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

Prep Standard - Chemical Standard Summary

Order ID : Q3131

Test : TO-15

Prepbatch ID :

Sequence ID/Qc Batch ID: VL092225,

Standard ID :
AP2671,AP2673,AP2674,AP2675,AP2676,

Chemical ID :
A1117,A1138,A1139,A1140,

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

Air STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2396	TO-15 15 PPBV CAL MIX	AP2671	09/17/2025	10/17/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 09/25/2025

FROM 1455.00000SCCM of A1117 + 45.00000SCCM of A1139 = Final Quantity: 30.000 psi

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2396	TO-15 15 PPBV CAL MIX	AP2673	09/22/2025	10/22/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 09/25/2025

FROM 1455.00000SCCM of A1117 + 45.00000SCCM of A1140 = Final Quantity: 30.000 psi

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Air STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2397	TO-15 -2 PPBV CAL.MIX	AP2674	09/22/2025	10/22/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 09/25/2025

FROM 26.00000psi of A1117 + 4.00000psi of AP2673 = Final Quantity: 30.000 psi

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2668	0.5 PPBV CAL.MIX	AP2675	09/22/2025	10/22/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 09/25/2025

FROM 29.00000psi of A1117 + 1.00000psi of AP2673 = Final Quantity: 30.000 psi

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Air STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
47	Internal Standard/Surrogate Mix-80 ppbv	AP2676	09/22/2025	10/22/2025	Semsettin Yesilyurt	None	None	Mahesh Dadoda 09/25/2025

FROM 2.40000psi of A1138 + 27.60000psi of A1117 = Final Quantity: 30.000 psi

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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	12/16/2025	07/15/2025 / SAM	07/14/2025 / SAM	A1138

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)	040424-003AR	04/16/2026	07/16/2025 / SAM	07/14/2025 / SAM	A1139

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)	040424-003BR	04/16/2026	07/16/2025 / SAM	07/14/2025 / SAM	A1140

Rec: 07/14/25

CUSTOMGAS
SOLUTIONS

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

A 1138

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: 012/16/2025

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-Difluorbenzene	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.

Rec 07/14/25

CUSTOMGAS
SOLUTIONS

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

A1139

Certificate of Analysis

Customer:

ChemTech
284 Sheffield Street
Mountianside, NJ 07092

Cylinder Number: BC315629
Cylinder Size/CGA: 170/180
Fill Pressure: 1815 PSIA
Gas Volume: 110 liters
Date of Mfg: 04/16/2025
Expiration Date: 04/16/2026
Lot Number: 040424-003AR

Ship To : Chemtech
284 Sheffield Street
Mountainside, NJ 07092

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

Component	Nominal Concentration	Actual Concentration*	Mixture Type
Acetone	500 ppb	519 ppb +/- 50 ppb	Gravimetric Master Gas
Acetonitrile	500 ppb	537 ppb +/- 50 ppb	
Acrolein	500 ppb	542 ppb +/- 50 ppb	
Acrylonitrile	500 ppb	532 ppb +/- 50 ppb	
Allyl chloride	500 ppb	509 ppb +/- 50 ppb	
Benzene	500 ppb	486 ppb +/- 50 ppb	
Benzyl Chloride	500 ppb	492 ppb +/- 50 ppb	
Bromodichloromethane	500 ppb	512 ppb +/- 50 ppb	
Bromoform	500 ppb	497 ppb +/- 50 ppb	
1,3-Butadiene	500 ppb	506 ppb +/- 50 ppb	
tert-Butyl alcohol	500 ppb	529 ppb +/- 50 ppb	
n-Butyl benzene	500 ppb	527 ppb +/- 50 ppb	
sec-Butyl benzene	500 ppb	527 ppb +/- 50 ppb	
tert-Butyl benzene	500 ppb	527 ppb +/- 50 ppb	
Carbon disulfide	500 ppb	487 ppb +/- 50 ppb	
Carbon tetrachloride	500 ppb	509 ppb +/- 50 ppb	
Chlorobenzene	500 ppb	494 ppb +/- 50 ppb	
Chlorodibromomethane	500 ppb	490 ppb +/- 50 ppb	
Chloroform	500 ppb	495 ppb +/- 50 ppb	
2-Chlorotoluene	500 ppb	529 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	494 ppb +/- 50 ppb	
1,2-Dichloroethane	500 ppb	499 ppb +/- 50 ppb	
1,1-Dichlororethylene	500 ppb	496 ppb +/- 50 ppb	
cis 1,2-Dichloroethylene	500 ppb	491 ppb +/- 50 ppb	
trans 1,2-Dichloroethylene	500 ppb	491 ppb +/- 50 ppb	
1,2-Dichloropropane	500 ppb	492 ppb +/- 50 ppb	
cis 1,3-Dichloropropylene	500 ppb	518 ppb +/- 50 ppb	
trans 1,3-Dichloropropylene	500 ppb	468 ppb +/- 50 ppb	
1,2-Dichlorotetrafluoroethane	500 ppb	507 ppb +/- 50 ppb	
1,4-Dioxane	500 ppb	486 ppb +/- 50 ppb	
Ethyl acetate	500 ppb	488 ppb +/- 50 ppb	
Ethyl Alcohol	500 ppb	552 ppb +/- 50 ppb	
Ethyl benzene	500 ppb	499 ppb +/- 50 ppb	
Ethyl Chloride	500 ppb	509 ppb +/- 50 ppb	
4-Ethyltoluene	500 ppb	488 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	493 ppb +/- 50 ppb	
n-Hexane	500 ppb	485 ppb +/- 50 ppb	
Isopropyl alcohol	500 ppb	511 ppb +/- 50 ppb	
Isopropyl benzene	500 ppb	524 ppb +/- 50 ppb	
p-Isopropyl toluene	500 ppb	532 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	529 ppb +/- 50 ppb	
Methyl tertiary butyl ether	500 ppb	483 ppb +/- 50 ppb	
Methylene chloride	500 ppb	498 ppb +/- 50 ppb	
Naphthalene	500 ppb	539 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	532 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	501 ppb +/- 50 ppb	
Vinyl chloride	500 ppb	509 ppb +/- 50 ppb	
m-Xylene	500 ppb	495 ppb +/- 50 ppb	
o-Xylene	500 ppb	482 ppb +/- 50 ppb	
p-Xylene	500 ppb	488 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: 04/16/2025

*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.

Rec 07/14/25

CUSTOMGAS
SOLUTIONS

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

A1140

Certificate of Analysis

Customer:

ChemTech
284 Sheffield Street
Mountianside, NJ 07092

Cylinder Number: AD49101
Cylinder Size/CGA: 170/180
Fill Pressure: 1815 PSIA
Gas Volume: 110 liters
Date of Mfg: 04/16/2025
Expiration Date: 04/16/2026
Lot Number: 040424-003BR

Ship To : Chemtech
284 Sheffield Street
Mountainside, NJ 07092

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

Component	Nominal Concentration	Actual Concentration*	Mixture Type
Acetone	500 ppb	460 ppb +/- 50 ppb	Gravimetric Master Gas
Acetonitrile	500 ppb	471 ppb +/- 50 ppb	
Acrolein	500 ppb	480 ppb +/- 50 ppb	
Acrylonitrile	500 ppb	476 ppb +/- 50 ppb	
Allyl chloride	500 ppb	453 ppb +/- 50 ppb	
Benzene	500 ppb	431 ppb +/- 50 ppb	
Benzyl Chloride	500 ppb	436 ppb +/- 50 ppb	
Bromodichloromethane	500 ppb	454 ppb +/- 50 ppb	
Bromoform	500 ppb	441 ppb +/- 50 ppb	
1,3-Butadiene	500 ppb	449 ppb +/- 50 ppb	
tert-Butyl alcohol	500 ppb	469 ppb +/- 50 ppb	
n-Butyl benzene	500 ppb	467 ppb +/- 50 ppb	
sec-Butyl benzene	500 ppb	467 ppb +/- 50 ppb	
tert-Butyl benzene	500 ppb	467 ppb +/- 50 ppb	
Carbon disulfide	500 ppb	432 ppb +/- 50 ppb	
Carbon tetrachloride	500 ppb	451 ppb +/- 50 ppb	
Chlorobenzene	500 ppb	438 ppb +/- 50 ppb	
Chlorodibromomethane	500 ppb	474 ppb +/- 50 ppb	
Chloroform	500 ppb	438 ppb +/- 50 ppb	
2-Chlorotoluene	500 ppb	469 ppb +/- 50 ppb	
Cyclohexane	500 ppb	430 ppb +/- 50 ppb	
1,2-Dibromoethane	500 ppb	437 ppb +/- 50 ppb	
1,2-Dichlorobenzene	500 ppb	454 ppb +/- 50 ppb	
1,3-Dichlorobenzene	500 ppb	435 ppb +/- 50 ppb	
1,4-Dichlorobenzene	500 ppb	476 ppb +/- 50 ppb	
Dichlorodifluoromethane (R12)	500 ppb	452 ppb +/- 50 ppb	

1,1-Dichloroethane	500 ppb	438 ppb +/- 50 ppb	
1,2-Dichloroethane	500 ppb	442 ppb +/- 50 ppb	
1,1-Dichlororethylene	500 ppb	439 ppb +/- 50 ppb	
cis 1,2-Dichloroethylene	500 ppb	435 ppb +/- 50 ppb	
trans 1,2-Dichloroethylene	500 ppb	435 ppb +/- 50 ppb	
1,2-Dichloropropane	500 ppb	436 ppb +/- 50 ppb	
cis 1,3-Dichloropropylene	500 ppb	460 ppb +/- 50 ppb	
trans 1,3-Dichloropropylene	500 ppb	415 ppb +/- 50 ppb	
1,2-Dichlorotetrafluoroethane	500 ppb	450 ppb +/- 50 ppb	
1,4-Dioxane	500 ppb	431 ppb +/- 50 ppb	
Ethyl acetate	500 ppb	433 ppb +/- 50 ppb	
Ethyl Alcohol	500 ppb	489 ppb +/- 50 ppb	
Ethyl benzene	500 ppb	442 ppb +/- 50 ppb	
Ethyl Chloride	500 ppb	451 ppb +/- 50 ppb	
4-Ethyltoluene	500 ppb	432 ppb +/- 50 ppb	
n-Heptane	500 ppb	434 ppb +/- 50 ppb	
Hexachloro-1,3-butadiene	500 ppb	436 ppb +/- 50 ppb	
2-Hexanone	500 ppb	437 ppb +/- 50 ppb	
n-Hexane	500 ppb	432 ppb +/- 50 ppb	
Isopropyl alcohol	500 ppb	455 ppb +/- 50 ppb	
Isopropyl benzene	500 ppb	465 ppb +/- 50 ppb	
p-Isopropyl toluene	500 ppb	530 ppb +/- 50 ppb	
Methyl Bromide	500 ppb	450 ppb +/- 50 ppb	
Methyl Chloride	500 ppb	453 ppb +/- 50 ppb	
Methyl ethyl ketone	500 ppb	442 ppb +/- 50 ppb	
Methyl isobutyl ketone	500 ppb	439 ppb +/- 50 ppb	
Methyl methacrylate	500 ppb	469 ppb +/- 50 ppb	
Methyl tertiary butyl ether	500 ppb	430 ppb +/- 50 ppb	
Methylene chloride	500 ppb	443 ppb +/- 50 ppb	
Naphthalene	500 ppb	478 ppb +/- 50 ppb	
n-Propylbenzene	500 ppb	525 ppb +/- 50 ppb	
Propylene	500 ppb	452 ppb +/- 50 ppb	
Styrene	500 ppb	432 ppb +/- 50 ppb	
1,1,1,2-Tetrachloroethane	500 ppb	471 ppb +/- 50 ppb	
1,1,2,2-Tetrachloroethane	500 ppb	431 ppb +/- 50 ppb	
Tetrachloroethylene	500 ppb	434 ppb +/- 50 ppb	
Tetrahydrofuran	500 ppb	477 ppb +/- 50 ppb	
Toluene	500 ppb	438 ppb +/- 50 ppb	
1,2,4-Trichlorobenzene	500 ppb	440 ppb +/- 50 ppb	
1,1,1-Trichloroethane	500 ppb	440 ppb +/- 50 ppb	
1,1,2-Trichloroethane	500 ppb	440 ppb +/- 50 ppb	
Trichloroethylene	500 ppb	435 ppb +/- 50 ppb	
Trichlorofluoromethane	500 ppb	453 ppb +/- 50 ppb	
1,1,2-Trichlorotrifluoroethane	500 ppb	441 ppb +/- 50 ppb	
1,2,4-Trimethylbenzene	500 ppb	440 ppb +/- 50 ppb	
1,3,5-Trimethylbenzene	500 ppb	444 ppb +/- 50 ppb	
2,2,4- Trimethylpentane	500 ppb	435 ppb +/- 50 ppb	
Vinyl acetate	500 ppb	444 ppb +/- 50 ppb	
Vinyl bromide	500 ppb	450 ppb +/- 50 ppb	
Vinyl chloride	500 ppb	451 ppb +/- 50 ppb	
m-Xylene	500 ppb	439 ppb +/- 50 ppb	
o-Xylene	500 ppb	427 ppb +/- 50 ppb	
p-Xylene	500 ppb	433 ppb +/- 50 ppb	
2-Methyl Naphthalene	500 ppb	497 ppb +/- 50 ppb	
R-22	500 ppb	435 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: 04/16/2025

*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.