

Prep Standard - Chemical Standard Summary

Order ID : Q2368

Test : VOCMS Group2

Prepbatch ID :

Sequence ID/Qc Batch ID: VL061925,

Standard ID :

AP2623,AP2625,AP2626,AP2627,AP2629,

Chemical ID : A1117,A1135,A1136,A1137,



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Air STANDARD PREPARATION LOG

Recipe ID 2396	NAME TO-15 15 PPBV CAL MIX	<u>NO.</u> <u>AP2623</u>	Prep Date 05/27/2025	Expiration Date 06/27/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipettelD None	Supervised By Mahesh Dadoda 06/20/2025
FROM	1455.00000SCCM of A1117 + 45.000	000SCCM o	fA1137 = Fin	al Quantity: 30.	.000 psi			

Recipe				Expiration	Prepared			Supervised By
<u>ID</u>	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipetteID	Mahesh Dadoda
2397	TO-15 -2 PPBV CAL.MIX	<u>AP2625</u>	05/28/2025	06/27/2025	Semsettin	None	None	
					Yesilyurt			06/20/2025
FROM	26.00000psi of A1117 + 4.00000psi o	f AP2623 =	Final Quantit	ty: 30.000 psi				

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Air STANDARD PREPARATION LOG

Recipe ID 2668	NAME 0.5 PPBV CAL.MIX	<u>NO.</u> <u>AP2626</u>	Prep Date 05/28/2025	Expiration Date 06/27/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 06/20/2025
FROM	29.0000psi of A1117 + 1.00000psi o	if AP2623 =	Final Quantit	y: 30.000 psi				

<u>Recipe</u> <u>ID</u> 2396	NAME TO-15 15 PPBV CAL MIX	<u>NO.</u> <u>AP2627</u>	Prep Date 05/28/2025	Expiration Date 06/28/2025	<u>Prepared</u> <u>By</u> Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	<u>Supervised By</u> Mahesh Dadoda 06/20/2025
FROM	1455.00000SCCM of A1117 + 45.000	000SCCM o	I f A1136 = Fin	al Quantity: 30				06/20/2025



Air STANDARD PREPARATION LOG

Recipe ID 47	NAME Internal Standard/Surrogate Mix-80 ppbv	<u>NO.</u> <u>AP2629</u>	Prep Date 05/29/2025	Expiration Date 06/29/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipetteID None	Supervised By Mahesh Dadoda 06/20/2025
FROM	2.40000psi of A1135 + 27.60000psi o	of A1117 = F	i Final Quantity:	: 30.000 psi			1	



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



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-Difluorbenzene	1 ppm	0.979 ppm +/- 0.02 ppm	
Nitrogen	balance	balance	

<u>NOTES:</u> 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.
<u>Caution:</u>	Do not use below 150 PSIG.

Analyst Name: Joseph A. Ernst

Signature:

QA 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.



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

Certificate of Analysis

Customer:

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ChemTech 284 Sheffield Street Mountianside, 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-Dichlororethylene	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		
n-Heptane	500 ppb	485 ppb +/- 50 ppb	
Hexachloro-1,3-butadiene	the second se	487 ppb +/- 50 ppb	
2-Hexanone	500 ppb	489 ppb +/- 50 ppb	
n-Hexane	500 ppb	490 ppb +/- 50 ppb	
	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 Methyl Bromide	500 ppb	534 ppb +/- 50 ppb	
Methyl Chloride	500 ppb	505 ppb +/- 50 ppb	
	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	
Frichlorofluoromethane	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	
n-Xylene	500 ppb	492 ppb +/- 50 ppb	
o-Xylene	500 ppb	480 ppb +/- 50 ppb	
-Xylene	500 ppb	486 ppb +/- 50 ppb	
2-Methyl Naphthalene	500 ppb	498 ppb +/- 50 ppb	
	500 ppb	590 ppb +/- 50 ppb	
<-22	. WYY MMM	1 020 000 1 00 000	
R-22 Nitrogen	balance	balance	

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<u>NOTES:</u>	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.
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Analyst Name: Joseph A. Ernst

Signature:

charge for this material.

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QA 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



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

Certificate of Analysis

Customer:

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ChemTech 284 Sheffield Street Mountianside, 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

Ship VIA	Job No.	Customer PO	Mixture Type
Best Way	040424-003	240404-10	Gravimetric
			D. A W. A MARKEN COSTONE FO

Component.	Nominal Concentration	Actual Concentration*	Mixture Type
Acetone	500 ppb	502 ppb +/- 50 ppb	Gravimetric Master Gas
Acetonitrile	500 ppb	530 ppb +/- 50 ppb	Gravinicate Master Gas
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 1,2-Dichloroethane	500 ppb 500 ppb	478 ppb +/- 50 ppb 483 ppb +/- 50 ppb	
1,1-Dichlororethylene	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		
4-Ethyltoluene	500 ppb	492 ppb +/- 50 ppb	
n-Heptane	500 ppb	472 ppb +/- 50 ppb	
Hexachloro-1,3-butadiene	500 ppb	473 ppb +/- 50 ppb	
2-Hexanone		475 ppb +/- 50 ppb	
n-Hexane	500 ppb	477 ppb +/- 50 ppb	
Isopropyl alcohol	500 ppb	471 ppb +/- 50 ppb	
Isopropyl benzene	500 ppb	497 ppb +/- 50 ppb	
p-Isopropyl toluene	500 ppb	522 ppb +/- 50 ppb	
Methyl Bromide	500 ppb	530 ppb +/- 50 ppb	
Methyl Chloride	500 ppb	491 ppb +/- 50 ppb	
Methyl ethyl ketone	500 ppb	494 ppb +/- 50 ppb	
Methyl isobutyl ketone	500 ppb	482 ppb +/- 50 ppb	
Methyl methacrylate	500 ppb	479 ppb +/- 50 ppb	
Methyl tertiary butyl ether	500 ppb	527 ppb +/- 50 ppb	
Methylene chloride	500 ppb	470 ppb +/- 50 ppb	
Naphthalene	500 ppb	484 ppb +/- 50 ppb	
	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	
Frichlorofluoromethane	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	
n-Xylene	500 ppb	479 ppb +/- 50 ppb	
-Xylene	500 ppb	466 ppb +/- 50 ppb	
o-Xylene	500 ppb	473 ppb +/- 50 ppb	
-Methyl Naphthalene	500 ppb	497 ppb +/- 50 ppb	
8-22	500 ppb	589 ppb +/- 50 ppb	
Nitrogen	balance	balance	

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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

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Signature:

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QA Signature: Date: 07/16/2024

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*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.