

Instrument ID: MSVOA_L

Daily Analysis Runlog For Sequence/QC Batch ID # VL041725

Review By	Semsettin Yesilyurt	Review On	4/18/2025 4:23:02 PM
Supervise By	Maresh Dadoda	Supervise On	4/18/2025 10:46:12 PM
SubDirectory	VL041725	HP Acquire Method	TO15AIR.M
		HP Processing Method	VL041725AIR.M

STD. NAME	STD REF.#
Tune/Reschk	AP2590
Initial Calibration Stds	AP2598,AP2599,AP2600
CCC	AP2598
Internal Standard/PEM	AP2590
ICV/I.BLK	AP2601
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VL042348.D	17 Apr 2025 07:50		SY/MD	Ok
2	VSTDICCC010	VSTDICCC010	VL042349.D	17 Apr 2025 09:44		SY/MD	Ok,M
3	VSTDICC002	VSTDICC002	VL042350.D	17 Apr 2025 10:17		SY/MD	Ok,M
4	VSTDICC001	VSTDICC001	VL042351.D	17 Apr 2025 10:48		SY/MD	Ok,M
5	VSTDICC0.5	VSTDICC0.5	VL042352.D	17 Apr 2025 11:19		SY/MD	Ok,M
6	VSTDICC0.1	VSTDICC0.1	VL042353.D	17 Apr 2025 11:50		SY/MD	Ok,M
7	VSTDICC0.03	VSTDICC0.03	VL042354.D	17 Apr 2025 12:22		SY/MD	Ok,M
8	VSTDICC015	VSTDICC015	VL042355.D	17 Apr 2025 12:54		SY/MD	Ok,M
9	VSTDICV010	ICVVL041725	VL042356.D	17 Apr 2025 13:43		SY/MD	Ok,M
10	VL0417ABL01	VL0417ABL01	VL042357.D	17 Apr 2025 14:23		SY/MD	Ok
11	VL0417ABS01	VL0417ABS01	VL042358.D	17 Apr 2025 15:39		SY/MD	Ok,M
12	Q1665-15	IA-B14-1-3242025	VL042359.D	17 Apr 2025 16:12	Need 10X	SY/MD	Dilution
13	Q1665-15DL	IA-B14-1-3242025DL	VL042360.D	17 Apr 2025 16:44		SY/MD	Ok,M
14	Q1668-01	IA-B1-4-3252025	VL042361.D	17 Apr 2025 17:17	Need 4X	SY/MD	Dilution
15	Q1668-01DUP	IA-B1-4-3252025DUP	VL042362.D	17 Apr 2025 17:51		SY/MD	Ok,M
16	Q1668-03	IA-B1-3-3252025	VL042363.D	17 Apr 2025 18:24	Need 4X	SY/MD	Dilution
17	Q1668-04	IA-B1-1-3252025	VL042364.D	17 Apr 2025 18:58		SY/MD	Ok,M
18	Q1668-02	IA-B1-2-3252025	VL042365.D	17 Apr 2025 19:31		SY/MD	Ok,M

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Review By	Semsettin Yesilyurt	Review On	4/18/2025 4:23:02 PM		
Supervise By	Mahesh Dadoda	Supervise On	4/18/2025 10:46:12 PM		
SubDirectory	VL041725	HP Acquire Method	TO15AIR.M	HP Processing Method	VL041725AIR.M
STD. NAME	STD REF.#				
Tune/Reschk	AP2590				
Initial Calibration Stds	AP2598,AP2599,AP2600				
CCC	AP2598				
Internal Standard/PEM	AP2590				
ICV/I.BLK	AP2601				
Surrogate Standard					
MS/MSD Standard					
LCS Standard					

19	Q1726-01	IA-DUP-3-03312025	VL042366.D	17 Apr 2025 20:05	Need 20X	SY/MD	Dilution
20	Q1726-02	IA-B2-6-03312025	VL042367.D	17 Apr 2025 20:38	Need 20X	SY/MD	Dilution
21	Q1726-03	IA-B2-2-03312025	VL042368.D	17 Apr 2025 21:12	Need 20X	SY/MD	Dilution
22	Q1726-04	IA-B2-5-03312025	VL042369.D	17 Apr 2025 21:45	Need 20X	SY/MD	Dilution
23	Q1726-05	IA-B2-1-03312025	VL042370.D	17 Apr 2025 22:19	Need 20X	SY/MD	Dilution
24	Q1726-06	IA-B2-3-03312025	VL042371.D	17 Apr 2025 22:52	Need 20X	SY/MD	Dilution
25	Q1726-07	IA-B2-4-03312025	VL042372.D	17 Apr 2025 23:26	Need 20X	SY/MD	Dilution
26	Q1726-07DL	IA-B2-4-03312025DL	VL042373.D	17 Apr 2025 23:57	Need 40X	SY/MD	Dilution
27	Q1668-01DL	IA-B1-4-3252025DL	VL042374.D	18 Apr 2025 00:28		SY/MD	Ok,M
28	Q1668-03DL	IA-B1-3-3252025DL	VL042375.D	18 Apr 2025 00:59		SY/MD	Ok,M
29	Q1726-01DL	IA-DUP-3-03312025DL	VL042376.D	18 Apr 2025 01:30	Need 40X	SY/MD	Dilution
30	Q1726-02DL	IA-B2-6-03312025DL	VL042377.D	18 Apr 2025 02:01	Need 40X	SY/MD	Dilution
31	Q1726-03DL	IA-B2-2-03312025DL	VL042378.D	18 Apr 2025 02:32	Need 100X	SY/MD	Dilution
32	Q1726-04DL	IA-B2-5-03312025DL	VL042379.D	18 Apr 2025 03:03	Need 40X	SY/MD	Dilution
33	Q1726-05DL	IA-B2-1-03312025DL	VL042380.D	18 Apr 2025 03:34	Need 100X	SY/MD	Dilution
34	Q1726-06DL	IA-B2-3-03312025DL	VL042381.D	18 Apr 2025 04:05	Need 100X	SY/MD	Dilution

M : Manual Integration

Instrument ID: MSVOA_L

Daily Analysis Runlog For Sequence/QC Batch ID # VL042925

Review By	Semsettin Yesilyurt	Review On	4/30/2025 2:23:53 PM
Supervise By	Maresh Dadoda	Supervise On	4/30/2025 2:28:33 PM
SubDirectory	VL042925	HP Acquire Method	TO15AIR.M
		HP Processing Method	VL041725AIR.M

STD. NAME	STD REF.#
Tune/Reschk	AP2602
Initial Calibration Stds	AP2598,AP2599,AP2600
CCC	AP2598
Internal Standard/PEM	AP2602
ICV/I.BLK	AP2601
Surrogate Standard	
MS/MSD Standard	
LCS Standard	

Sr#	SampleID	ClientID	Data File Name	Date-Time	Comment	Operator	Status
1	BFB	BFB	VL042435.D	29 Apr 2025 07:55		SY/MD	Ok
2	VSTDCCC010	VSTDCCC010	VL042436.D	29 Apr 2025 08:39		SY/MD	Ok,M
3	VL0429ABL01	VL0429ABL01	VL042437.D	29 Apr 2025 09:25		SY/MD	Ok
4	VL0429ABS01	VL0429ABS01	VL042438.D	29 Apr 2025 10:08		SY/MD	Ok,M
5	Q1880-04	EBR-P08-SC-SS01-202	VL042439.D	29 Apr 2025 10:59		SY/MD	Ok,M
6	Q1880-05DL	EBR-SC-SS-DUP01-202	VL042440.D	29 Apr 2025 11:30	Need Straight Run	SY/MD	Not Ok
7	Q1880-07DL	EBR-P16-SC-SS01-202	VL042441.D	29 Apr 2025 12:02		SY/MD	Ok,M
8	Q1880-11DL	EBR-P02-SC-SS01-202	VL042442.D	29 Apr 2025 12:33	Need Straight Run	SY/MD	Not Ok
9	Q1908-01	B-1	VL042443.D	29 Apr 2025 13:11		SY/MD	Ok,M
10	Q1908-02	B-2	VL042444.D	29 Apr 2025 13:45	rerun confirmation,4X	SY/MD	Not Ok
11	Q1908-03	B-3	VL042445.D	29 Apr 2025 14:19		SY/MD	Ok,M
12	Q1908-03DL	B-3DL	VL042446.D	29 Apr 2025 14:51	Not Required	SY/MD	Not Ok
13	Q1880-05	EBR-SC-SS-DUP01-202	VL042447.D	29 Apr 2025 15:24		SY/MD	Ok,M
14	Q1880-07	EBR-P16-SC-SS01-202	VL042448.D	29 Apr 2025 15:58	Need 10X	SY/MD	Dilution
15	Q1880-11	EBR-P02-SC-SS01-202	VL042449.D	29 Apr 2025 16:32		SY/MD	Ok,M
16	Q1880-01DL	EBR-P11-SC-SS01-202	VL042450.D	29 Apr 2025 17:04		SY/MD	Ok
17	Q1665-07DL	IA-DUP-1-3242025DL	VL042451.D	29 Apr 2025 17:37		SY/MD	Ok,M
18	Q1665-19DL	IA-B2-2-3242025DL	VL042452.D	29 Apr 2025 18:09		SY/MD	Ok,M

Instrument ID: MSVOA_L

Daily Analysis Runlog For Sequence/QC Batch ID # VL042925

Review By	Semsettin Yesilyurt	Review On	4/30/2025 2:23:53 PM		
Supervise By	Mahesh Dadoda	Supervise On	4/30/2025 2:28:33 PM		
SubDirectory	VL042925	HP Acquire Method	TO15AIR.M	HP Processing Method	VL041725AIR.M
STD. NAME	STD REF.#				
Tune/Reschk	AP2602				
Initial Calibration Stds	AP2598,AP2599,AP2600				
CCC	AP2598				
Internal Standard/PEM	AP2602				
ICV/I.BLK	AP2601				
Surrogate Standard					
MS/MSD Standard					
LCS Standard					

19	Q1665-21DL	IA-B2-1-3242025DL	VL042453.D	29 Apr 2025 18:42		SY/MD	Ok,M
20	Q1908-01DUP	B-1DUP	VL042454.D	29 Apr 2025 19:57		SY/MD	Ok,M
21	Q1908-02DL	B-2DL	VL042455.D	29 Apr 2025 20:30	not required ,not match	SY/MD	Not Ok
22	Q1908-02	B-2	VL042456.D	29 Apr 2025 21:58		SY/MD	Ok,M

M : Manual Integration

Prep Standard - Chemical Standard Summary

Order ID : Q1908

Test : TO-15

Prepbatch ID :

Sequence ID/Qc Batch ID: vI042925,

Standard ID :

AP2598,AP2599,AP2600,AP2601,AP2602,

Chemical ID :

A1117,A1135,A1136,A1137,

Air 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>
2396	TO-15 15 PPBV CAL MIX	AP2598	04/16/2025	05/17/2025	Semsettin Yesilyurt	None	None	Maresh Dadoda
								04/18/2025

FROM 1455.00000SCCM of A1117 + 45.00000SCCM of A1136 = Final Quantity: 30.000 psi

<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>
2397	TO-15 -2 PPBV CAL.MIX	AP2599	04/16/2025	05/17/2025	Semsettin Yesilyurt	None	None	Maresh Dadoda
								04/18/2025

FROM 26.00000psi of A1117 + 4.00000psi of AP2598 = Final Quantity: 30.000 psi

Air 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>
2668	0.5 PPBV CAL.MIX	AP2600	04/16/2025	05/17/2025	Semsettin Yesilyurt	None	None	Maresh Dadoda
04/18/2025								

FROM 29.00000psi of A1117 + 1.00000psi of AP2598 = Final Quantity: 30.000 psi

<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>
2396	TO-15 15 PPBV CAL MIX	AP2601	04/16/2025	05/17/2025	Semsettin Yesilyurt	None	None	Maresh Dadoda
04/18/2025								

FROM 1455.00000SCCM of A1117 + 45.00000SCCM of A1137 = Final Quantity: 30.000 psi



<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>
47	Internal Standard/Surrogate Mix-80 ppbv	AP2602	04/18/2025	05/18/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 04/22/2025
<u>FROM</u> 2.40000psi of A1135 + 27.60000psi of A1117 = Final Quantity: 30.000 psi								

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
AIR LIQUIDE	365A-49 / AIR, Compressed	90402401186-01	04/01/2026	04/01/2022 / apatel	04/01/2022 / SAM	A1117

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CUSTOMGAS Solutions	TB500009-110 / TO-15 Internal Standard/Surrogate Standard	BC275465	07/16/2025	07/22/2024 / SAM	07/22/2024 / SAM	A1135

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CUSTOMGAS Solutions	TO15-80-6R-07092 / TO-15 Modified (80 comp) in Nitrogen (addition of 2-methylnaphthalene)	040424-003A	07/16/2025	07/25/2024 / SAM	07/22/2024 / SAM	A1136

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CUSTOMGAS Solutions	TO15-80-6R-07092 / TO-15 Modified (80 comp) in Nitrogen (addition of 2-methylnaphthalene)	040424-003B	07/16/2025	07/25/2024 / SAM	07/22/2024 / SAM	A1137

CUSTOMGAS SOLUTIONS



1750 East Club Boulevard

Durham, NC 27704

Phone: (919) 220-2570

Fax: (919) 220-4540

Certificate of Analysis

Customer:

Chem Tech
284 Sheffield Street
Mountainside, NJ 07092

Tel: (908) 789-8900

Cylinder Number: BC275465
Cylinder Size/CGA: 170/180SS
Fill Pressure: 1815 PSIA
Gas Volume: ~170 liters
Date of Mfg: 07/16/2024
Expiration Date: 07/16/2025

Ship To : Chem Tech
284 Sheffield Street
Mountainside, NJ 07092

Customer Number	Ship VIA	Job No.	Customer PO	Mixture Type
00107092NJ	Best Way	040424-003	240404-10	Gravimetric

Component	Nominal Concentration	Actual Concentration*	Mixture Type
Bromochloromethane	1 ppm	1.014 ppm +/- 0.02 ppm	Gravimetric Master Gas
4-Bromofluorobenzene	1 ppm	1.008 ppm +/- 0.02 ppm	
Chlorobenzene-D5	1 ppm	0.993 ppm +/- 0.02 ppm	
1,4-Difluorobenzene	1 ppm	0.979 ppm +/- 0.02 ppm	
Nitrogen	balance	balance	

NOTES: Blend Tolerance: +/- 10 %

Analytical Tolerance: +/- 5 %

Traceability: NIST by weight set. NIST Traceability No MT001810.
Internal Standards by analysis

Reactive Mixtures: Analyzed twice with required agreement between analyses of 2%.
Required wait time between analyses of >7 days.

Caution: Do not use below 150 PSIG.

Analyst Name: Joseph A. Ernst

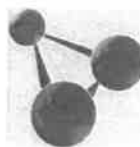
QA Signature: 

Signature: 

Date: 07/16/2024

*Every effort has been made to establish the actual concentration of the components using master gas blending technology however, Custom Gas Solutions shall have no liability in excess of the established charge for this material.

CUSTOMGAS SOLUTIONS



1750 East Club Boulevard
Durham, NC 27704
Phone: (919) 220-2570
Fax: (919) 220-4540

Certificate of Analysis

Customer:

ChemTech
284 Sheffield Street
Mountainside, NJ 07092

Cylinder Number: BC917782
Cylinder Size/CGA: 170/180
Fill Pressure: 1815 PSIA
Gas Volume: 110 liters
Date of Mfg: 07/16/2024
Expiration Date: 07/16/2025
Lot Number: 040424-003A

Ship To : Chemtech
284 Sheffield Street
Mountainside, NJ 07092

Customer Number	Ship VIA	Job No.	Customer PO	Mixture Type
00107092NJ	Best Way	040424-003	240404-10	Gravimetric

Component	Nominal Concentration	Actual Concentration*	Mixture Type
Acetone	500 ppb	517 ppb +/- 50 ppb	Gravimetric Master Gas
Acetonitrile	500 ppb	534 ppb +/- 50 ppb	
Acrolein	500 ppb	545 ppb +/- 50 ppb	
Acrylonitrile	500 ppb	539 ppb +/- 50 ppb	-
Allyl chloride	500 ppb	509 ppb +/- 50 ppb	
Benzene	500 ppb	483 ppb +/- 50 ppb	
Benzyl Chloride	500 ppb	489 ppb +/- 50 ppb	
Bromodichloromethane	500 ppb	509 ppb +/- 50 ppb	
Bromoform	500 ppb	495 ppb +/- 50 ppb	
1,3-Butadiene	500 ppb	504 ppb +/- 50 ppb	
tert-Butyl alcohol	500 ppb	532 ppb +/- 50 ppb	
n-Butyl benzene	500 ppb	529 ppb +/- 50 ppb	
sec-Butyl benzene	500 ppb	529 ppb +/- 50 ppb	
tert-Butyl benzene	500 ppb	529 ppb +/- 50 ppb	
Carbon disulfide	500 ppb	485 ppb +/- 50 ppb	
Carbon tetrachloride	500 ppb	506 ppb +/- 50 ppb	
Chlorobenzene	500 ppb	491 ppb +/- 50 ppb	
Chlorodibromomethane	500 ppb	488 ppb +/- 50 ppb	
Chloroform	500 ppb	492 ppb +/- 50 ppb	
2-Chlorotoluene	500 ppb	532 ppb +/- 50 ppb	
Cyclohexane	500 ppb	482 ppb +/- 50 ppb	
1,2-Dibromoethane	500 ppb	491 ppb +/- 50 ppb	
1,2-Dichlorobenzene	500 ppb	510 ppb +/- 50 ppb	
1,3-Dichlorobenzene	500 ppb	489 ppb +/- 50 ppb	
1,4-Dichlorobenzene	500 ppb	490 ppb +/- 50 ppb	
Dichlorodifluoromethane (R12)	500 ppb	508 ppb +/- 50 ppb	

1,1-Dichloroethane	500 ppb	492 ppb +/- 50 ppb	
1,2-Dichloroethane	500 ppb	497 ppb +/- 50 ppb	
1,1-Dichloroethylene	500 ppb	493 ppb +/- 50 ppb	
cis 1,2-Dichloroethylene	500 ppb	488 ppb +/- 50 ppb	
trans 1,2-Dichloroethylene	500 ppb	488 ppb +/- 50 ppb	
1,2-Dichloropropane	500 ppb	490 ppb +/- 50 ppb	
cis 1,3-Dichloropropylene	500 ppb	516 ppb +/- 50 ppb	
trans 1,3-Dichloropropylene	500 ppb	466 ppb +/- 50 ppb	
1,2-Dichlorotetrafluoroethane	500 ppb	505 ppb +/- 50 ppb	
1,4-Dioxane	500 ppb	484 ppb +/- 50 ppb	
Ethyl acetate	500 ppb	486 ppb +/- 50 ppb	
Ethyl Alcohol	500 ppb	555 ppb +/- 50 ppb	
Ethyl benzene	500 ppb	497 ppb +/- 50 ppb	
Ethyl Chloride	500 ppb	506 ppb +/- 50 ppb	
4-Ethyltoluene	500 ppb	485 ppb +/- 50 ppb	
n-Heptane	500 ppb	487 ppb +/- 50 ppb	
Hexachloro-1,3-butadiene	500 ppb	489 ppb +/- 50 ppb	
2-Hexanone	500 ppb	490 ppb +/- 50 ppb	
n-Hexane	500 ppb	485 ppb +/- 50 ppb	
Isopropyl alcohol	500 ppb	511 ppb +/- 50 ppb	
Isopropyl benzene	500 ppb	527 ppb +/- 50 ppb	
p-Isopropyl toluene	500 ppb	534 ppb +/- 50 ppb	
Methyl Bromide	500 ppb	505 ppb +/- 50 ppb	
Methyl Chloride	500 ppb	509 ppb +/- 50 ppb	
Methyl ethyl ketone	500 ppb	496 ppb +/- 50 ppb	
Methyl isobutyl ketone	500 ppb	493 ppb +/- 50 ppb	
Methyl methacrylate	500 ppb	532 ppb +/- 50 ppb	
Methyl tertiary butyl ether	500 ppb	483 ppb +/- 50 ppb	
Methylene chloride	500 ppb	498 ppb +/- 50 ppb	
Naphthalene	500 ppb	542 ppb +/- 50 ppb	
n-Propylbenzene	500 ppb	529 ppb +/- 50 ppb	
Propylene	500 ppb	508 ppb +/- 50 ppb	
Styrene	500 ppb	485 ppb +/- 50 ppb	
1,1,1,2-Tetrachloroethane	500 ppb	483 ppb +/- 50 ppb	
1,1,2,2-Tetrachloroethane	500 ppb	534 ppb +/- 50 ppb	
Tetrachloroethylene	500 ppb	487 ppb +/- 50 ppb	
Tetrahydrofuran	500 ppb	535 ppb +/- 50 ppb	
Toluene	500 ppb	491 ppb +/- 50 ppb	
1,2,4-Trichlorobenzene	500 ppb	494 ppb +/- 50 ppb	
1,1,1-Trichloroethane	500 ppb	494 ppb +/- 50 ppb	
1,1,2-Trichloroethane	500 ppb	494 ppb +/- 50 ppb	
Trichloroethylene	500 ppb	488 ppb +/- 50 ppb	
Trichlorofluoromethane	500 ppb	508 ppb +/- 50 ppb	
1,1,2-Trichlorotrifluoroethane	500 ppb	495 ppb +/- 50 ppb	
1,2,4-Trimethylbenzene	500 ppb	494 ppb +/- 50 ppb	
1,3,5-Trimethylbenzene	500 ppb	498 ppb +/- 50 ppb	
2,2,4-Trimethylpentane	500 ppb	489 ppb +/- 50 ppb	
Vinyl acetate	500 ppb	499 ppb +/- 50 ppb	
Vinyl bromide	500 ppb	505 ppb +/- 50 ppb	
Vinyl chloride	500 ppb	507 ppb +/- 50 ppb	
m-Xylene	500 ppb	492 ppb +/- 50 ppb	
o-Xylene	500 ppb	480 ppb +/- 50 ppb	
p-Xylene	500 ppb	486 ppb +/- 50 ppb	
2-Methyl Naphthalene	500 ppb	498 ppb +/- 50 ppb	
R-22	500 ppb	590 ppb +/- 50 ppb	
Nitrogen	balance	balance	

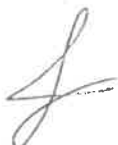
NOTES: Blend Tolerance: +/- 20 %
Analytical Tolerance: +/- 10 %
Traceability: NIST by weight set. NIST Traceability No MT001810.
Internal Standards by analysis
Reactive Mixtures: Analyzed twice with required agreement between analyses of 2%.
Required wait time between analyses of >7 days.
Caution: Do not use below 150 PSIG.

Analyst Name: Joseph A. Ernst

QA Signature: 

Signature:

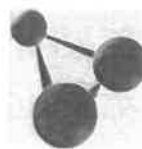
Date: 07/16/2024



*Every effort has been made to establish the actual concentration of the components using master gas blending technology however, Custom Gas Solutions shall have no liability in excess of the established charge for this material.

CUSTOMGAS

SOLUTIONS



1750 East Club Boulevard
Durham, NC 27704
Phone: (919) 220-2570
Fax: (919) 220-4540

Certificate of Analysis

Customer:

ChemTech
284 Sheffield Street
Mountainside, NJ 07092

Cylinder Number: BC169552
Cylinder Size/CGA: 170/180
Fill Pressure: 1815 PSIA
Gas Volume: 110 liters
Date of Mfg: 07/16/2024
Expiration Date: 07/16/2025
Lot Number: 040424-003B

Ship To : Chemtech
284 Sheffield Street
Mountainside, NJ 07092

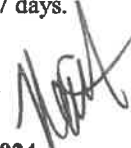
Customer Number	Ship VIA	Job No.	Customer PO	Mixture Type
00107092NJ	Best Way	040424-003	240404-10	Gravimetric

Component	Nominal Concentration	Actual Concentration*	Mixture Type
Acetone	500 ppb	502 ppb +/- 50 ppb	Gravimetric Master Gas
Acetonitrile	500 ppb	530 ppb +/- 50 ppb	
Acrolein	500 ppb	540 ppb +/- 50 ppb	
Acrylonitrile	500 ppb	535 ppb +/- 50 ppb	
Allyl chloride	500 ppb	494 ppb +/- 50 ppb	
Benzene	500 ppb	470 ppb +/- 50 ppb	
Benzyl Chloride	500 ppb	476 ppb +/- 50 ppb	
Bromodichloromethane	500 ppb	495 ppb +/- 50 ppb	
Bromoform	500 ppb	481 ppb +/- 50 ppb	
1,3-Butadiene	500 ppb	490 ppb +/- 50 ppb	
tert-Butyl alcohol	500 ppb	527 ppb +/- 50 ppb	
n-Butyl benzene	500 ppb	525 ppb +/- 50 ppb	
sec-Butyl benzene	500 ppb	525 ppb +/- 50 ppb	
tert-Butyl benzene	500 ppb	525 ppb +/- 50 ppb	
Carbon disulfide	500 ppb	471 ppb +/- 50 ppb	
Carbon tetrachloride	500 ppb	492 ppb +/- 50 ppb	
Chlorobenzene	500 ppb	478 ppb +/- 50 ppb	
Chlorodibromomethane	500 ppb	474 ppb +/- 50 ppb	
Chloroform	500 ppb	478 ppb +/- 50 ppb	
2-Chlorotoluene	500 ppb	527 ppb +/- 50 ppb	
Cyclohexane	500 ppb	469 ppb +/- 50 ppb	
1,2-Dibromoethane	500 ppb	477 ppb +/- 50 ppb	
1,2-Dichlorobenzene	500 ppb	495 ppb +/- 50 ppb	
1,3-Dichlorobenzene	500 ppb	475 ppb +/- 50 ppb	
1,4-Dichlorobenzene	500 ppb	476 ppb +/- 50 ppb	
Dichlorodifluoromethane (R12)	500 ppb	494 ppb +/- 50 ppb	

1,1-Dichloroethane	500 ppb	478 ppb +/- 50 ppb	
1,2-Dichloroethane	500 ppb	483 ppb +/- 50 ppb	
1,1-Dichloroethylene	500 ppb	479 ppb +/- 50 ppb	
cis 1,2-Dichloroethylene	500 ppb	475 ppb +/- 50 ppb	
trans 1,2-Dichloroethylene	500 ppb	475 ppb +/- 50 ppb	
1,2-Dichloropropane	500 ppb	476 ppb +/- 50 ppb	
cis 1,3-Dichloropropylene	500 ppb	501 ppb +/- 50 ppb	
trans 1,3-Dichloropropylene	500 ppb	466 ppb +/- 50 ppb	
1,2-Dichlorotetrafluoroethane	500 ppb	491 ppb +/- 50 ppb	
1,4-Dioxane	500 ppb	470 ppb +/- 50 ppb	
Ethyl acetate	500 ppb	472 ppb +/- 50 ppb	
Ethyl Alcohol	500 ppb	550 ppb +/- 50 ppb	
Ethyl benzene	500 ppb	483 ppb +/- 50 ppb	
Ethyl Chloride	500 ppb	492 ppb +/- 50 ppb	
4-Ethyltoluene	500 ppb	472 ppb +/- 50 ppb	
n-Heptane	500 ppb	473 ppb +/- 50 ppb	
Hexachloro-1,3-butadiene	500 ppb	475 ppb +/- 50 ppb	
2-Hexanone	500 ppb	477 ppb +/- 50 ppb	
n-Hexane	500 ppb	471 ppb +/- 50 ppb	
Isopropyl alcohol	500 ppb	497 ppb +/- 50 ppb	
Isopropyl benzene	500 ppb	522 ppb +/- 50 ppb	
p-Isopropyl toluene	500 ppb	530 ppb +/- 50 ppb	
Methyl Bromide	500 ppb	491 ppb +/- 50 ppb	
Methyl Chloride	500 ppb	494 ppb +/- 50 ppb	
Methyl ethyl ketone	500 ppb	482 ppb +/- 50 ppb	
Methyl isobutyl ketone	500 ppb	479 ppb +/- 50 ppb	
Methyl methacrylate	500 ppb	527 ppb +/- 50 ppb	
Methyl tertiary butyl ether	500 ppb	470 ppb +/- 50 ppb	
Methylene chloride	500 ppb	484 ppb +/- 50 ppb	
Naphthalene	500 ppb	537 ppb +/- 50 ppb	
n-Propylbenzene	500 ppb	525 ppb +/- 50 ppb	
Propylene	500 ppb	494 ppb +/- 50 ppb	
Styrene	500 ppb	472 ppb +/- 50 ppb	
1,1,1,2-Tetrachloroethane	500 ppb	530 ppb +/- 50 ppb	
1,1,2,2-Tetrachloroethane	500 ppb	470 ppb +/- 50 ppb	
Tetrachloroethylene	500 ppb	473 ppb +/- 50 ppb	
Tetrahydrofuran	500 ppb	520 ppb +/- 50 ppb	
Toluene	500 ppb	477 ppb +/- 50 ppb	
1,2,4-Trichlorobenzene	500 ppb	480 ppb +/- 50 ppb	
1,1,1-Trichloroethane	500 ppb	480 ppb +/- 50 ppb	
1,1,2-Trichloroethane	500 ppb	481 ppb +/- 50 ppb	
Trichloroethylene	500 ppb	474 ppb +/- 50 ppb	
Trichlorofluoromethane	500 ppb	494 ppb +/- 50 ppb	
1,1,2-Trichlorotrifluoroethane	500 ppb	481 ppb +/- 50 ppb	
1,2,4-Trimethylbenzene	500 ppb	480 ppb +/- 50 ppb	
1,3,5-Trimethylbenzene	500 ppb	484 ppb +/- 50 ppb	
2,2,4-Trimethylpentane	500 ppb	475 ppb +/- 50 ppb	
Vinyl acetate	500 ppb	485 ppb +/- 50 ppb	
Vinyl bromide	500 ppb	491 ppb +/- 50 ppb	
Vinyl chloride	500 ppb	493 ppb +/- 50 ppb	
m-Xylene	500 ppb	479 ppb +/- 50 ppb	
o-Xylene	500 ppb	466 ppb +/- 50 ppb	
p-Xylene	500 ppb	473 ppb +/- 50 ppb	
2-Methyl Naphthalene	500 ppb	497 ppb +/- 50 ppb	
R-22	500 ppb	589 ppb +/- 50 ppb	
Nitrogen	balance	balance	

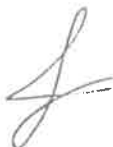
NOTES: Blend Tolerance: +/- 20 %
Analytical Tolerance: +/- 10 %
Traceability: NIST by weight set. NIST Traceability No MT001810.
Internal Standards by analysis
Reactive Mixtures: Analyzed twice with required agreement between analyses of 2%.
Required wait time between analyses of >7 days.
Caution: Do not use below 150 PSIG.

Analyst Name: Joseph A. Ernst

QA Signature: 

Signature:

Date: 07/16/2024



*Every effort has been made to establish the actual concentration of the components using master gas blending technology however, Custom Gas Solutions shall have no liability in excess of the established charge for this material.