYTICAL STANDARD DISSOLVED IN METHANOL

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

Section II - Hazards Identification

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

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

Section III - Composition

Components (Specific Chemical Identity; Common Name(s))		
Methanol	METHYL ALCOHOL	CAS#: 67-56-1
		% (optional) > 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.
Storage Conditions	Use ventilation. Keep away from sources of ignition. No smoking. Prevent the build up of electrostatic charge. 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.



Ree 03117/24

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#: BUTB

Solvent(s): Lot#
Methanol EG359-USQ12Weight(s) shown below were combined and diluted to (mL): 100.0 0.021 Balance Uncertainty
Flask Uncertainty

Formulated By:	Prashant Chauhan	021624
Reviewed By:	Pedro L. Renteria	021624
DATE		

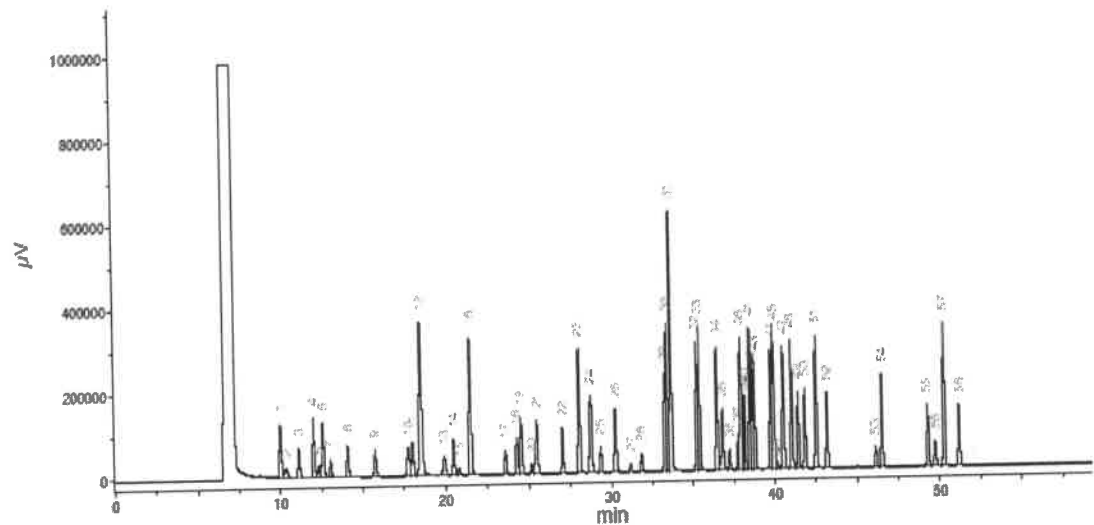
Compound	(KMe) Part Number	Lot Number	Dir. Factor	Initial Vol. (mL)	Initial Conc. (µg/mL)	Nominal Conc. (µg/mL)	Purity (%)	Purity Uncertainty	Uncertainty Pipette (mL)	Target Weight(g)	Actual Weight(g)	Actual Conc. (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached 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)	or-rat 2400mg/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)	or-rat 700mg/kg
3. Carbon disulfide	(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)	or-rat 1200mg/kg
4. cis-1,4-Dichloro-2-butene	(1196)	14718EF	NA	NA	NA	2000	95	0.2	NA	0.21056	0.21069	2001.1	8.5	1478-11-6	N/A	N/A
5. trans-1,4-Dichloro-2-butene	(0486)	MKBP9041V	NA	NA	NA	2000	96.5	0.2	NA	0.20731	0.20746	2001.7	8.4	110-57-6	N/A	N/A
6. Diethyl ether	(0153)	IK18CAS000C	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20040	2001.5	8.1	60-29-7	N/A	N/A
7. Ethyl methacrylate	(0381)	06128PX	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20230	2002.3	8.2	97-63-2	N/A	N/A
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)	or-rat 14800mg/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)	or-rat 3460mg/kg
10. Methacrylonitrile	(0472)	00427ET	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20221	2001.4	8.2	128-98-7	1 ppm (3mg/m3/8H) (skin)	or-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)	or-rat 277mg/kg
12. Methyl methacrylate	(0404)	MKGW6137V	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)	or-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)	or-rat 780mg/kg
14. 2-Nitropropane	(0461)	HG002JK	NA	NA	NA	2000	97.3	0.2	NA	0.20560	0.20577	2001.6	8.3	78-46-9	10 ppm (35mg/m3/8H)	or-rat 720mg/kg
15. Pentachloroethane	(0460)	HGA01	NA	NA	NA	2000	98	0.2	NA	0.20413	0.20430	2001.6	8.3	78-01-7	N/A	N/A
16. 1,1,2-Trichlorotrifluoroethane	(0474)	18990	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20225	2001.8	8.2	78-13-1	1000 ppm (7600mg/m3/8H)	or-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	NA	or-rat 915mg/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	or-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	40003.4	2000	NA	NA	0.017	NA	NA	1999.6	23.0	156-60-5	N/A	or-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	or-rat 820mg/kg
22. 1,1-Dichloroethane	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)	or-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)	or-rat 930mg/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)	or-rat 2350mg/kg
25. Chloroform	95321	020724	0.10	10.00	20004.0	2000	NA	NA	0.042	NA	NA	1999.8	20.5	67-68-3	60 ppm (240mg/m3) (CL)	or-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	or-rat 106mg/kg
27. 1,1-Dichloroethane	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
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. Trichloroethene	95321	020724	0.10	10.00	20201.1	2000	NA	NA	0.042	NA	NA	2019.8	20.8	127-18-4	25 ppm (170mg/m3/8H) (final)	or-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)	or-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	or-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)	or-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)	or-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)	or-rat 1847mg/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	or-rat 3600mg/kg
36. 1,1-Dichloropropene	35161	112322	0.05	5.00	40012.1	2000	NA	NA	0.017	NA	NA	2000.1	28.7	563-58-6	N/A	N/A
37. cis-1,3-Dichloropropene	35161	112322	0.05	5.00	40010.0	2000	NA	NA	0.017	NA	NA	2000.0	23.0	10061-01-5	N/A	N/A
38. trans-1,3-Dichloropropene	35161	112322	0.05	5.00	40017.6	2000	NA	NA	0.017	NA	NA	2000.4	23.0	10061-02-6	N/A	N/A
39. Hexachloro-1,3-butadiene	35161	112322	0.05	5.00	40021.9	2000	NA	NA	0.017	NA	NA	2000.6	29.7	87-68-3	0.02 ppm (0.24mg/m3/8H)	or-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	830-20-6	N/A	or-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)	or-rat 800mg/kg
42. 1,1,2-Trichloroethane	35161	112322	0.05	5.00	40006.6	2000	NA	NA	0.017	NA	NA	1999.8	23.0	79-00-5	10 ppm (45mg/m3/8H) (skin)	or-rat 936mg/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)	or-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)	or-rat 149.8mg/kg
45. Benzene	35162	050823	0.05	5.00	40007.5	2000	NA	NA	0.017	NA	NA	1999.7	22.9	71-43-2	1 ppm	or-rat 4894mg/kg
46. Bromobenzene	35162	050823	0.05	5.00	40006.0	2000	NA	NA	0.017	NA	NA	1999.7	22.9	104-51-8	N/A	N/A
47. n-Butyl benzene	35162	050823	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	100-41-4	100 ppm (435mg/m3/8H)	or-rat >2000mg/kg
48. Ethyl benzene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	99-87-6	N/A	or-rat 4750mg/kg
49. p-Isopropyl toluene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	91-20-3	10 ppm (50mg/m3/8H)	or-rat 490mg/kg
50. Naphthalene	35162	050823	0.05	5.00	40005.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	100-42-5	100 ppm	or-rat 5000mg/kg
51. Styrene	35162	050823	0.05	5.00	40004.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-98-3	200 ppm	or-rat 5000mg/kg
52. Toluene	35162	050823	0.05	5.00	40006.2	2000	NA	NA	0.017	NA	NA	1999.7	22.9	87-81-6	N/A	or-rat 1390mg/kg
53. 1,2,3-Trichlorobenzene	35162	050823	0.05	5.00	40003.1	2000	NA	NA	0.017	NA	NA	1999.8	22.9	120-82-1	5 ppm (CL) (40mg/m3)	or-rat 756mg/kg
54. 1,2,4-Trichlorobenzene	35162	050823	0.05	5.00	40006.8	2000	NA	NA	0.017	NA	NA	1999.8	23.0	95-63-6	N/A	or-rat 5g/kg
55. 1,2,4-Trimethylbenzene	35162	050823	0.05	5.00	40001.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-87-6	N/A	or-rat 5000mg/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	108-38-3	100 ppm (435mg/m3/8H)	or-rat 5g/kg
57. m-Xylene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	96-06-6	N/A	N/A
58. tert-Butyl benzene	35163	101923	0.05	5.00	40001.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	135-98-6	N/A	or-rat 2240mg/kg
59. sec-Butyl benzene	35163	101923	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-90-7	75 ppm (350mg/m3/8H)	or-rat 2290mg/kg
60. Chlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.5	22.9	95-49-8	50 ppm (250mg/m3/8H)	or-rat 3900mg/kg
61. 2-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	or-rat 2100mg/kg
62. 4-Chlorotoluene	35163	101923	0.05	5.00	40003.3	2000	NA	NA	0.017	NA	NA	1999.7	22.9	95-50-1	50 ppm (300mg/m3) (CL)	or-rat 500mg/kg
63. 1,2-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	or-mus 1062mg/kg
64. 1,3-Dichlorobenzene	35163	101923	0.05	5.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	22.9	108-46-7	75 ppm (450mg/m3/8H)	or-rat



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., Hydrogen(make-up)=40mL/min., Air(make-up)=230mL/min.
Oven Profile: Temp. 1=35°C (Time 1=10 min.), Temp 2=200°C (Time 2=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	10.53
3	1,1-Dichloroethane	11.10
4	Acetonitrile	12.60
5	Iodomethane	12.91
6	Allyl chloride	12.96
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	Methoxyvinylbenzene/Methyl acrylate/Chloroform	18.49
13	Isobutene/1,1,1-Trichloroethane	18.91
14	1,1-Dichloropropane	20.46
15	Carbon tetrachloride	20.79
16	Benzene/1,2-Dichloroethane	21.48
17	Trichloroethene	23.88
18	1,2-Dichloropropane	24.52
19	Methyl methacrylate	25.13
20	Bromochloropropane	25.46
21	Dibromomethane/2-Pentene	27.07
22	cis-1,2-Dichloroethene	28.73
23	Toluene	29.34
24	Ethyl methacrylate/trans-1,2-Dichloroethene	29.34
25	1,1,2-Trichloroethane	30.34
26	Tetrachloroethane/1,2-Dichloropropane	31.16
27	Dibromochloromethane	31.84
28	1,2-Dibromomethane	33.05
29	Chlorobenzene	33.40
30	Ethylbenzene/1,1,1,2-Tetrachloroethane	33.85
31	m-Xylene/p-Xylene	35.33
32	o-Xylene	35.39
33	Styrene	35.70
34	Isopropylbenzene/Bromofarm	36.48
35	cis-1,4-Dichloro-3-butene	36.80
36	1,1,2-Trichloropropane	37.23
37	n-Propylbenzene	37.77
38	trans-1,4-Dichloro-3-butene	37.92
39	Bromobenzene	38.05
40	1,3,5-Trimethylbenzene	38.14
41	2-Chlorobenzene	38.50
42	4-Chlorobenzene	38.63
43	tert-Butylbenzene	38.77
44	sec-Butylbenzene	39.76
45	1,2,4-Trimethylbenzene	40.17
46	1,2,4-Trimethylbenzene	40.52
47	p-Isopropylbenzene	41.02
48	1,3-Trichlorobenzene	41.42
49	1,4-Dichlorobenzene	41.83
50	n-Butylbenzene	42.52
51	1,2-Dichlorobenzene	42.18
52	1,2-Dichloropropane	46.12
53	1,2-Dichloro-3-methylpropane	46.40
54	Nitrobenzene	49.26
55	1,2,4-Trichlorobenzene	49.72
56	Hexachlorocyclopentadiene	50.56
57	Naphthalene	51.16
58	1,2,3-Trichlorobenzene	

Safety Data Sheet (SDS)

GHS/OSHA Compliant

Section I Product and Company Identification

IDENTITY ANALYTICAL STANDARD DISSOLVED IN METHANOL

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

Section II - Hazards Identification

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

H225
H370
P271
P302,332

Highly Flammable Liquid and Vapor
Cause damage to organs
Use in ventilated area
If on skin, wash with soap and water

H301, 311, 331
H351
P280
P305,351,338

Toxic if swallowed, skin contact, inhaled
Suspected of causing cancer
Use gloves, eye protection/face shield
If in eyes, remove contacts, rinse with water



Signal Word: DANGER

Section III - Composition

Components (Specific Chemical Identity; Common Name(s))		
Methanol	METHYL ALCOHOL	CAS#: 67-56-1
		% (optional) > 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.
Storage Conditions	Use ventilation. Keep away from sources of ignition. No smoking. Prevent the build up of electrostatic charge. 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 (H ₂ O = 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)	IATA
UN number: 1230 Class: 3 Packing group: II	UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol	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 Reference Material CRM



Dec 09/17/24

CERTIFIED WEIGHT REPORT

Part Number:

91980

Lot Number:

091424

Description:

Acrolein

Solvent(s):

Water

Lot#

072324Q

Expiration Date:

101424

Recommended Storage:

Refrigerate (4 °C)

Nominal Concentration (µg/mL):

5000

NIST Test ID#:

6UTB

5E-05 Balance Uncertainty

0.001 Flask Uncertainty

10.0

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

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	(Solvent Safety Info. On Attached pg.)	OSHA PEL (TWA)	LD50
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1. Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05175	5008.9	52.5	107-02-8	0.1 ppm	ori-rat 46mg/kg
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Method: GC/MSD-1, Detector: Mass Selective Detector (Scan mode). Columns: Vocol (60m X 0.25mm ID X 1.5µm film thickness), Oven Profile: Temp. 1 = 35°C (Time 1 = 0min.), 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 thereof, should be used immediately. Long term storage is not recommended. Please contact our technical department if further information is required.

TIC: [BSB2]79005.D

Scan 232 (8.927 min): [BSB2]79005.D

Abundance

27

250000

8.93

200000

C=CC=O

50000

56

150000

40000

30000

20000

10000

37

Time-->

10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00 50.00 55.00 60.00

m/z-->

0

20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170

44 65 75 85 119 158 169

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



Certified Reference Material CRM



Dec 09/17/24

CERTIFIED WEIGHT REPORT

Part Number:

91980

Lot Number:

091424

Description:

Acrolein

Solvent(s):

Water

Lot#

072324Q

Expiration Date:

101424

Recommended Storage:

Refrigerate (4 °C)

Nominal Concentration (µg/mL):

5000

NIST Test ID#:

6UTB

5E-05 Balance Uncertainty

0.001 Flask Uncertainty

10.0

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

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (±) (µg/mL)	(Solvent Safety Info. On Attached pg.)	CAS#	OSHA PEL (TWA)	LD50
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1. Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05175	5008.9	52.5	107-02-8	0.1 ppm	ori-rat 46mg/kg
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Method: GC/MSD-1, Detector: Mass Selective Detector (Scan mode). Columns: Vocol (60m X 0.25mm ID X 1.5µm film thickness), Oven Profile: Temp. 1 = 35°C (Time 1 = 0min.), 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 thereof, should be used immediately. Long term storage is not recommended. Please contact our technical department if further information is required.

TIC: [BSB2]79005.D

Scan 232 (8.927 min): [BSB2]79005.D

Abundance 27

Abundance

250000 8.93

200000

150000

100000

50000

Time-->

10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00 50.00 55.00 60.00 65.00 70.00 75.00 80.00 85.00 90.00 100.00 110.00 120.00 130.00 140.00 150.00 160.00 170.00

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



See 1216124
20 vial

CERTIFIED WEIGHT REPORT

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

Solvent(s): Lot#
Methanol EJ143-US

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

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

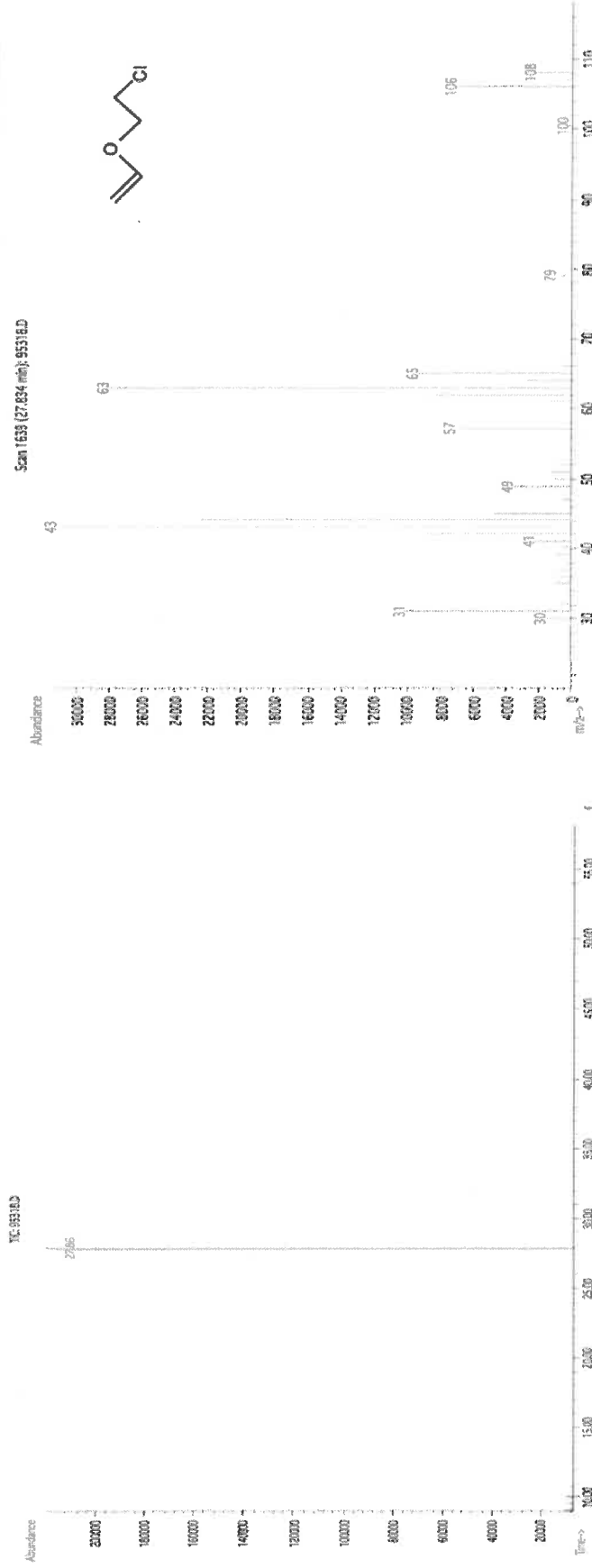
5E-05 Balance Uncertainty
0.001 Flask Uncertainty

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

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.)	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	or-rat 250mg/kg
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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 certified (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

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.	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)

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 shield
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	> 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	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 (H ₂ O = 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)	IATA
UN number: 1230 Class: 3 Packing group: II	UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol	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.



Dec 12/16/24
20 vial

CERTIFIED WEIGHT REPORT

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

Solvent(s): Lot#
Methanol EJ143-US

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

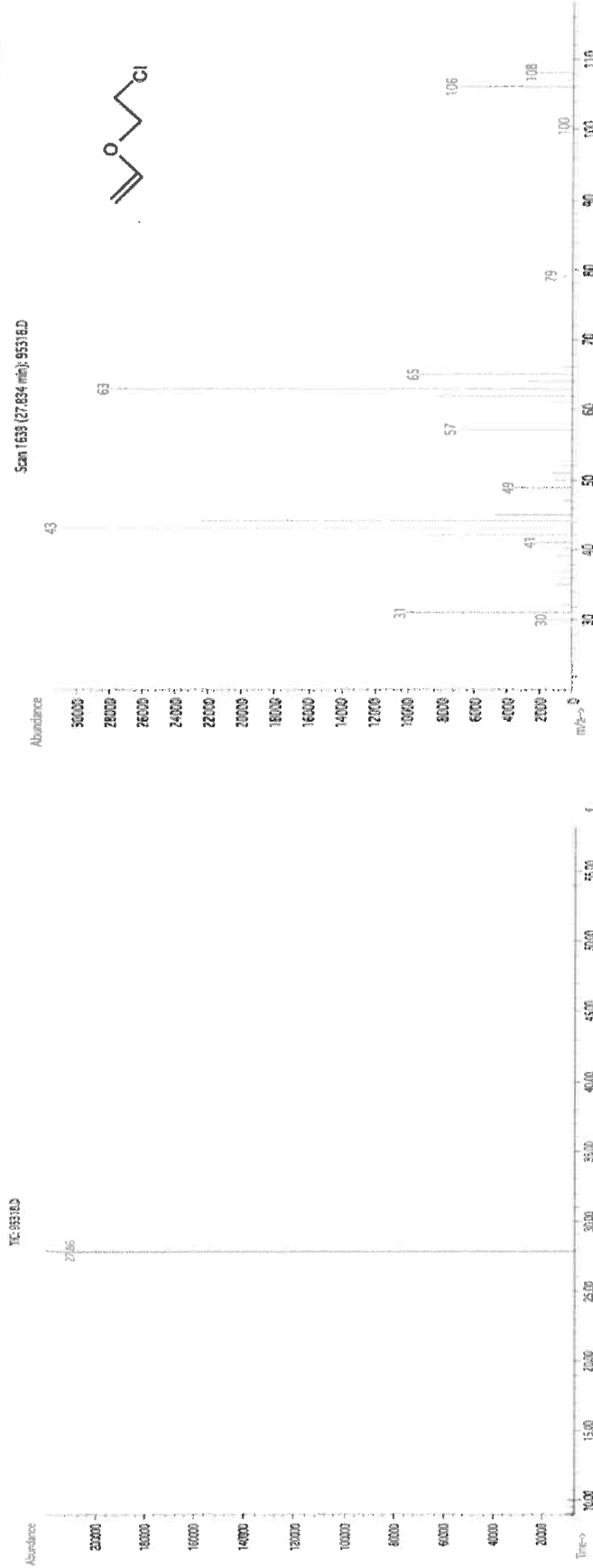
✓ 14630 to
✓ 14649

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

5E-05 Balance Uncertainty
0.001 Flask Uncertainty

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)	(Solvent Safety Info. On Attached pg.)
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50536	0.50550	10002.9	40.5	110-75-8 N/A or-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 certified (±) 0.5% of the stated value, unless otherwise stated.
* All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

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 Rosotto 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 shield
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 (H ₂ O = 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)	IATA
UN number: 1230 Class: 3 Packing group: II	UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol	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.



Dec 12/16/24
20 vial

CERTIFIED WEIGHT REPORT

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

Solvent(s): Lot#
Methanol EJ143-US

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

✓ 14630 to
✓ 14649

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

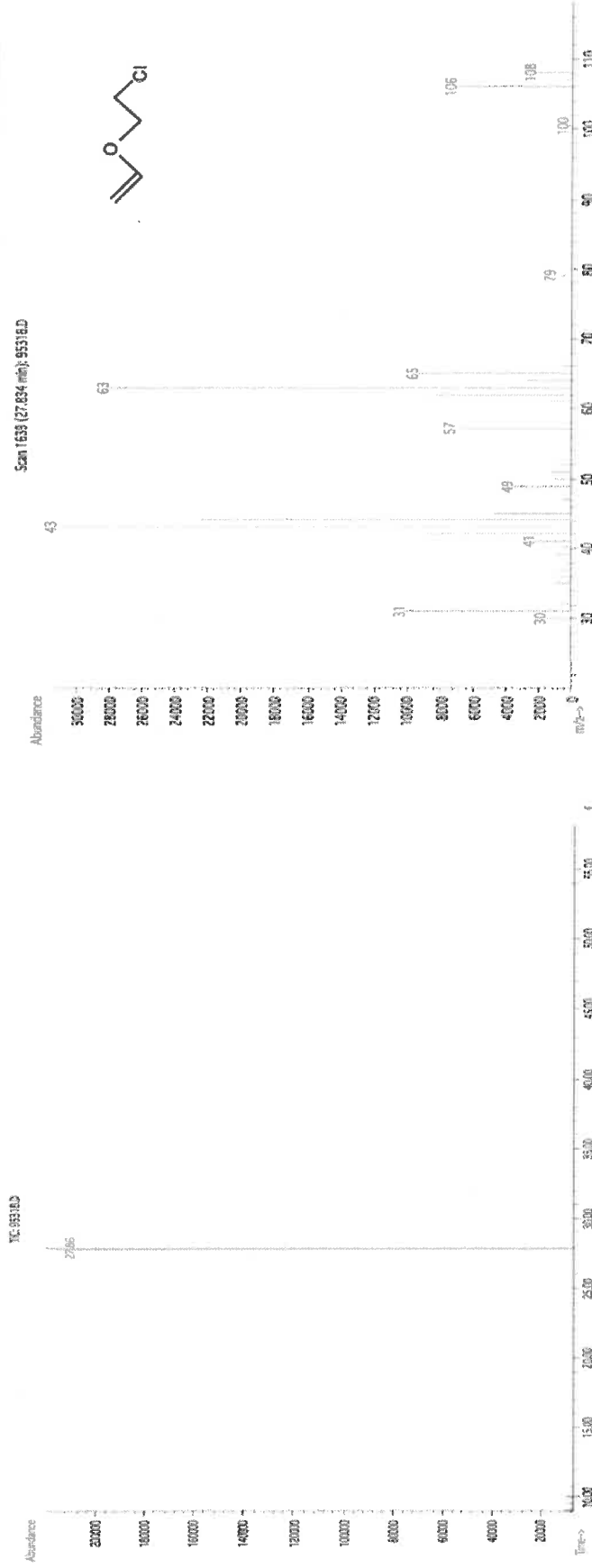
5E-05 Balance Uncertainty
0.001 Flask Uncertainty

Expanded Uncertainty (Solvent Safety Info. On Attached pg.)
Uncertainty (±) (µg/mL) CAS# OSHA PEL (TWA) LDSO

SDS Information

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc (µg/mL)	or-rat 250mg/kg
1. 2-Chloroethyl vinyl ether	74	MKCD0033	10000	99	0.2	0.50536	0.50550	10002.9	N/A

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 certified (±) 0.5% of the stated value, unless otherwise stated.
* All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

GHS/OSHA Compliant

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

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 shield
P302,332	If on skin, wash with soap and water	P305,351,338	If in eyes, remove contacts, rinse with water



Signal Word: DANGER

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

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.

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.

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).

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.

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 (H ₂ O = 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)	IATA
UN number: 1230 Class: 3 Packing group: II	UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol	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.



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 plus



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:

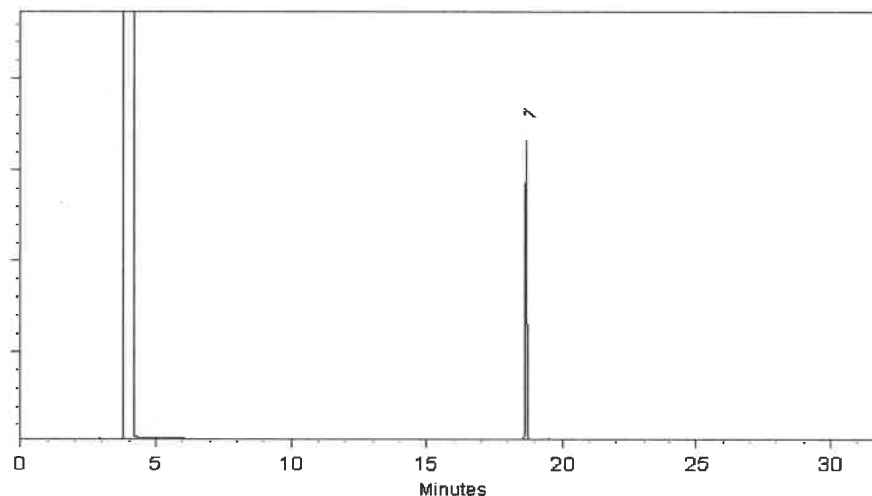
FID

Split Vent:

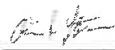
40 ml/min

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:

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

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

- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.



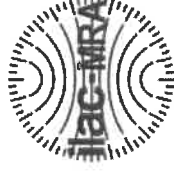
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gravimetric



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No.: 555581 **Lot No.:** A0210184

Description: Custom 8260 Internal Standard Mix

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

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

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

Ship: Ambient

CERTIFIED VALUES

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

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

John Friedline - Operations Technician I

Date Mixed: 11-Apr-2024

Balance: 11275.10105



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:

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

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:

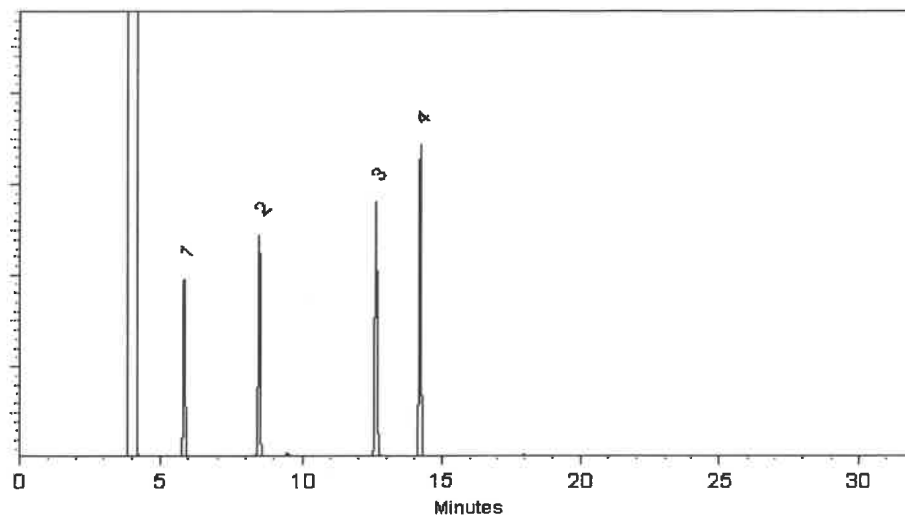
FID

Split Vent:

40 ml/min

Inj. Vol

1µl

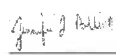


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


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:

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

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. : 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:

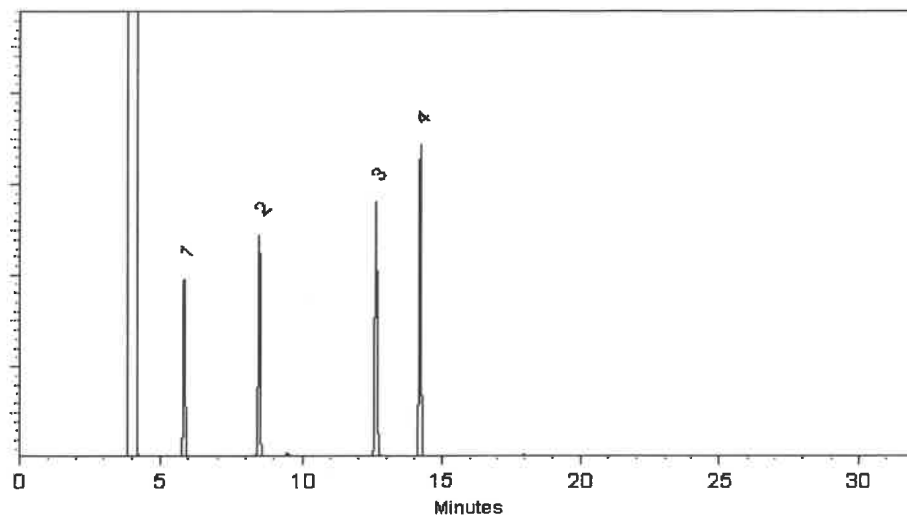
FID

Split Vent:

40 ml/min

Inj. Vol

1µl

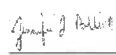


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


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:

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

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:

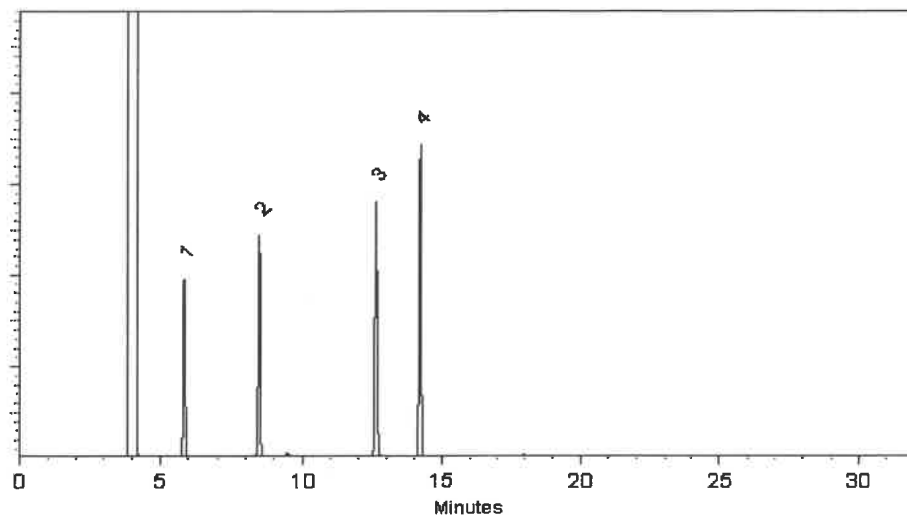
FID

Split Vent:

40 ml/min

Inj. Vol

1µl

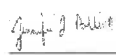


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


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:

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

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. : 30225 **Lot No.:** A0214960
Description : Bromochloromethane Standard
Bromochloromethane 2000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2029 **Storage:** 0°C or colder
Ship: Ambient

CERTIFIED VALUES

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

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

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

Quality Confirmation Test

Column:

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

Carrier Gas:

hydrogen-constant pressure 11.0 psi.

Temp. Program:

40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:

200°C

Det. Temp:

250°C

Det. Type:

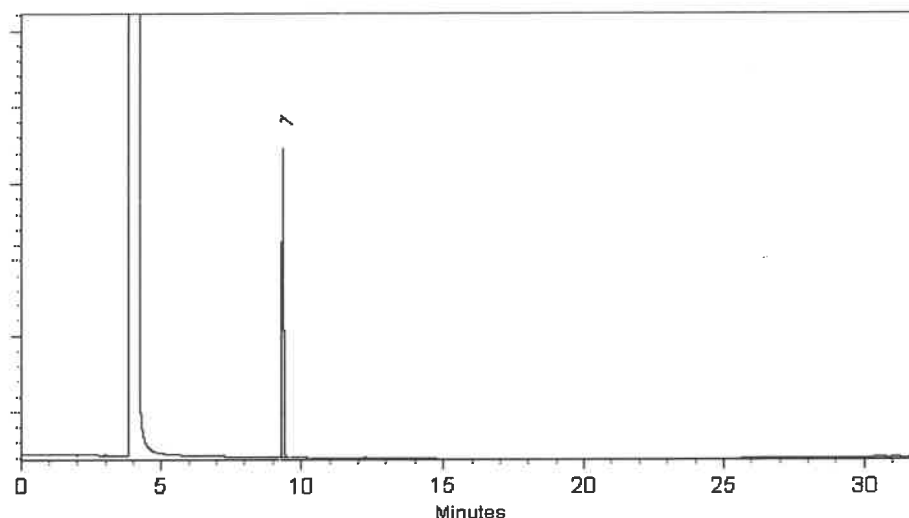
FID

Split Vent:

40 ml/min

Inj. Vol

1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Stacey Wanner - Operations Technician I

Date Mixed: 08-Aug-2024

Balance Serial # 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Aug-2024

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

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, 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:

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

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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10 vial.
Dec: 12/09/24
CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus
V14667-5
V14676



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30225 **Lot No.:** A0214960
Description : Bromochloromethane Standard
Bromochloromethane 2000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : August 31, 2029 **Storage:** 0°C or colder
Ship: Ambient

CERTIFIED VALUES

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

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

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

Quality Confirmation Test

Column:

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

Carrier Gas:

hydrogen-constant pressure 11.0 psi.

Temp. Program:

40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:

200°C

Det. Temp:

250°C

Det. Type:

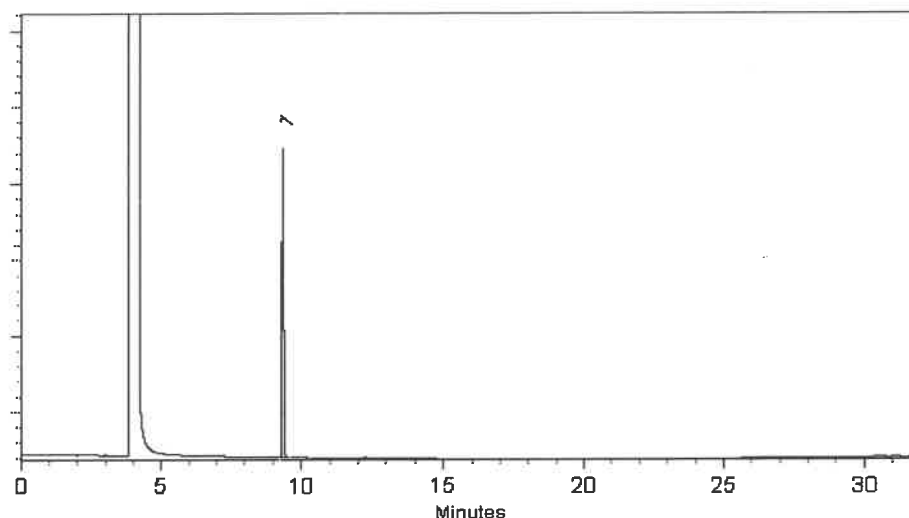
FID

Split Vent:

40 ml/min

Inj. Vol

1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Stacey Wanner - Operations Technician I

Date Mixed: 08-Aug-2024

Balance Serial # 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Aug-2024

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

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, 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:

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

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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Dec: 12/09/24

Certificate of Analysis

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V14667-5

V14676



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

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

Description : Bromochloromethane Standard

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

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

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

Ship: Ambient

CERTIFIED VALUES

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

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

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

Quality Confirmation Test

Column:

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

Carrier Gas:

hydrogen-constant pressure 11.0 psi.

Temp. Program:

40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:

200°C

Det. Temp:

250°C

Det. Type:

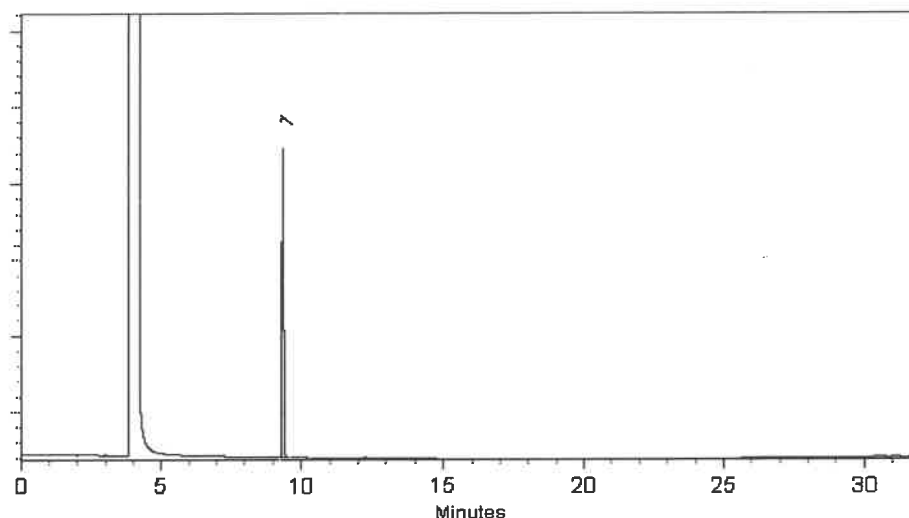
FID

Split Vent:

40 ml/min

Inj. Vol

1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Stacey Wanner - Operations Technician I

Date Mixed: 08-Aug-2024

Balance Serial # 1127510105

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 14-Aug-2024

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

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, 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:

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

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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30 ml
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V14727 to
V14756



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:

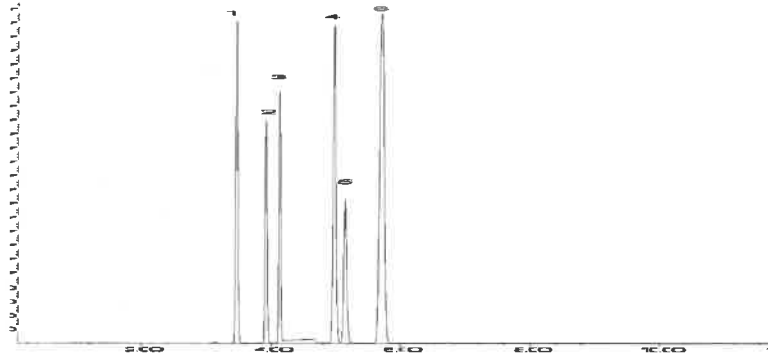
MSD

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 Suckal - 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:

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

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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V14727 to
V14756



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:

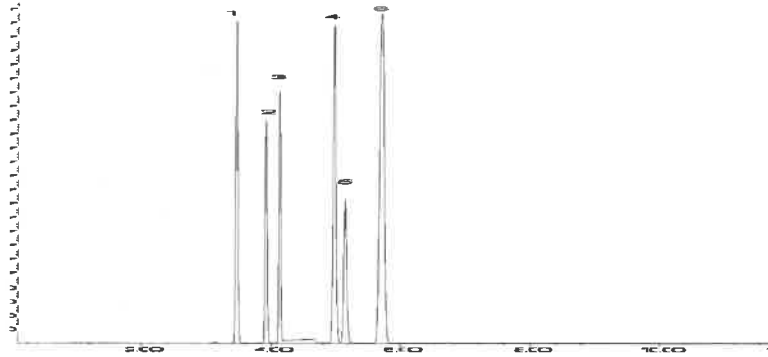
MSD

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 Suckal - 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:

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

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

Certificate of Analysis

chromatographic plus

✓ 14842 to 14846



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 30470 **Lot No.:** A0217535
Description : tert-Butanol Standard
tert-Butanol Std 50,000µg/mL, P&T Methanol, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : October 31, 2027 **Storage:** 0°C or colder
Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	tert-Butanol (TBA)	75-65-0	SHBQ8002-1	99%	50,007.5 µg/mL	+/- 717.6137

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

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

Quality Confirmation Test

Column:

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

Carrier Gas:

hydrogen-constant pressure 11.0 psi.

Temp. Program:

40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:

200°C

Det. Temp:

250°C

Det. Type:

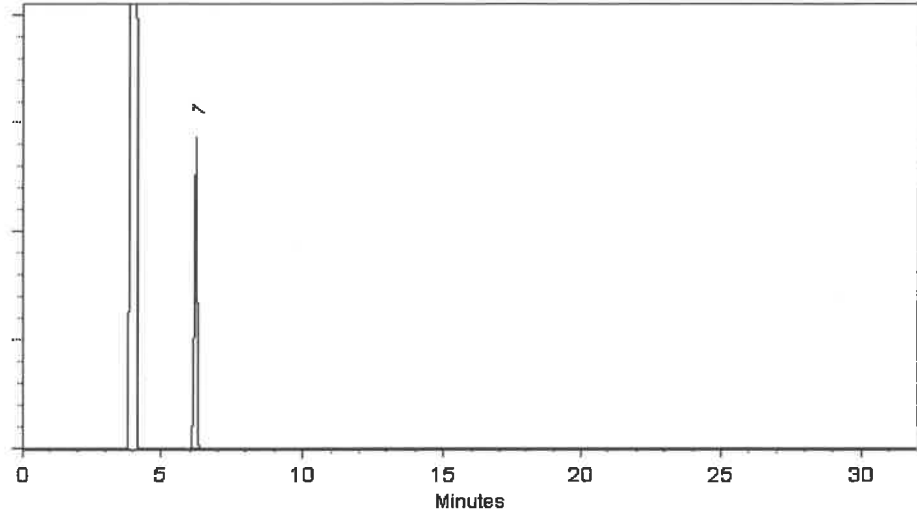
FID

Split Vent:

40 ml/min

Inj. Vol

1µl



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

A. O. E.
Aaron Enyart - Operations Tech I

Date Mixed: 07-Oct-2024

Balance Serial # B251644995

Brittany Federinko
Brittany Federinko - Operations Tech I

Date Passed: 09-Oct-2024

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

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ μ ECD, 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:

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

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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2014 Dec 01/08/21
CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic

V14803 - V14822



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:

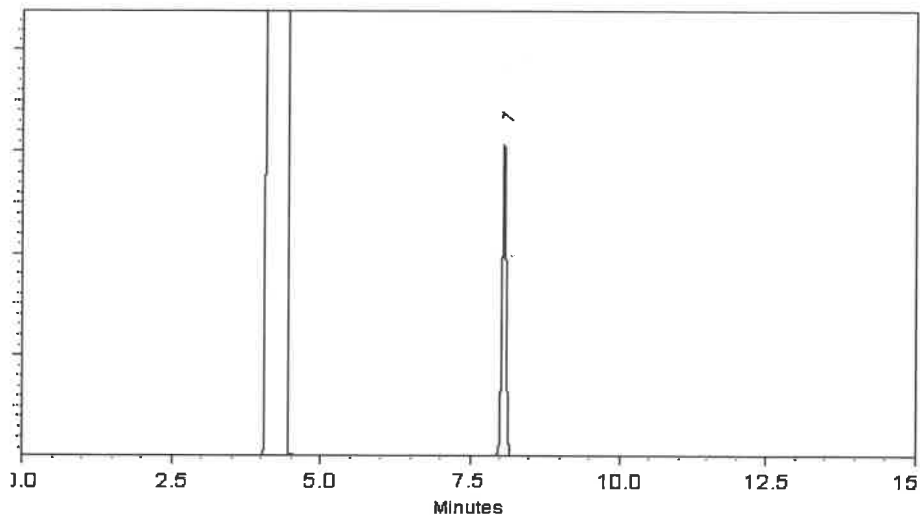
FID

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
By Jennifer Pollock at 7:12 am, Jan 05, 2025

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:

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

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.



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

www.restek.com

2014 Dec 01/08/21
CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic

V14803 - V14822



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:

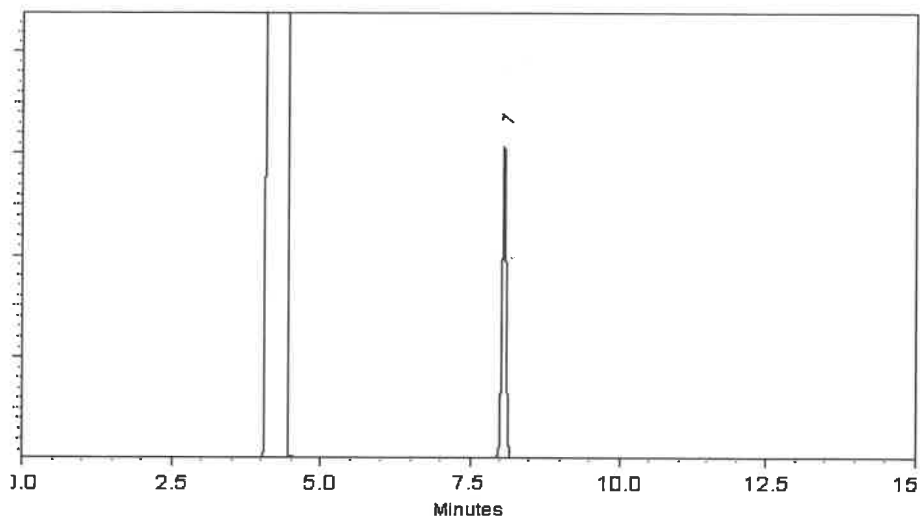
FID

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
By: Jennifer Pollock at 7:12 am, Jan 05, 2025

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:

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

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.



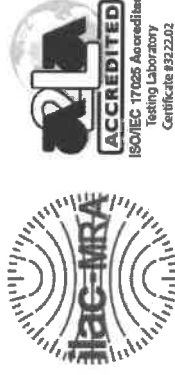
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Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric



10 vial
See 03/31/25
V14904 to V14913

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No.: 555582 Lot No.: A0223904

Description: Custom 8260A/B Surrogate Mix

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

Container Size: 2 mL Pkg Amt: > 1 mL

Expiration Date: March 31, 2028 Storage: 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty* (95% C.L.; K=2)
1	1,2-Dichloroethane-d4	17060-07-0	PR-33313	99%	25,108.0 µg/mL	+/- 1,421.9957
2	1-Bromo-4-fluorobenzene (BFB)	460-00-4	0000268853	99%	25,108.0 µg/mL	+/- 1,421.9957
3	Dibromofluoromethane	1868-53-7	VENKAT02	99%	25,232.0 µg/mL	+/- 1,429.0184
4	Toluene-d8	2037-26-5	PR-34141	99%	25,156.0 µg/mL	+/- 1,424.7141

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

Brittany Federlino

Brittany Federlino - Operations Tech I

Date Mixed: 27-Mar-2025

Balance: B251644995

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:

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

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

Rec 05/09/25
Avantor™



*V 14921 to
V 14938*

Material No.: 9077-02
Batch No.: 24G0262002
Manufactured Date: 2024-05-14
Expiration Date: 2027-05-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH ₃ OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Titration Acid (μeq/g)	≤ 0.3	0.3
Titration Base (μeq/g)	≤ 0.10	0.03
Water (by KF, coulometric)	≤ 0.08 %	< 0.01 %
Volatile Organic Trace Analysis - Below EPA 8260B CRQL	Conforms	Conforms

For Laboratory, Research, or Manufacturing Use
Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

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

Mark
Jamie Croak
Director Quality Operations, Bioscience Production

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

Rec 05/09/25
Avantor™



*V14921 to
V14938*

Material No.: 9077-02
Batch No.: 24G0262002
Manufactured Date: 2024-05-14
Expiration Date: 2027-05-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH ₃ OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Titration Acid (μeq/g)	≤ 0.3	0.3
Titration Base (μeq/g)	≤ 0.10	0.03
Water (by KF, coulometric)	≤ 0.08 %	< 0.01 %
Volatile Organic Trace Analysis - Below EPA 82608 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

Mark
Jamie Croak
Director Quality Operations, Bioscience Production

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

Rec 05/09/25
Avantor™



*V14921 to
V14938*

Material No.: 9077-02
Batch No.: 24G0262002
Manufactured Date: 2024-05-14
Expiration Date: 2027-05-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH ₃ OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Titration Acid (μeq/g)	≤ 0.3	0.3
Titration Base (μeq/g)	≤ 0.10	0.03
Water (by KF, coulometric)	≤ 0.08 %	< 0.01 %
Volatile Organic Trace Analysis - Below EPA 82608 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

Mark
Jamie Croak
Director Quality Operations, Bioscience Production

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

Rec 05/09/25
Avantor™



*V14921 to
V14938*

Material No.: 9077-02
Batch No.: 24G0262002
Manufactured Date: 2024-05-14
Expiration Date: 2027-05-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH ₃ OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Titration Acid (μeq/g)	≤ 0.3	0.3
Titration Base (μeq/g)	≤ 0.10	0.03
Water (by KF, coulometric)	≤ 0.08 %	< 0.01 %
Volatile Organic Trace Analysis - Below EPA 8260B CRQL	Conforms	Conforms

For Laboratory, Research, or Manufacturing Use
Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

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

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis



V14921 to
V14938

Material No.: 9077-02
Batch No.: 24G0262002
Manufactured Date: 2024-05-14
Expiration Date: 2027-05-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH ₃ OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Titration Acid (μeq/g)	≤ 0.3	0.3
Titration Base (μeq/g)	≤ 0.10	0.03
Water (by KF, coulometric)	≤ 0.08 %	< 0.01 %
Volatile Organic Trace Analysis - Below EPA 82608 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

Mark
Jamie Croak
Director Quality Operations, Bioscience Production



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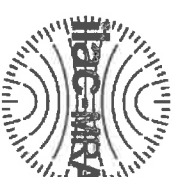
CERTIFIED REFERENCE MATERIAL

22 05113125
20 vial

Certificate of Analysis

chromatographic plus

✓ 149516 ✓ 14970



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.: A0222076

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 : August 31, 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	Methyl acetate	79-20-9	SHBR1889	99%	2,004.0 µg/mL	+/- 69.2674
2	Vinyl acetate	108-05-4	RD240423RSR	99%	2,010.0 µg/mL	+/- 69.4748
3	Ethyl acetate	141-78-6	SHBS3323	99%	2,019.3 µg/mL	+/- 69.7974
4	Isopropyl acetate	108-21-4	BCCG7069	99%	2,008.0 µg/mL	+/- 69.4057
5	Propyl acetate	109-60-4	P8XLN	99%	2,008.0 µg/mL	+/- 69.4057
6	Butyl acetate	123-86-4	SHBR2024	99%	2,008.0 µg/mL	+/- 69.4057
7	Amyl acetate	628-63-7	BCBT7442	99%	2,006.7 µg/mL	+/- 69.3596

* 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



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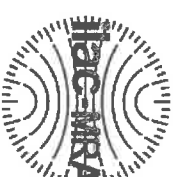
CERTIFIED REFERENCE MATERIAL

22 05113125
20 vial

Certificate of Analysis

chromatographic plus

✓ 149516 ✓ 14970



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.: A0222076

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 : August 31, 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	Methyl acetate	79-20-9	SHBR1889	99%	2,004.0 µg/mL	+/- 69.2674
2	Vinyl acetate	108-05-4	RD240423RSR	99%	2,010.0 µg/mL	+/- 69.4748
3	Ethyl acetate	141-78-6	SHBS3323	99%	2,019.3 µg/mL	+/- 69.7974
4	Isopropyl acetate	108-21-4	BCCG7069	99%	2,008.0 µg/mL	+/- 69.4057
5	Propyl acetate	109-60-4	P8XLN	99%	2,008.0 µg/mL	+/- 69.4057
6	Butyl acetate	123-86-4	SHBR2024	99%	2,008.0 µg/mL	+/- 69.4057
7	Amyl acetate	628-63-7	BCBT7442	99%	2,006.7 µg/mL	+/- 69.3596

* 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



Certified Reference Material CRM
Pae 11/25/25



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

CERTIFIED WEIGHT REPORT

Part Number: 91980

Lot Number: 111925

Description: Acrolein

Solvent(s): Lot#

Water 041725Q

5 vial

Formulated By: *P. Prashant Chauhan* 111925
DATE

Expiration Date: 12/19/25
Recommended Storage: Refrigerate (2°C to 8°C)
Nominal Concentration (µg/mL): 5000

NIST Test ID#: 6UTB

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

5E-05 Balance Uncertainty
0.001 Flask Uncertainty

Reviewed By: *Pedro L. Rentes* 111925
DATE

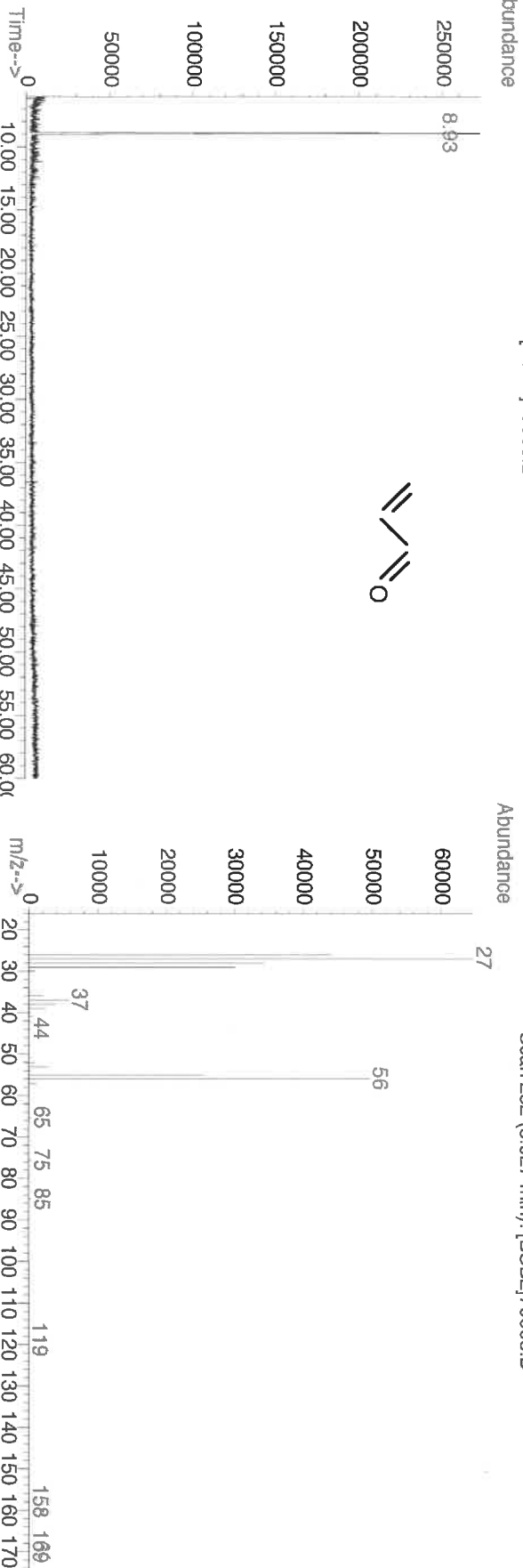
Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty (%)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
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1. Acrolein 5 103755V10F 5000 97 0.5 0.05166 0.05180 5013.7 52.6 107-02-8 0.1 ppm orl-rat 46mg/kg

Method: GC/MSD-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 Rentes, **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.

TIC: [BSB2]79005.D

Scan 232 (8.927 min): [BSB2]79005.D



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated by an ISO 17025 certified organization with weights traceable through NIST to the SI kilogram (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).
- Rev 1.0, 2/25/2025



Certified Reference Material CRM
Pae 11/25/25



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

CERTIFIED WEIGHT REPORT

Part Number:

91980
Lot Number: 111925
Description: Acrolein

Solvent(s):

Water
Lot# 041725Q

Expiration Date:

12/19/25

Recommended Storage:

Refrigerate (2°C to 8°C)

Nominal Concentration (µg/mL):

5000

NIST Test ID#:

6UTB

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

10.0 0.001

Balance Uncertainty
Flask Uncertainty

Formulated By:	<i>P. S. Chaudhary</i>	111925
Prashant Chaudhary		DATE
Reviewed By:	<i>Pedro L. Rentes</i>	111925
Pedro L. Rentes		DATE

SDS Information

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty (%)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Uncertainty (µg/mL)	CAS#	OSHA PEL (TWA)	LD50
1. Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05180	5013.7	52.6	107-02-8	0.1 ppm	orl-rat 46mg/kg

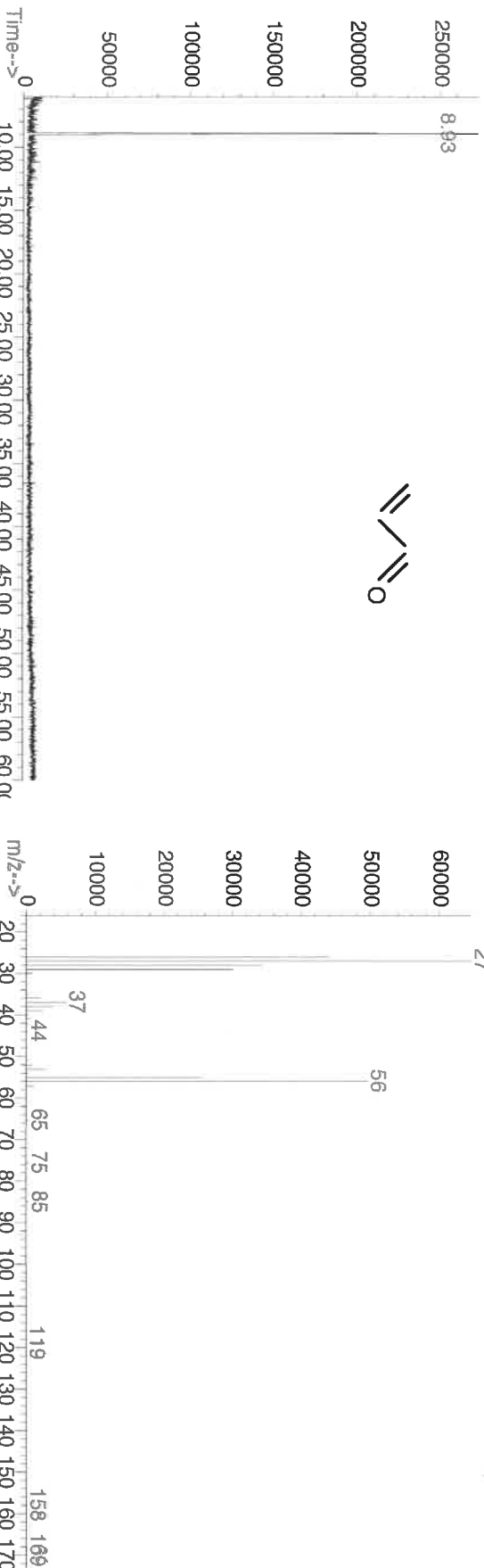
Method: GC/MSD-1, Detector: Mass Selective Detector (Scan mode), Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness), Oven Profile: Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2 = 200°C (Time 2 = 8.75 min.), Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C, Analyst: Pedro Rentes, **NOTE:** 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.

Abundance

TIC: [BSB2]79005.D

Abundance

Scan 232 (8.927 min): [BSB2]79005.D



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated by an ISO 17025 certified organization with weights traceable through NIST to the SI kilogram (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).
- Rev 1.0, 2/25/2025



Certified Reference Material CRM
Pae 11/25/25



CERTIFIED WEIGHT REPORT

Part Number:

91980

Lot Number:

111925

Description:

Acrolein

Solvent(s):

Water

041725Q

Expiration Date:

12/19/25

Recommended Storage:

Refrigerate (2°C to 8°C)

Nominal Concentration (µg/mL):

5000

NIST Test ID#:

6UTB

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

10.0

5E-05 Balance Uncertainty

0.001 Flask Uncertainty

V1512150
V15125

Formulated By:	<i>P. S. Chaudhary</i>	111925
Prashant Chaudhary		DATE
Reviewed By:	<i>Pedro L. Rentes</i>	111925
Pedro L. Rentes		DATE

SDS Information

Expanded (Solvent Safety Info. On Attached pg.)

CAS# OSHA PEL (TWA) LD50

1. Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05180	5013.7	52.6	107-02-8	0.1 ppm	ori-rat 46mg/kg
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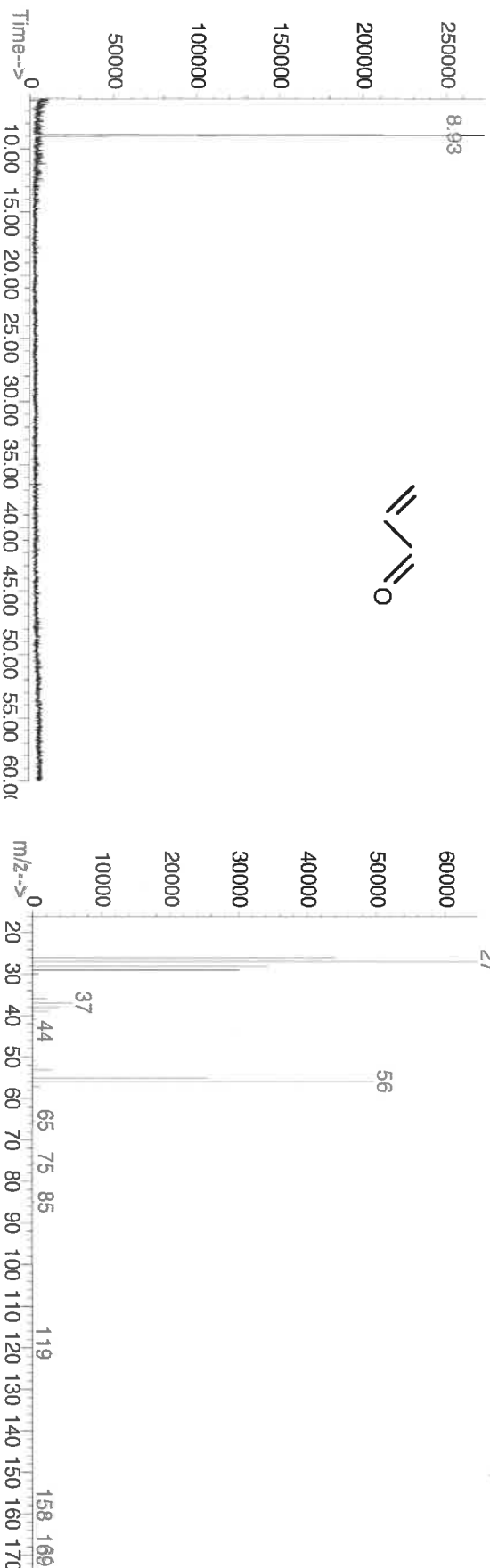
Method: GC/MSD-1, Detector: Mass Selective Detector (Scan mode), Column: Vocol (60m X 0.25mm ID X 1.5µm film thickness), Oven Profile: Temp. 1 = 35°C (Time 1 = 10min.), Temp. 2 = 200°C (Time 2 = 8.75 min.), Rate = 4°C/min., Injector Temp. = 200°C, Detector Temp. = 220°C, Analyst: Pedro Rentes, **NOTE:** 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.

Abundance

TIC: [BSB2]79005.D

Abundance

Scan 232 (8.927 min): [BSB2]79005.D



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated by an ISO 17025 certified organization with weights traceable through NIST to the SI kilogram (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).
- Rev 1.0, 2/25/2025



Certified Reference Material CRM
Pae 11/25/25



CERTIFIED WEIGHT REPORT

Part Number:

91980

Lot Number:

111925

Description:

Acrolein

Solvent(s):

Water

041725Q

Expiration Date:

12/19/25

Recommended Storage:

Refrigerate (2°C to 8°C)

Nominal Concentration (µg/mL):

5000

NIST Test ID#:

6UTB

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

10.0

5E-05 Balance Uncertainty

0.001 Flask Uncertainty

5 vial
V1512150
V15125

Formulated By:	<i>P. S. Chaudhary</i>	111925
Prashant Chaudhary	DATE	
Reviewed By:	<i>Pedro L. Rentes</i>	111925
Pedro L. Rentes	DATE	

SDS Information

(Solvent Safety Info. On Attached pg.)

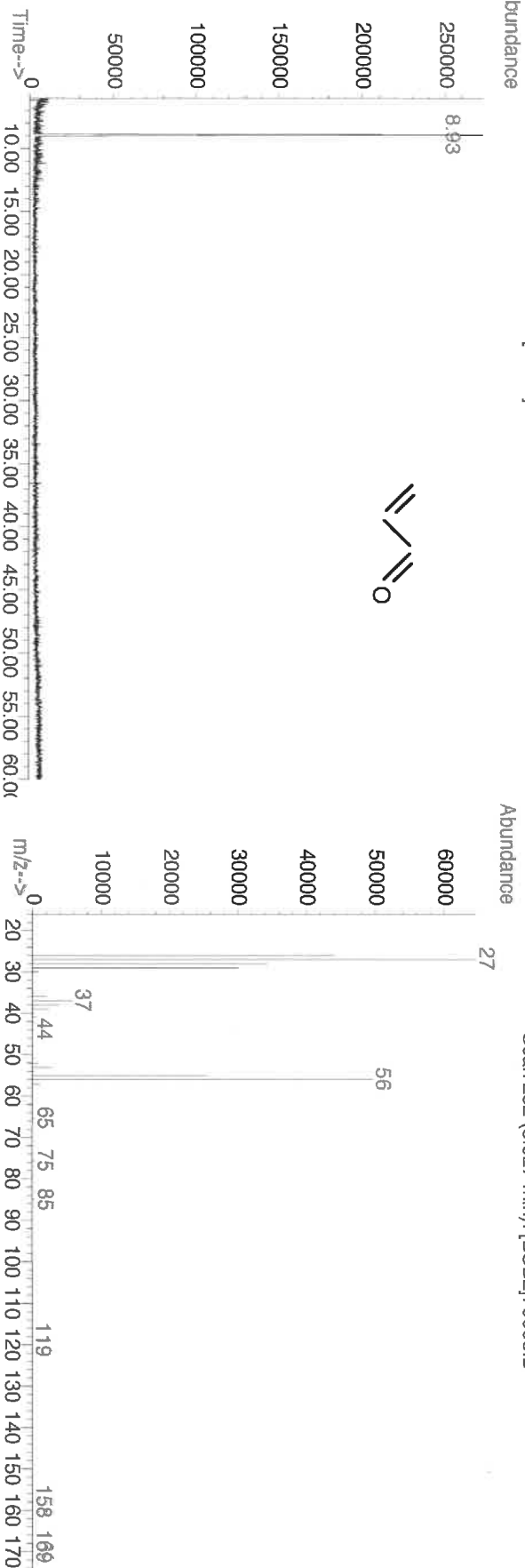
CAS# OSHA PEL (TWA) LD50

1. Acrolein	5	103755V10F	5000	97	0.5	0.05166	0.05180	5013.7	52.6	107-02-8	0.1 ppm	ori-rat 46mg/kg
-------------	---	------------	------	----	-----	---------	---------	--------	------	----------	---------	-----------------

Method: GC/MSD-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 Rentes. **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.

TIC: [BSB2]79005.D

Scan 232 (8.927 min): [BSB2]79005.D



• The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
• Standards are prepared gravimetrically using balances that are calibrated by an ISO 17025 certified organization with weights traceable through NIST to the SI kilogram (see above).
• Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
• All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
• Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).
Rev 1.0, 2/25/2025



SHIPPING DOCUMENTS



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

ALLIANCE PROJECT NO. Q3813
QUOTE NO. 2047331
COC Number

CLIENT INFORMATION

REPORT TO BE SENT TO:

COMPANY: Jacobs
ADDRESS: 412 Mt Kumbie Ave Suite #100
CITY: Morrisstown STATE: NJ ZIP: 07960
ATTENTION: John Vinfante
PHONE: (281) 414-1719 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: STC PTC
PROJECT NO.: D403376 LOCATION: Pineclan Junction
PROJECT MANAGER: Mary Murphy
e-mail: Mary.Murphy@Jacobs.com
PHONE: (261) 936-0586 FAX:

CLIENT BILLING INFORMATION

BILL TO: Mary Murphy PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

ANALYSIS

DATA TURNAROUND INFORMATION

FAX (RUSH) Standard DAYS*
HARDCOPY (DATA PACKAGE): DAYS*
EDD: DAYS*

*TO BE APPROVED BY CHEMTECH

STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS

DATA DELIVERABLE INFORMATION

☐ Level 1 (Results Only) ☐ Level 4 (QC + Full Raw Data)
☐ Level 2 (Results + QC) ☐ NJ Reduced ☐ US EPA CLP
☒ Level 3 (Results + QC) ☐ NYS ASP A ☐ NYS ASP B
+ Raw Data ☐ Other
☐ EDD FORMAT

*Site Specific WQS (12/8/25) - 1000
Trace WQS (12/8/25) - 1000
(SEAWALL) 1/4
1/4 Dioxane
(12/8/25) - SIM*

STANDARD HANDOUT FORM (NARSOUND FILE IS FOR BUSINESS)																		
2. EDDY CHINA																		
ALLIANCE SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE		SAMPLE COLLECTION		# OF BOTTLES	PRESERVATIVES									COMMENTS	
			COMP	GRAB	DATE	TIME		A/E	A/E	E								← Specify Preservatives A-HCl D-NaOH B-HNO3 E-ICE C-H2SO4 F-OTHER
								1	2	3	4	5	6	7	8	9		
1.	BR-04DR-451-120825	GW		X	12/8/25	1205	5	X		X								
2.	BR-04DR-451-120825-SIM	GW		X	12/8/25	1205	3		X									
3.	EB01-120825	DI		X	12/8/25	1500	8	X	X	X								
4.	TB01-120825	DI		X	12/8/25	0800	2	X	X									
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

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

RELINQUISHED BY SAMPLER: 1. <u>[Signature]</u>	DATE/TIME: <u>12-8-25</u>	RECEIVED BY: 1. <u>[Signature]</u>	12-8-25	Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP <u>2.2</u> °C
RELINQUISHED BY SAMPLER: 2. <u>[Signature]</u>	DATE/TIME:	RECEIVED BY: 2. <u>[Signature]</u>		Comments: <u>See work order for list of site specific WQS</u>
RELINQUISHED BY SAMPLER: 3. <u>[Signature]</u>	DATE/TIME: <u>12-8-25</u>	RECEIVED BY: 3. <u>[Signature]</u>		

Page 1 of 1

CLIENT: ☐ Hand Delivered ☐ Other

Shipment Complete ☐ YES ☐ NO

Laboratory Certification

Certified By	License No.
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255425
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	TX-C25-00189
Virginia	460312

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q3813-	JACO05	Order Date : 12/8/2025 4:06:00 PM	Project Mgr :
Client Name : JACOBS Engineering Grou		Project Name : Former Schlumberger STC	Report Type : Level 4
Client Contact : John Ynfante		Receive DateTime : 12/8/2025 5:05:00 PM	EDD Type : CH2MHILL
Invoice Name : JACOBS Engineering Grou		Purchase Order :	Hard Copy Date :
Invoice Contact : John Ynfante			Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
Q3813-01	BR-04DR-451-120825	Water	12/08/2025	12:05					
					VOCMS Group3		8260-Low	10 Bus. Days	
Q3813-02	BR-04DR-451-120825-SIM	Water	12/08/2025	12:05					
					VOC-SIM		SFAM_VOCSIM	10 Bus. Days	
Q3813-03	EB01-120825	Water	12/08/2025	15:00					
					VOC-SIM		SFAM_VOCSIM	10 Bus. Days	
					VOCMS Group3		8260-Low	10 Bus. Days	
Q3813-04	TB01-120825	Water	12/08/2025	08:00					
					VOC-SIM		SFAM_VOCSIM	10 Bus. Days	
					VOCMS Group3		8260-Low	10 Bus. Days	
Q3813-05	VHBLK001	Water	12/08/2025	12:05					
					VOC-SIM		SFAM_VOCSIM	10 Bus. Days	

LOGIN REPORT/SAMPLE TRANSFER

Order ID : Q3813 JACO05

Order Date : 12/8/2025 4:06:00 PM

Project Mgr :

Client Name : JACOBS Engineering Grou

Project Name : Former Schlumberger STC

Report Type : Level 4

Client Contact : John Ynfante

Receive DateTime : 12/8/2025 5:05:00 PM

EDD Type : CH2MHILL

Invoice Name : JACOBS Engineering Grou

Purchase Order :

Hard Copy Date :

Invoice Contact : John Ynfante

Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
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Relinquished By :

Date / Time :

Received By :

Date / Time :

Storage Area : VOA Refridgerator Room