

## Prep Standard - Chemical Standard Summary

**Order ID :** P5292

**Test :** TO-15

**Prepbatch ID :**

**Sequence ID/Qc Batch ID:** v1121824,

**Standard ID :**

AP2556,AP2558,AP2560,AP2561,AP2562,

**Chemical ID :**

A1117,A1135,A1136,A1137,MDL,

## 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>
47	Internal Standard/Surrogate Mix-80 ppbv	<a href="#">AP2556</a>	12/06/2024	01/04/2025	Semsettin Yesilyurt	None	None	Maresh Dadoda
								12/20/2024

**FROM** 2.40000psi of A1135 + 27.60000psi of A1117 = 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	<a href="#">AP2558</a>	12/06/2024	01/04/2025	Semsettin Yesilyurt	None	None	Maresh Dadoda
								12/20/2024

**FROM** 14.55000SCCM 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>
2396	TO-15 15 PPBV CAL MIX	<a href="#">AP2560</a>	12/06/2024	01/04/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 12/20/2024
<u>FROM</u>	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	<a href="#">AP2561</a>	12/06/2024	01/04/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 12/20/2024
<b><u>FROM</u></b> 26.00000psi of A1117 + 4.00000psi of AP2560 = 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>
2668	0.5 PPBV CAL.MIX	<a href="#">AP2562</a>	12/06/2024	01/04/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 12/20/2024
<b><u>FROM</u></b> 29.00000psi of A1117 + 1.00000psi of AP2560 = Final Quantity: 30.000 psi								

## CHEMICAL RECEIPT LOG BOOK

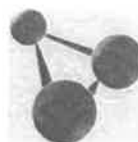
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
AIR LIQUIDE	365A-49 / AIR, Compressed	90402401186-01	04/01/2026	04/01/2022 / apatel	04/01/2022 / SAM	A1117

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

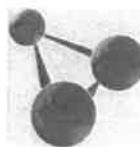
QA Signature: 

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	



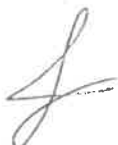
**NOTES:** Blend Tolerance: +/- 20 %  
Analytical Tolerance: +/- 10 %  
Traceability: NIST by weight set. NIST Traceability No MT001810.  
Internal Standards by analysis  
Reactive Mixtures: Analyzed twice with required agreement between analyses of 2%.  
Required wait time between analyses of >7 days.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

**Analyst Name:** Joseph A. Ernst

**QA Signature:** 

**Signature:**

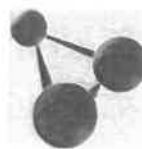
**Date:** 07/16/2024



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# 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	

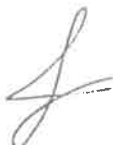
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Internal Standards by analysis  
Reactive Mixtures: Analyzed twice with required agreement between analyses of 2%.  
Required wait time between analyses of >7 days.  
Caution: Do not use below 150 PSIG.

**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.