

Prep Standard - Chemical Standard Summary

Order ID : Q1984

Test : VOCMS Group3

Prepbatch ID :

Sequence ID/Qc Batch ID: VY051525,VY051625,

Standard ID :

VP131746,VP131767,VP131783,VP132035,VP132036,VP132037,VP132038,VP132097,VP132098,VP132099,VP1321 01,VP132102,VP132678,VP133175,VP133176,VP133177,VP133608,VP133609,VP133758,VP133759,VP133760,VP1 33761,VP133762,VP133763,VP133887,VP133888,VP133889,VP133890,VP133916,VP133918,VP133919,VP133920,V P133921,VP133922,VP133923,VP133924,VP133925,VP133934,VP133936,VP133942,VP133943,

Chemical ID :

V12967,V13391,V13449,V13465,V13466,V13582,V13706,V13822,V14127,V14154,V14180,V14195,V14289,V14290,V 14423,V14432,V14435,V14503,V14504,V14525,V14526,V14613,V14614,V14615,V14624,V14630,V14631,V14632,V14 633,V14711,V14717,V14718,V14721,V14749,V14750,V14794,V14811,V14812,V14843,V14915,V14916,V14917,V1491 8,V14919,V14920,V14921,W3112,



Recipe ID 247	NAME 8260 Internal Standard, 250PPM	<u>NO.</u> VP131746	Prep Date 11/22/2024	Expiration Date 05/18/2025	<u>Prepared</u> <u>By</u> Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 11/23/2024
FROM	0.50000ml of V14289 + 49.50000ml	I of V14154 =	Final Quanti	ty: 50.000 ml	-			

<u>Recipe</u> <u>ID</u> 218	<u>NAME</u> BFB, 25PPM	<u>NO.</u> VP131767	<u>Prep Date</u> 11/22/2024	Expiration Date 05/18/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipettelD None	Supervised By Mahesh Dadoda 11/27/2024
FROM	0.50000ml of V13391 + 49.50000ml o	of V14154 =	= Final Quanti	ty: 50.000 ml				



<u>Recipe</u> <u>ID</u> 1917	NAME 8260 Internal standard 50 ppm	<u>NO.</u> VP131783	Prep Date 11/22/2024	Expiration Date 05/18/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipetteID None	Supervised By Mahesh Dadoda 11/27/2024
<u>FROM</u>	0.02000ml of V14289 + 9.98000ml of	f V14154 =	Final Quantity	/: 10.000 ml				
<u>Recipe</u>				Expiration	<u>Prepared</u>			Supervised By

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
1810	8260 Working Std(2-CVE)-800ppm	<u>VP132035</u>	12/10/2024	06/10/2025	Semsettin Yesilyurt	None	None	12/12/2024
FROM	1.00000ml of V14630 + 1.00000ml o Quantity: 50.000 ml	f V14631 + 1	1.00000ml of ^v	V14632 + 1.000	000ml of V1463	3 + 46.00000ml	of V14614 =	Final
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VOC STANDARD PREPARATION LOG

<u>Recipe</u> <u>ID</u> 1811	NAME 8260 Working Std(2-CVE)-500ppm	<u>NO.</u> VP132036	<u>Prep Date</u> 12/10/2024	Expiration Date 06/10/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipettelD None	Supervised By Mahesh Dadoda 12/12/2024
FROM	7.50000ml of V14614 + 12.50000ml o	of VP13203	5 = Final Qua	ntity: 20.000 n	ni			

<u>Recipe</u>				Expiration	Prepared			<u>Supervised By</u>
<u>ID</u>	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipettelD	Mahesh Dadoda
1812	8260 Working	<u>VP132037</u>	12/10/2024	06/10/2025	Semsettin	None	None	
	Std(2-CVE)-100ppm				Yesilyurt			12/12/2024
FROM	0.25000ml of V14633 + 24.75000ml	of V14614 =	= Final Quanti	ty: 25.000 ml				

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VOC STANDARD PREPARATION LOG

Recipe ID 1813	NAME 8260 Working Std(2-CVE)-50ppm	<u>NO.</u> VP132038	Prep Date 12/10/2024	Expiration Date 06/10/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 12/12/2024
FROM	20.00000ml of V14614 + 1.25000ml	of VP13203	5 = Final Qua	antity: 20.000 n	ni			

Recipe				Expiration	Prepared			Supervised By
<u>ID</u>	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipettelD	Mahesh Dadoda
253	8260 Working STD (BCM)-First source, 20PPM	<u>VP132097</u>	12/12/2024	06/10/2025	Semsettin Yesilyurt	None	None	
		<u> </u>			resilyurt			12/19/2024
FROM	0.50000ml of V13466 + 49.50000ml	of V14614 =	= Final Quanti	ty: 50.000 ml				

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Recipe ID 252	NAME 8260 Working STD (BCM)-First source, 100PPM	<u>NO.</u> VP132098	Prep Date 12/12/2024	Expiration Date 06/10/2025	<u>Prepared</u> <u>By</u> Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 12/19/2024
FROM	1.25000ml of V13466 + 23.75000ml	of V14614 =	= Final Quanti	ty: 25.000 ml				

<u>Recipe</u> <u>ID</u>	NAME	<u>NO.</u>	Prep Date	Expiration Date	<u>Prepared</u> <u>By</u>	<u>ScaleID</u>	<u>PipetteID</u>	Supervised By
<u>15</u> 254		<u>VP132099</u>		06/10/2025	Semsettin	None	None	Mahesh Dadoda
	source, 10PPM				Yesilyurt			12/19/2024
FROM	0.05000ml of V13465 + 9.95000ml of	V14614 =	Final Quantity	/: 10.000 ml				



Recipe ID 1817	NAME 8260 Working Std(2-CVE)-SS, 800ppm	<u>NO.</u> VP132101	Prep Date 12/12/2024	Expiration Date 06/10/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 12/19/2024
FROM	0.80000ml of V13582 + 9.20000ml of	FV14614 =	Final Quantity	/: 10.000 ml				

<u>Recipe</u> <u>ID</u> 1819	NAME 8260 Working Std(2-CVE)-SS, 500ppm	<u>NO.</u> VP132102	<u>Prep Date</u> 12/12/2024	Expiration Date 06/10/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 12/19/2024
FROM	1.87500ml of V14614 + 3.12500ml of	I f VP132101	= Final Quar	ntity: 5.000 ml				12/10/2024



Recipe ID 262	NAME 8260 Working STD (BCM)-Second source, 100PPM	<u>NO.</u> VP132678	Prep Date 01/24/2025	Expiration Date 07/13/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 01/29/2025
FROM	1.00000ml of V12967 + 9.00000ml of	fV14624 =	Final Quantity	/: 10.000 ml				

Recipe ID 249	NAME 8260 Surrogate, 100PPM	<u>NO.</u> VP133175	Prep Date 02/27/2025	Expiration Date 08/27/2025	<u>Prepared</u> <u>By</u> Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 03/04/2025
FROM	l 0.10000ml of V13706 + 24.90000ml o	L of V14613 =	= Final Quanti	ty: 25.000 ml	loonyult			03/04/2023



Recipe ID 1738	NAME 8260 surrogate 20 ppm	<u>NO.</u> VP133176	Prep Date 02/27/2025	Expiration Date 08/27/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipetteID None	Supervised By Mahesh Dadoda 03/04/2025
<u>FROM</u>	0.02000ml of V13706 + 24.99000ml	of V14613 =	= Final Quanti	ty: 25.000 ml				

<u>Recipe</u> <u>ID</u> 250	NAME 8260 Surrogate, 10PPM	<u>NO.</u> VP133177	<u>Prep Date</u> 02/27/2025	Expiration Date 08/27/2025	Prepared By Semsettin	<u>ScaleID</u> None	<u>PipetteID</u> None	<u>Supervised By</u> Mahesh Dadoda
FROM	9.00000ml of V14613 + 1.00000ml of	f VP133175	= Final Quar	ntity: 10.000 ml	Yesilyurt			03/04/2025



Recipe ID 259	NAME 8260 Calibration Working STD Mix-Second source, 160PPM	<u>NO.</u> VP133608	Prep Date 04/04/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 04/07/2025
FROM	0.16000ml of V13449 + 0.80000ml o 0.80000ml of V14794 + 1.60000ml o					of V14423 +	

Recipe ID 260	NAME 8260 Calibration Working STD Mix-Second source, 100PPM	<u>NO.</u> VP133609	Prep Date 04/04/2025	Expiration Date 05/17/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 04/07/2025
<u>FROM</u>	1.87500ml of V14615 + 3.12500ml of	f VP133608	= Final Quar	ntity: 5.000 ml				



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Recipe ID 51	NAME 8260 Working STD (Acrolein) -first source, 800PPM	<u>NO.</u> VP133758	Prep Date 04/24/2025	Expiration Date 05/23/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/07/2025
FROM	1.00000ml of V14915 + 1.00000ml o Quantity: 25.000 ml	f V14916 + 7	1.00000ml of	V14917 + 1.000	000ml of V1491	8 + 21.00000ml	of V14615 =	Final

<u>Recipe</u>				Expiration	Prepared			Supervised By
ID	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipetteID	Mahesh Dadoda
56	8260 Working STD (Acrolein) -first source, 500PPM	<u>VP133759</u>	04/24/2025	05/23/2025	Semsettin Yesilyurt	None	None	05/07/2025
								05/07/2025
<u>FROM</u>	5.62500ml of V14615 + 9.37500ml of	f VP133758	= Final Quar	ntity: 15.000 ml				



Recipe ID 180	NAME 8260 Working STD (Acrolein)-First source, 100PPM	<u>NO.</u> VP133760	Prep Date 04/24/2025	Expiration Date 05/23/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipetteID None	Supervised By Mahesh Dadoda 05/07/2025
FROM	17.50000ml of V14615 + 2.50000ml of	of VP13375	8 = Final Qua	antity: 20.000 n	nl			

<u>Recipe</u>				Expiration	Prepared			<u>Supervised By</u>
ID	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipetteID	Mahesh Dadoda
181	8260 Working STD (Acrolein)-First	<u>VP133761</u>	04/24/2025	05/23/2025	Semsettin	None	None	
	source, 50PPM				Yesilyurt			05/07/2025
FROM	9.37500ml of V14615 + 0.62500ml of	f VP133758	= Final Quar	ntity: 10.000 ml				



Recipe ID 263	(Acrolein)-Second source,	<u>NO.</u> VP133762	Prep Date 04/24/2025	Expiration Date 05/22/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/07/2025
<u>FROM</u>	800PPM 0.60000ml of V14920 + 1.00000ml of	V14919 + 8	3.40000ml of ¹	V14615 = Fina	-	00 ml		

<u>Recipe</u> <u>ID</u>	NAME	<u>NO.</u>	<u>Prep Date</u>	Expiration Date	<u>Prepared</u> <u>By</u>	<u>ScaleID</u>	<u>PipettelD</u>	<u>Supervised By</u> Mahesh Dadoda
264	(Acrolein)-Second source,	<u>VP133763</u>	04/24/2025	05/22/2025	Semsettin Yesilyurt	None	None	05/07/2025
FROM	⁺ 500PPM 1.87500ml of V14615 + 3.12500ml of	VP133762	= Final Quar	ntity: 5.000 ml				



Recipe ID 257	NAME 8260 Calibration Working STD Mix-First source, 160PPM	<u>NO.</u> VP133887	Prep Date 05/12/2025	Expiration Date 06/23/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipetteID None	Supervised By Mahesh Dadoda 05/14/2025
FROM	0.40000ml of V14843 + 1.00000ml of 1.00000ml of V14525 + 1.00000ml of 1.00000ml of V14721 + 1.00000ml of 10.60000ml of V14921 = Final Quan	f V14526 + f V14749 +	1.00000ml of ` 1.00000ml of `	V14711 + 1.000	00ml of V1471	7 + 1.00000ml c	of V14718 +	

Recipe ID 244	NAME 8260 Calibration Working STD Mix-First source, 100PPM	<u>NO.</u> VP133888	Prep Date 05/12/2025	Expiration Date 06/23/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	PipetteID None	Supervised By Mahesh Dadoda 05/14/2025
FROM	5.62500ml of V14921 + 9.37500ml o	f VP133887	= Final Quar	ntity: 15.000 ml				



VOC STANDARD PREPARATION LOG

Recipe ID 245	NAME 8260 Calibration Working STD Mix-First source, 20PPM	<u>NO.</u> VP133889	Prep Date 05/12/2025	Expiration Date 06/22/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/14/2025
<u>FROM</u>	17.50000ml of V14921 + 2.50000ml o	of VP13388	7 = Final Qua	untity: 20.000 n	-			

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
246	8260 Calibration Working STD	<u>VP133890</u>	05/12/2025	06/23/2025	Semsettin	None	None	
	Mix-First source, 10PPM				Yesilyurt			05/14/2025
FROM	9.37500ml of V14921 + 0.62500ml of	FVP133887	= Final Quar	ntity: 10.000 ml				

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Recipe ID 732	NAME BFB TUNE CHECK - SOIL	<u>NO.</u> VP133916	Prep Date 05/15/2025	Expiration Date 05/16/2025	Prepared By Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
<u>FROM</u>	4.99800ml of W3112 + 0.00200ml of	VP131767	= Final Quant	tity: 5.000 ml				

<u>Recipe</u> <u>ID</u> 267	<u>NAME</u> 5 PPB ICC, 8260-SOIL	<u>NO.</u> VP133918	Prep Date 05/15/2025	Expiration Date 05/16/2025	<u>Prepared</u> <u>By</u> Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
<u>FROM</u>	4.98000ml of W3112 + 0.00250ml of + 0.00250ml of VP133890 + 0.00500					P133177 + 0.00	250ml of VP13	33761



Recipe ID 269	NAME 10 PPB ICC, 8260-SOIL	<u>NO.</u> VP133919	Prep Date 05/15/2025	Expiration Date 05/16/2025	Prepared By Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
FROM	4.98000ml of W3112 + 0.00250ml of + 0.00250ml of VP133889 + 0.00500					P133176 + 0.00	250ml of VP13	33760

<u>Recipe</u> <u>ID</u> 270	<u>NAME</u> 20 РРВ ICC, 8260-SOIL	<u>NO.</u> VP133920	Prep Date 05/15/2025	Expiration Date 05/16/2025	<u>Prepared</u> <u>By</u> Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
FROM	4.96500ml of W3112 + 0.00500ml of + 0.00500ml of VP133760 + 0.00500					P132097 + 0.00	500ml of VP13	33176



Recipe ID 273	NAME 50 PPB ICC, 8260-SOIL	<u>NO.</u> VP133921	Prep Date 05/15/2025	Expiration Date 05/16/2025	Prepared By Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
FROM	4.98000ml of W3112 + 0.00250ml of + 0.00250ml of VP133888 + 0.00500					P133175 + 0.00	250ml of VP13	33759

<u>Recipe</u> <u>ID</u> 280	NAME 100 PPB ICC, 8260-SOIL	<u>NO.</u> VP133922	Prep Date 05/15/2025	Expiration Date 05/16/2025	<u>Prepared</u> <u>By</u> Amit Patel	<u>ScaleID</u> None	PipettelD None	Supervised By Mahesh Dadoda 05/21/2025
<u>FROM</u>	4.96500ml of W3112 + 0.00500ml of + 0.00500ml of VP133759 + 0.00500					2132098 + 0.00	500ml of VP13	



Recipe ID 282	NAME 200 PPB ICC, 8260-SOIL	<u>NO.</u> VP133923	Prep Date 05/15/2025	Expiration Date 05/16/2025	Prepared By Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
FROM	4.94900ml of W3112 + 0.00100ml of + 0.01000ml of VP133759 + 0.01000					P132098 + 0.01	000ml of VP13	33175

<u>Recipe</u> <u>ID</u> 287	<u>NAME</u> 50 РРВ ICV, 8260-SOIL	<u>NO.</u> VP133924	Prep Date 05/15/2025	Expiration Date 05/16/2025	<u>Prepared</u> <u>By</u> Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025		
FROM	FROM 4.98000ml of W3112 + 0.00250ml of VP132102 + 0.00250ml of VP132678 + 0.00250ml of VP133175 + 0.00250ml of VP133609 + 0.00250ml of VP133763 + 0.00500ml of VP131783 = Final Quantity: 5.000 ml									



Recipe ID 773	NAME 50 PPB CCC, 8260-SOIL	<u>NO.</u> VP133925	Prep Date 05/15/2025	Expiration Date 05/16/2025	Prepared By Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
FROM	4.98000ml of W3112 + 0.00250ml of + 0.00250ml of VP133888 + 0.00500					⊃133175 + 0.00	250ml of VP13	33759

<u>Recipe</u> <u>ID</u> 1917	NAME 8260 Internal standard 50 ppm	<u>NO.</u> VP133934	Prep Date 05/16/2025	Expiration Date 11/12/2025	Prepared By Semsettin Yesilyurt	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
FROM	0.10000ml of V14290 + 49.90000ml o	of V14921 =	Final Quanti	ty: 50.000 ml	-			



Recipe ID 732	NAME BFB TUNE CHECK - SOIL	<u>NO.</u> VP133936	Prep Date 05/16/2025	Expiration Date 05/17/2025	<u>Prepared</u> <u>By</u> Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
<u>FROM</u>	4.99800ml of W3112 + 0.00200ml of	VP131767	= Final Quant	tity: 5.000 ml				

<u>Recipe</u> <u>ID</u>	NAME	<u>NO.</u>	Prep Date		<u>Prepared</u> <u>By</u>	<u>ScaleID</u>	<u>PipettelD</u>	<u>Supervised By</u> Mahesh Dadoda
773	50 PPB CCC, 8260-SOIL	<u>VP133942</u>	05/16/2025	05/17/2025	Amit Patel	None	None	05/21/2025
FROM	4.98000ml of W3112 + 0.00250ml of + 0.00250ml of VP133888 + 0.00500					P133175 + 0.00	250ml of VP13	33759



Recipe ID 773	NAME 50 PPB CCC, 8260-SOIL	<u>NO.</u> VP133943	Prep Date 05/16/2025	Expiration Date 05/17/2025	Prepared By Amit Patel	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Mahesh Dadoda 05/21/2025
FROM	4.98000ml of W3112 + 0.00250ml of + 0.00250ml of VP133888 + 0.00500					⊃133175 + 0.00	250ml of VP13	33759



Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	70046 / Bromochloromethane Std. sol/methanol 1000ppm	070122	07/24/2025	01/24/2025 / SAM	07/06/2022 / SAM	V12967
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	30067 / BFB tuneing solution	A0191805	11/22/2025	11/22/2024 / SAM	01/13/2023 / SAM	V13391
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	A0191703	06/02/2025	12/02/2024 / SAM	01/23/2023 / SAM	V13449
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	A0193071	06/12/2025	12/12/2024 / SAM	01/27/2023 / SAM	V13465
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	A0193071	06/12/2025	12/12/2024 / SAM	01/27/2023 / SAM	V13466
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	95318 / 2-Chloroethyl Vinyl Ether (Min = 5)	111722	11/17/2025	12/12/2024 / SAM	01/30/2023 / SAM	V13582



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CHEMICAL RECEIPT LOG BOOK

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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]	A0196865	02/27/2026	02/27/2025 / SAM	04/12/2023 / SAM	V13706
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	A0197644	09/30/2025	03/31/2025 / SAM	05/31/2023 / SAM	V13822
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)	011624	09/30/2025	03/31/2025 / SAM	01/17/2024 / SAM	V14127
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)	22L0562016	05/18/2025	11/18/2024 / pedro	02/06/2024 / SAM	V14154
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)	021524	09/30/2025	03/31/2025 / SAM	02/20/2024 / SAM	V14180
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #

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	A0200785	09/30/2025	03/31/2025 / SAM	02/28/2024 / SAM	V14195



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	11/22/2025	11/22/2024 / SAM	04/15/2024 / SAM	V14289
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	12/12/2025	12/12/2024 / SAM	04/15/2024 / SAM	V14290
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	A0205013	06/30/2025	03/31/2025 / SAM	08/15/2024 / SAM	V14423
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	A0209618	09/30/2025	05/12/2025 / SAM	08/15/2024 / SAM	V14432
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	A0209618	09/20/2025	03/20/2025 / SAM	08/15/2024 / SAM	V14435
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	11/12/2025	05/12/2025 / SAM	09/17/2024 / SAM	V14503



	5317 / Universal VOA	021624	11/12/2025	05/12/2025 /	00/47/0004	
	lega Mix (Min order = 5)			SAM	09/17/2024 / SAM	V14504
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
	5319 / Revised Additions lix (Min = 5)	091724	11/12/2025	05/12/2025 / SAM	09/18/2024 / SAM	V14525
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #

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)	22L0562016	08/27/2025	02/27/2025 / SAM	11/26/2024 / SAM	V14613

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)	22L0562016	06/10/2025	12/10/2024 / SAM	11/26/2024 / SAM	V14614

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)	22L0562016	09/19/2025	03/19/2025 / SAM	11/26/2024 / SAM	V14615



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)	2310762004	07/13/2025	01/13/2025 / SAM	11/26/2024 / SAM	V14624
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/10/2025	12/10/2024 / SAM	12/06/2024 / SAM	V14630
Supplier	ItemCode / ItemName	Lot #	Expiration	Date Opened /	Received Date /	Chemtech
Supplier	Remode / Remname		Date	Opened By	Received By	Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/10/2025	12/10/2024 / SAM	12/06/2024 / SAM	V14631
	1		 			
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/10/2025	12/10/2024 / SAM	12/06/2024 / SAM	V14632

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ 2-Chloroethyl vinyl ether	120524	06/10/2025	12/10/2024 / SAM	12/06/2024 / SAM	V14633

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	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14711



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	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14717
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	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14718
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	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14721
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	11/13/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14749
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	11/12/2025	05/12/2025 / SAM	12/17/2024 / SAM	V14750
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	A0220563	09/30/2025	03/31/2025 / SAM	01/08/2025 / SAM	V14794



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	11/12/2025	05/12/2025 / SAM	01/08/2025 / SAM	V14811
	LOTS			1	1	
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	06/30/2026	05/12/2025 / SAM	01/08/2025 / SAM	V14812
	LOTS			1		
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	11/12/2025	05/12/2025 / SAM	01/21/2025 / SAM	V14843
			· · · ·			
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	042325	05/23/2025	04/24/2025 / SAM	04/24/2025 / SAM	V14915
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	042325	05/23/2025	04/24/2025 / SAM	04/24/2025 / SAM	V14916
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	042325	05/23/2025	04/24/2025 / SAM	04/24/2025 / SAM	V14917



Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	042325	05/23/2025	04/24/2025 / SAM	04/24/2025 / SAM	V14918
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	91980 / Acrolin Std (Min = 5)	042225	05/22/2025	04/24/2025 / SAM	04/24/2025 / SAM	V14920

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	11/12/2025	05/12/2025 / SAM	05/09/2025 / SAM	V14921

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 / Iwona	07/03/2024 / Iwona	W3112





Material No.: 9077-02 Batch No.: 2310762004 Manufactured Date: 2023-08-11 Expiration Date: 2026-08-10 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH3OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.5 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.2
Titrablė Base (µeq/g)	≤ 0.10	0.01
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

fermetrikel.

Ken Koehnlein Sr. Manager, Quality Assurance



Material No.: 9077-02 Batch No.: 22L0562016 Manufactured Date: 2022-10-26 Expiration Date: 2025-10-25 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH3OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.2
Titrable 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

James Techie

Jamie Ethier Vice President Global Quality



Material No.: 9077-02 Batch No.: 22L0562016 Manufactured Date: 2022-10-26 Expiration Date: 2025-10-25 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH3OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.2
Titrable 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

James Techie

Jamie Ethier Vice President Global Quality



Material No.: 9077-02 Batch No.: 22L0562016 Manufactured Date: 2022-10-26 Expiration Date: 2025-10-25 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH3OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.2
Titrable 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

James Techie

Jamie Ethier Vice President Global Quality

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	gx/gm8048 ten-ho	¥/N	488-53-3	7.8	2001.0	0.21522	0.21511	0.2	63	5000	109A	461	eneznedivntemarteT-4,6,2,1	ិនរ
	galvgm0281 tiss-ho	(H8/Em/gm062) mqq 0S	6-66-601	40.3	S.70001	1.00200	1.00125	5.0	6'66	10000	OEE8H8HS	380	[etrahydrofuran	10.
	gylgm96 ter-ho	W/N	107-12-0	6.18	8.70005	2.02150	17020.5	S.0	66	S0000	1395468	346	elininoiqor	ī ·6
	enter 49/kg	AN	1634-04-4	8.2	2002.0	75205.0	0.20207	0.2	66	S000	21880	509	Methyl tert-butyl ether (MTBE)	Ĩ '8
	orl-mus 2250mg/kg	¥/N	108-82-5	8.2	2002.3	0.20230	0.20207	0.2	66	5000	A661058HS	1627	Methylcyclohexane	Γz.
	6x/6w0267 6d6-µo	(nbis)(H8\Em\gm01) mqq 1	1-27-78	S.8	4.100S	0.20221	0.20207	0.2	66	5000	12604HBV	661	exectionocthane	9
	вуютоота гит-по	(nbis)(H8\Em\gm08) mqq 8S	123-91-1	162.5	0.70004	4.04213	4.04142	S.0	66	40000	O3863KE	ELE	ensxoiG-4,1	. · · · ·
	px/pm0748 ten-ho	(H8/Em/gm001S) mqq 008	108-50-3	5.8	\$005.0	0.20227	0.20207	0.2	66	5000	XMS1400	L 86	Di-isopropyl ether (DIPE)	1.4
	pylemeorst ten-ho	(H8/Em/gm0201) mqq 00E	110-85-7	S. 8	2001.5	0.20222	0.20207	2.0	66	S000	58930	1053	Cyclohexane	
	Orl-rat 2670mg/kg	A/N	E-69-601	1.8	8.2002.8	0.20035	0.20007	5.0	66'66	5000	MKCM5711	1072	1-Chlorobutane	5.
	gylun 87 ter-ho	A\N	1-61-701	40.6	\$.\$000F	08010.1	1.01035	S.0	66	10000	4718CK	۷	Acrylonitrile	
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www.absolutestandards.com

Certified Reference Material CRM



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

CER	TIFIED WEIGHT REPORT									Øshussiteh.	8.45						
	Part Number: Lot Number:									Solvent(s): Methenol	Lolf EG359-USQ	12			and the second	in the hur	
			ai VOA Megami	20											. Jn	/ /	021524
			ponents											Formulate	ed By:	Mario Luis	DATE
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	Nominal Concentration (ug/mL):		(0.0)												Jed.	to pleater	021524
	NIST Test ID#:				5E-05	Bilance Uncertain	nty							Reviewed	By:	Pedro L. Rentas	DATE
	Weight(s) shown below were combined	and dilute	ed to (mL):	100.0	0.021	Flash Uncertainty	1									000 Intermetion	
					1-101-1	1222	Nominal	the side of	Purity	Uncertainty	Target	Actual	Actual	Expanded Uncertainty	(Solve	SDS Information ant Safety Info. On Attach	red pa.)
	Compound	(RM#) Part Numb	Lot or Number	Dil. Factor	Initial Viol. (ml.)	Conc.(ug/mL)		Purity (%)	Uncertainty		Weight(g)	Weight(g)	Conc (ug/mL)			OSHA PEL (TWA)	1.050
	Compound																
1.	Acetonitrie	(0324)	021644	NA	NA	NA	2000	99.99	0.2	NA	0.20007	0.20022	2001.5	8.1	75-05-8	40 ppm (70mg/m3/8H)	orf-rat 2450mg/kg
2,	Allyl chloride (3-Chloropropene)	(0325)	102396	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20222	2001.5	8.2	107-05-1 75-15-0	1 ppm (3mg/m3/8H) 4 ppm (12mg/m3) (skin)	orl-rat 700mg/kg orl-rat 1200mg/kg
3.	Carbon disulphide	(0060) (1196)	MKCR8561 14718EF	NA	NA	NA	2000	99.99 95	0.2	NA	0.20007	0.21060	2001.3	8.5	1478-11-5	N/A	NA
4. 5.	cis-1,4-Dichloro-2-butene trans-1,4-Dichloro-2-butene	(0486)	MKBP6041V	NA	NA	NA	2000	96.5	0.2	NA	0.20731	0.20734	2000.3	8.4	110-57-6	NA	N/A
6.	Diethyl other	(0153)	IK1BCAS0000	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20042	2001.7	8.1	80-29-7	NA	N/A
7.	Ethyl methacrylate	(0381)	06126PX	NA	NA	NA	2000	99	0.2	NA	0.20207	0.20231	2002.4	8.2	97-63-2	N/A	orl-rat 14800mg/kg
8.	lodomethane	(0489)	SHBF8718V	NA	NA	NA	2000	99.5	0.2	NA NA	0.20106	0.20118	2001.2 2001.4	8.1	74-88-4 78-83-1	5 ppm(28mg/m3/8H)(skin) 50 ppm (150mg/m3/8H)	orl-rat 75mg/kg orl-rat 2460mg/kg
9.	2-Methyl-1-propanol	(0445)	15241EB	NA	NA	NA	2000	99.5 99	0.2	NA	0.20108	0.20209	2000.2	8.2	126-98-7	1 ppm (3mp/m3/8H)(skin)	ori-rat 120mg/kg
10. 11.	Methacrylonitrile Methyl acrylate	(0442) (1075)	00427ET SHBK0679	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20042	2001.7	8.1	95-33-3	10 ppm(35mg/m3/8H)(sidn)	orl-net 277mg/kg
12.	Methyl methacrylate	(0404)	MKBW5137V	NA	NA	NA	2000	99.9	0.2	NA	0.20025	0.20030	2000.5	8.1	80-62-6	100 ppm (410mg/m3/8H)	orl-rat 7872mg/kg
13.	Nitrobenzene	(0228)	01213TV	NA	NA	NA	2000	89	0.2	NA	0.20207	0.20230	2002.3	8.2	98-95-3	1 ppm (5mg/m3/6H)(skin)	ori-rat 750mg/kg
14.	2-Nitropropane	(0461)	14002JX	NA	NA	NA	2000	97.3	0.2	NA	0.20560	0.20670	2001.0	8.3	79-46-9 76-01-7	10 ppm (35mg/m3/8H) N/A	orl-rat 720mg/kg N/A
15.	Pentachloroethane	(0450) (0474)	HGA01 18930	NA	NA	NA	2000	98	0.2	NA	0.20207	0.20210	2000.3	8.2	78-13-1	1000 ppm (7600mg/m3/6H)	orl-rat 43g/kg
16. 17.	1,1,2-Trichlorotrilluoroethane Bromodichloromethane	35171	101623	0.05	6.00	40001.7	2000	NA	NA	0.017	NA	NA	1999.6	22.9	75-27-4	NA	orl-rat 916mg/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	NA	ori-rati 648mg/vg
19.	cie-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-Dichlorosthene	35171	101623	0.05	5.00	40002.4	2000	NA	NA	0.017	NA	NA	1999.6	23.0	156-60-5	N/A E00 mm	orl-rat 1235mg/kg
21.	Methylene chloride	35171	101823	0.05	5.00	40002.8	2000	NA NA	NA	0.017	NA	NA	1999.6	20.4	75-09-2 75-35-4	500 ppm 1 ppm (4mg/m3/8H)	orl-rat 200mg/kg
	1,1-Dichloroethene Bromoferm	32251 95321	102023	0.10	10.00	20001.6 20003.2	2000	NA	NA	0.042	NA	NA	1999.8	20.5	75-25-2	0.5 ppm (5mg/m3) (skin)	orl-ret 933mg/kg
24.	Carbon tetrachloride	95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	1909.B	20.4	56-23-6	2 ppm (12.6mg/m3/8H)	ori-rat 2350mg/kg
25.	Chloroform	95321	020724	0.10	10.00	20024.0	2000	NA	NA	0.042	NA	NA	2001.9	20.5	67-66-3	50 ppm (240mp/m3) (CL)	phomoto tar-ho
26.	Dibromomethane	95321	020724	0.10	10.00	20002.9	2000	NA	NA	0.042	NA	NA	1990.8	20.5	74-95-3	N/A	orl-rat 106mg/kg
	1,1-Dichioroethane	95321	020724	0.10	10.00	20003.4	2000	NA NA	NA	0.042	NA	NA	1999.8	20.5	75-34-3	100 ppm N/A	orl-rat 725mg/kg N/A
	2,2-Dichloropropane	95321 95321	020724	0.10	10.00	20003.4	2000	NA	NA	0.042	NA	NA	2019.6	20.6	127-18-4	25 ppm (170mg/m3/6H)(final)	orl-rat 2629mg/kg
	Tetrachloroethene 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)	orl-ret 10300mg/kg
	1,2-Dibromo-3-chiloropropane	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	orl-rat 170mg/kg
	1,2-Dibromoethane	36161	112322	0.05	5.00	40024.8	2000	NA	NA	0.017	NA	NA	2000.7	22.9	108-83-4	20 ppm (8H)	orf-rat 108mg/kg
	1,2-Dichloroethane	35161	112322	0.05	5.00	40018.0	2000	NA	NA	0.017	NA	NA	2000.4 2002.0	22.9	107-08-2 78-87-5	50 ppm (8H) 75 ppm (350mg/m3/8H)	orl-rat 670mg/kg orl-rat 1947mg/kg
	1,2-Dichloropropane	35161 35161	112322	0.05	5.00	40051.0	2000	NA	NA	0.017	NA	NA	1999.8	22.9	142-28-9	N/A	unr-mus 3600mg/kg
	1,3-Dichloropropane 1,1-Dichloropropene	35161	112322	0.05	5.00	40012.1	2000	NA	NA	0.017	NA	NA	2000.1	29.7	583-58-6	NA	NA
	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.	trane-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 ori-rat 82mg/kg
39.	Hexachloro-1,3-butadiene	35161	112322	0.05	5.00	40021.9	2000	NA	NA	0.017	NA	NA	2000.6	29.7 22.9	87-68-3 630-20-6	0.02 ppm (0.24mg/m3/8H) N/A	ori-rat 670mg/kg
	1,1,2-Tetrachioroethane	35161	112322	0.05	5.00	40011.9	2000	NA	NA	0.017	NA	NA	1999.9	22.9	79-34-5	5 ppm (35mg/m3/9H)(skin)	gil-rat 800mg/kg
	1.1.2-Trichloroethane	35161	112322	0.05	5.00	40008.6	2000	NA	NA	0.017	NA	NA	1999.8	23.0	79-00-5	10 ppm (45mg/m3/8H)(skin)	orl-rat 836mg/kg
	Trichlorosthene	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)	orl-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 71-43-2	10 ppm (60mg/m3/8H)	orl-rat 149.0mg/kg orl-rat 4894mg/kg
	Benzene	35162	050823	0.05	5.00	40005.0	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-86-1	1 ppm N/A	orl-rat 2999mg/kg
	Bromobenzene n-Butyl benzene	35162 35162	050823	0.05	5.00	40006.9	2000	NA	NA	0.017	NA	NA	1999.7	22.9	104-51-8	NA	N/A
	Ethyl 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)	ori-rat >2000mg/kg
	p-isopropyl toluene	35162	050823	0.05	5.00	40005.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	99-87-8	NA	orl-rat 4750mg/kg
50.	Naphihalene	35162	050823	0.05	6,00	40006.2	2000	NA	NA	0.017	NA	NA NA	1999.8	22.9	91-20-3 100-42-5	10 ppm (50mg/m3/8H) 100 ppm	orl-rat 490mg/kg orl-rat 5000mg/kg
	Styrene	35162	050823	0.05	5.00	40004.8 40006.2	2000	NA	NA	0.017	NA	NA	1999.8	22.9	108-68-3	200 ppm	orl-rat 5000mg/kg
	Toluene 1,2,3-Trichlorobenzene	35162 35162	050823	0.05	5.00	40008.2	2000	NA	NA	0.017	NA	NA	1999.7	22.9	87-61-6	NA	ipr-mus 1390mg/kg
	1,2,4-Trichiorobenzene	35162	050823	0.05	5.00	40006.8	2000	NA	NA	0.017	NA	NA	1999.8	22.9	120-62-1	5 ppm (CL) (40mg/m3)	ori-net 756mg/kg
1.1.1.1	1,2,4-Trimethylbenzene	35162	050823	0.05	5.00	40001.6	2000	NA	NA	0.017	NA	NA	1999.6	23.0	95-63-6	NA	ori-rat 5g/kg
	1,3,5-Trimethylbenzene	35162	050823	0.05	5.00	40006.7	2000	NA	NA	0.017	NA	NA	1999.8 1999.8	22.9	108-67-8	N/A 100 ppm (435ing/m3/8H)	orl-rat 5000mg/kg orl-rat 5g/kg
	m-Xylene	35162	050823	0.05	5.00	40005.8 40001.2	2000	NA	NA	0.017	NA	NA	1999.6	22.9	98-06-6	NVA	N/A
	tert-Butyl benzene sec-Butyl benzene	35163 35163	101923	0.05	5.00	40001.2	2000	NA	NA	0.017	NA	NA	1999.6	22.9	135-98-8	N/A	ort-rat 2240mg/kg
	Chlorobanzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7	22.9	108-90-7	75 ppm (350mg/m3/8H)	ori-rat 2290mg/kg
	2-Chiorololuene	35163	101923	0.05	5.00	40000.3	2000	NA	NA	0.017	NA	NA	1999.5	22.9	95-49-8	60 ppm (250mg/m3/8H)	ort-rat 3900mg/kg
	4-Chlorotoluene	35163	101923	0.05	5.00	40003.3	2000	NA	NA	0.017	NA	NA	1999.7	22.9	106-43-4 95-50-1	N/A 50 ppm (300mg/m3) (CL)	orl-rat 2100mg/kg orl-rat 500mg/kg
	1,2-Dichlorobenzene	35163	101923	0.05	5.00	40003.8	2000	NA	NA	0.017	NA	NA	1999.7 1999.6	22.9	541-78-1	SUppm (Soungma) (Cc.) N/A	Ipr-mus 1082mg/kg
	1,3-Dichlorobenzene 1,4-Dichlorobenzene	35163 35163	101923	0.05	5.00	40001.8	2000	NA	NA	0.017	NA	NA	1999.6	22.9	106-46-7	75 ppm (450mg/m3/8H)	orl-rat 600mg/kg
	Isopropylbenzene	35163	101923	0.05	5.00	40000.B	2000	NA	NA	0.017	NA	NA	1999.5	22.9	98-82-8	50 ppm (245mg/m3/9H)	orl-rat 1400mg/kg
	n-Propylbenzene	35163	101923	0.05	5.00	40003.4	2000	NA	NA	0.017	NA	NA	1999.7	23.0	103-65-1	N/A	ort-rat 6040mg/kg
68.	o-Xylena	35163	101923	0.05	5.00	40040.8	2000	NA	NA	0.017	NA	NA	2001.5	23.0 22.9	95-47-6 106-42-3	100 ppm (435mg/m3/6H) 100 ppm (435mg/m3/6H)	pr-mus 1384mg/kg orf-rat 5g/kg
69.	p-Xylene	35163	101923	0.05	5.00	40000.8	2000	NA	NA	0.017	NA	NA	1404.0	2.2.8	100-96-0	in the second second	

Cite carrillo value is the concenterwise celetated from gravitatorie and volumetrie measurements unless otherwise similal.
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Run 17, "P95317 L021	i24 I2000µg/mL in MeOHI"	Peak 2	Name
HARIERS I ADDIE POPI	ma moodeline er endante	3	Ether 1,1,2-Trichloro-1,2,2-Inlibiorpethana
		3	1,1-Dichloroethene
Dum Longila: 00.00 min. 2	5000 nainte at 10 nainte canand	*	Acetonitrile
Hun Lengin. 60.00 min, 3	5998 points at 10 points/second. 44 at 10:04:27 AM.	5	Indomethane
Created: Sat. Feb 17, 20	4 at 10:04:27 AM.	6	Allyi shloride
Compled: Companes *021	624-GC5M1", Method "GC5-M1".	7	Carbon disulfide/Mathylone chloride
		8	trans-1,Z-Dichloroethens
Analyzed using Method "	GC5-M1".	9	1,1-Dichlorosthane
		10	2,2-Dichloropropane
		11	63-1,2-Dichloroethene
Comments		12	Hethecrylonitrile/Hethyl acrylate/Chloroft
		13	Isobutanol/1,1,1-Trichloroethane
GC5-M1 Analysis by Car	dice Warren	14	1,1-Dichisropropene
		15	Carison tetrachloride
CONTRACTO 260-A0001 IC	5 meter X 0.53mm X 3.0µm film thickness	16	Benzene/1,2-Dichloroethane
Flow rates Total flow=29	DmL/min., Helium (carrier)=10mL/min., nin., Hydogen(make-up)=40mL/min., Air(make-up)=230mL/min. *C (Time 1=10 min.), Temp 2=200°C (Time 2=8.75 min.),	17	Trictionoethene
Linking (makes and _ 16ml	the demonstration with Aland Imin Airfrantes with Oldent Imin	18	1,2-Dichloropropaite
rienum(make-up)=romu	ин., пуслден(таке-up)≔илт.лпп., Ан(таке-up)=∠элтслип.	19	Hsinyi methacrylate
Oven Profile: Termo 1=3	"C (Time 1=10 min) Termo 2=200"C (Time 2=8.75 min)	20	Bromodichioremethene
The Allerty Total		21	Dibromomethane/2-Nitropropane
Hate = 4 G/min., 10tal ru	time=60 min. Injector temp.=200°C, FID Temp.=200°C.	22	cis-1,3-Dichioropropone
FID Signal = Edaq Chanr		23	Toluane
		24	Ethyl methecrylete/trans-1,3-Dickloropro;
Standard injection = 0.5μ	_, Hange=3	25	1,1,2-Trichloroethane
		26	Tetrachioraethene/1,3-Dichloropropene
×		27	Dibromochionomethane
1		28	1,2-Dipromoethane
		19	Chiorobenzene
4000000		30	Ethylbonzene/1,1,1,2-Retrachlonoethane
1000000-		31	m-Nytene/p-Xylene
1		32	e-Xviene
		33	Styrene
1 1		34	isopropylbeneene/Bromoform
		35	cis-1,4-Dichloro-2-butene
800000-		36	1,1,2,2-Tetrachioroethene
over v		37	1,2,3-Intchloropropane
		38	n-Propy/benzene
		39	trans-1,4-Dichloro-2-butane
(I	in the second	-40	Breinobenzene
		-42	1,3,5-Trimethyibeneene
600000-		42	2-Chiorotoluene
		43	4-Childrotoluene
3		44	tert-Bodylbenzenie
		45	1,2,4-Trimethylbenzene
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		52	1,2-Dichlorobenzana
		53	1,2-Oloromo+3-chloropropens
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		rsiek.	Hexactivorobutaciana
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Certified Reference Material CRM Ree 03/17/24 \$

CERTIFIED WEIGHT REPORT Parl Number: 95317 Bolvent(s): Lot# Lot Number: 021624 Mathanol EG359-USQ12 Description: Universal VOA Megamix hant 69 components 021624 Formulated By: Prashant Chauhan Expiration Date: 021627 DATE Bacon mended Storage: Freezer (0 °C) Nominal Concentration (ug/mL): 2000 Alente dia NIST Test ID#: BUTB 021624 5E-05 Balance Uncertainty Reviewed By Weight(s) shown below were combined and diluted to (mL): Pedro L. Rentas DATE 100.0 0.021 Flask Docentaion Expanded SDS Information (RM#) DI. Initial Initial Nominal Purity Purity Target Actual Actual Uncertainty (Solvent Safety Info. On Attached pg.) Compound Part Nom Numb Factor Vol. (mL) Gonc.(ug/mL) Conc (µg/mL) (95) Uncertainty Pipetra (mL) Weight(g) Weight(g) Conc (ug/mL) (+/-) (ug/mL) CAS# OSHA PEL (TWA) LD30 1. Acetonitria (0324) 021544 NA NA 2000 99.99 0.2 NA 0.20007 0.20020 Allyl chloride (3-Chloropropene) 2001.3 75-05-8 40 ppm (70mg/m3/8H) (0325) 102396 NA ori-rat 2460mg/kg NA NA 2000 2000 99 0.2 NA 0.20207 3 Carbon disulphide 0.20221 2001.4 8.2 107-05-1 orl-rat 700mg/kg (0060) MKCB8561 NA NA NA 1 ppm (3mg/m3/8H) 99.99 0.2 NA 0.20007 0.20023 2001.6 cis-1,4-Dichtoro-2-butene 8.1 75-15-0 4 ppm (\$2mg/m3) (sidn 14718EF (1196)NA NA NA orl-rat 1200mg/kg 2000 95 0.2 NA 0.21058 0.21069 2001.1 8.5 1478-11-5 Irans-1,4-Dichloro-2-butene N/A MKBP8041V NA NA NA 2000 96.5 0.2 NA 0.2073 6. **Diethyl ether** 0.20746 2001.7 8.4 (0153) IK18CAS0000 110-57-6 NA NA NP N/A N/A 2000 99.9 0.2 NA 0.20025 0.20040 2001.5 7 Ethyl methacrylate 8.1 60-29-7 (0381) N/A 06126PX N/A NA NA NA 2000 0.2 Ø NA 0.20207 0.20230 2002.3 8.2 97-63-2 lodomethane N/A ori-rat 14800mg/kg (0489)SHBF8718V NA NA NA 2000 99.5 0.2 NA 0.20106 9. 2-Methyl-1-propanol 0.20121 2001.5 8.2 74-88-5 ppm(28mg/m3/6H)(skin) orl-rat 76mg/kg (0445) 16241EB NA NA NA 2000 99.5 0.2 NA 0.20108 0.20120 10. Methacrylonil/lie 2001.4 (0442) 8.1 78-83-1 60 ppm (150mg/m3/8H) 00427ET orl-rat 2460mg/kg NA NA NA 2000 99 0.2 Methyl acrylate NA 11. 0.20207 0.20221 2001.4 8.2 128-98-1 (1075)SHEK0679 1 ppm (3mg/m3/8H)(akin) NA NA orl-rat 120mg/kg NA 2000 99.9 0.2 NA 0.20025 0.20040 96-33-3 12. Methyl methacrylate 2001.5 8.1 10 ppm(35mg/m3/8H)(sidn) (0404) MKEW5137V NA orf-rat 277mg/kg NA NA 5000 99.9 0.2 NA 0.20026 0.20041 2001.8 13. Nitrobenzene (0228 8.1 80-62-6 100 ppm (410mg/m3/8H 01213TV ori-rat 7872mg/kg NA NA NA 2000 0.2 NA 2-Nilropropane 0.20207 0.20220 14. 2001.3 8.2 98-95-3 orl-rat 780mg/kg 10481 14002JX MA NA 1 ppm (5mg/m3/8H)(ekin) NA 2000 97.3 0.2 NA 0.20560 15. Pentachloroethane 0.20577 2001.6 8.3 70-46-0 10 ppm (35mg/m3/8H) (0450)HGA01 NA orl-ret 720mg/kg NA NA 2000 98 0.2 NA 0.20413 0.20430 2001.6 18. 1,1,2-Trichlorstriftuoroethane 8.3 78-01-7 (0474) 18930 N/A NA NA NA N/A 2000 99 0.2 NA 17. Bromodichioromethane 0.20207 0.20225 2001.6 8,2 76-13-1 1000 ppm (7600mg/m3/8H) 35171 101623 0.05 5.90 ori-rat 43g/kg 40001.1 2000 NA NA 0.017 NA 18. Dibromochloromethane NA 1999.6 22.9 75-27-4 N/A 35171 101623 0.05 ori-rat 916mg/kg 5.00 40002. 2000 NA NA 0.017 NA NA 1999.6 19. cis-1,2-Dichloroethene 35171 23.0 124-48-1 N/A orl-rat 848mg/kg 101823 0.05 5.00 40003.1 2000 NA NA 0.017 20. NA NA 1999.7 22.9 156-59-2 trans-1_2-Dichloroethen 35171 101623 0.05 N/A N/A 5.00 2000 40002.4 NA MA 0.017 NA NA Methylane chlorida 21 1999.6 23.0 158-60-5 N/A ort-rat 1235mg/kg 35171 101623 0.05 5.00 40002.8 2000 NA NA 0.017 NA NA 1999.6 22 1,1-Dichloroethene 22.9 75-09-2 32251 500 ppn ori-rat 820mg/kg 102023 0.10 10.00 20001.6 2000 NA NA 0.042 NA NA 23 Bromotorm 1999.1 20.4 75-35-4 95321 020724 0.10 1 ppm (4mg/m3/8H) orl-rat 200mg/kg 10.00 20003.2 2000 NA NA 0.042 NA NA 24. 1999.8 20.5 78-25-2 Carbon tetrachioride 0.5 ppm (5mg/m3) (skin) 95321 020724 0.10 10.00 20003.4 orl-rat 933mg/kg 2000 NA NA 0.042 NA 25 NA 1999.8 Chioroform 20.4 56-23-5 2 ppm (12.6mg/m3/8 95321 ort-rat 2350mg/kg 020724 0.10 10.00 20024.0 2000 NA NA 0.042 NA NA 67-68-3 26. Dibromomethane 2001.9 20.5 60 ppm (240mg/m3) (CL) orl-ret 908mg/kg 95321 020724 0.10 10.00 20002.9 2000 NA NA 0.042 NA NA 74-95-3 27. 1.1-Dichloroethane 1999.8 20.5 95321 020724 0.10 N/A orl-rat 108mg/kg 10.00 20003.4 2000 NA NA 0.042 NA NA 2,2-Dichloropropane 1999.8 28. 9532 020724 20.5 75-34-3 100 ppm orl-rat 725mg/kg 0.10 10.00 20003.4 2000 NA NA 0.042 29 NA NA 1999.8 20.4 594-20-7 Tetrachloroethene N/A 85321 020724 0.10 BI/A 10.00 20201.1 2000 NA NA 0.042 NA 30. NA 2019.6 20.8 127-18-4 25 ppm (170mg/m3/6H)(final) ort-rat 2629mg/kg 1,1,1-Trichloroethane 0.10 95321 020724 10.00 20003.0 2000 NA NA 0.042 NA NA 31 1.2-Dibromo-3-chiloroproparie 1999.8 20.5 71-55-8 35161 112322 350 ppm (1900mg/m3/8H) orl-rat 10300mg/kg 0.05 5.00 40016.5 2000 NA NA 0.017 NA NA 2000.3 32. 1.2-Dibromoethane 22.9 96-12-8 orl-rat 170mg/kg 35161 0.001 ppm 112322 0.05 5.00 40024.8 2000 NA NA 0.017 NA 33. 1,2-Dichlorcethane NA 2000.7 22.9 108-93-4 20 ppm (8H) orl-rat 108mg/kg 36161 112322 0.05 5.00 40018.0 2000 NA NA 0.017 NA NA 34. 1,2-Dichloropropane 2000.4 22.9 107-08-2 35161 50 ppm (8H 112322 orl-rat 670mg/kg 0.05 5.00 40051,0 2000 NA NA 0.017 NA NA 2002.0 22.9 35 1.3-Dichloropropane 78-87-5 orl-rat 1947mg/kg 35161 75 ppm (350mg/m3/8H) 112322 0.05 5.00 40005.9 2000 NA NA 0.017 NA NA 38. 1999.8 22.9 1.1-Dichlaropropene 142-28-9 NA 35161 unr-mus 3600mp/kg 112322 0.05 5.00 40012. 2000 NA NA 0.017 NA 37. cis-1,3-Dichloropropena NA 2000.1 29.7 35181 112322 563-58-6 N/A NFA 0.05 5.00 40010.0 2000 NA N 0.017 NA NA 2000.0 23.0 38. trans-1,3-Dichloropropene 10081-01-5 36161 112322 0.05 N/A N/A 5.00 40017.6 2000 NA MA 0.017 NA NA 39. Hexachloro-1,3-butadiene 2000.4 23.0 10061-02-6 NVA 35161 112322 0.05 5.00 N/A 40021.0 2000 NA 40. NA 0.017 NA NA 2000.6 0.02 ppm (0.24mg/m3/8 1,1,1,2-Tetrachloroethane 29.7 87-68-3 35161 orl-rat 82mg/kg 112322 0.05 5.00 40011.9 2000 NA NA 0.017 41. 1,1,2,2-Tetrachloroethane NA NA 2000.1 22.9 630-20-6 35161 N/A 112322 0.05 5.00 40007.5 orl-rat 670mg/kg 2000 NA NA 0.017 N/ NA 42. 1.1.2-Trichloroethane 1999.9 22.9 79-34-5 5 ppm (35mg/m3/9H)(skin) 35161 112322 0.05 5.00 40006.0 ori-rat 800mg/kg 2000 NA NA 0.017 NA NA 43. Trichloroethene 1999.8 23.0 79-00-5 10 ppm (45mg/m3/8H)(skin) 3516 orl-rat 836mg/kg 112322 0.05 5.00 40029.0 2000 NA NA 0.017 44. 1,2,3-Trichioropropane NA NA 2000.B 22.9 79-01-6 orl-mus 2402mg/kg 35161 112322 50 ppm (270mg/m3/8H) 0.05 5.00 40007.5 2000 NA NA 0.017 NA NA 45. Banzens 1999.9 22.9 96-18-4 10 ppm (60mg/m 35162 050823 0.05 5.00 40005.0 orl-ret 149.8mg/kg 2000 NA NA 0.017 NA NA 46. Bromobenzene 1999.7 22.9 71-43-2 3516 050823 1 000 orl-rat 4894mg/kg 0.05 5.00 40006.9 2000 NA NA 0.017 47. NA n-Butyl benzene NA 1999.8 22.9 108-86-1 ori-rat 2000mg/kg 35162 050823 0.0 5.00 40003.8 N/A 2000 NA NA 0.017 NA NA 48. Ethyl benzene 1999.7 22.9 104-51-8 N/A 36162 050823 0.08 5.00 40004.8 2000 NA NA N/A 0.017 NA NA 49. p-hopropyl toluene 1999.7 22.9 100 ppm (435mg/m3/8H) 100-41-4 35162 050823 pringing005< tar-ho 0.05 5.00 40005.8 2000 NA NA 0.017 50. Naphthalene NA NA 1999.8 22.9 99-87-6 orl-rat 4750mg/kg 35162 050823 40008.2 **N/A** 0.08 5.00 2000 NA NA 0.017 NA NA 51. Styrene 1999.8 22.9 91-20-3 m (Sümg/m 35162 050823 0.05 5.00 40004.8 orl-rat 490mg/kg 2000 NA NA 0.017 NA NA 1999. 22.9 52. Toluene 100-42-5 050823 100 ppm 35162 orl-rat 5000mg/kg 0.05 5.00 40006.2 2000 NA NA 0.017 53. 1,2,3-Trichlorobenzene NA NA 1999.8 22.9 108-88-3 35162 050823 200 ppm orl-rat 5000mg/kg 0.08 5.00 40003.1 2000 NA NA 0.017 NA NA 54. 1.2.4-Trichlorobenzane 1999.7 22.9 87-61-6 35162 050823 0.05 5.00 40006.6 NA pr-mus 1300mg/kg 2000 NA 0.017 NA NA 1999.8 22.3 56. 120-82-1 1.2.4-Trimetintbenzene 5 ppm (CL) (40mg/m3) orl-rat 756mg/kg 35162 050823 0.05 5.00 40001.8 2000 NA NA 0.017 NA 56. 1.3,5-Tranethylbenzene NA 1999.6 23.0 95-63-6 orl-rat 5g/kg 35162 050923 0.05 5.00 40006. N/A 2000 NA NA 0.017 NA NA 57. m-Xylene 1999.8 22.9 108-87-8 N/A 5.00 35162 050823 0.05 40005.8 2000 NA orl-rat 5000mg/kg 58. tert-Butyl benzene NA 0.017 NA NA 1999.6 22,9 108-38-3 100 ppm (435mg/m3/8H) 35163 101923 orl-rat 5g/kg 0.05 5.00 40001.2 2000 NA NA 0.017 NA 69 sec-Butyl benzene NA 1999.6 22.9 98-06-6 35163 101923 N/A N/A 0.05 5.00 40002.4 2000 NA NA 0.017 NA NA 1999.6 60. Chlorobenzene 22.9 135-98-8 N/A orl-rat 2240mg/kg 36163 101923 0.05 5.00 40003 6 NA 2000 NA 0.017 NA NA 61. 2-Chlorotoluene 1999.7 22.9 108-90-7 3516 101923 75 ppm (350mp/m3/8H) orl-rat 2290mg/kg 0.05 5.00 40000.3 2000 NA NA 0.017 NA 62. 4-Chlorotoluene NA 1999.5 22.9 95-49-8 60 ppm (250mg/m3/8H) orl-rat 3900mg/kg 35163 101923 0.05 5.00 40003.3 2000 NA NA 0.017 NA NA 1099.7 63. 1.2-Dichlorobenzene 22.9 106-43-4 N/A 35163 101923 0.05 5.00 40003.8 orl-rat 2100mg/kg 2000 N/ NA 64. 1,3-Dichlorobenzene 0.017 NA NA 1999.7 22.9 95-50-1 50 ppm (300mg/m3) (CL) 3516 101923 orl-rat 500mg/kg 0.05 5.00 40001.7 2000 NA NA 0.017 NA 65. 1,4-Dichlorobenzene NA 1999.6 23.0 541-73-1 N/A ipr-mus 1062mg/kg 35163 101923 0.05 5.00 40001.8 2000 NA NA 0.017 NA NA 1999.6 66. isopropylbenzene 22.9 106-48-7 75 ppm (450mg/m3/8F ori-rat 500mg/kg 35163 101923 0.05 5.00 40000.6 2000 NA NA 0.017 NA NA 1999.5 22.9 67. n-Propybenzene 98-82-8 35163 101923 50 ppm (245mg/m3/8H) orl-rat 1400mg/kg 0.05 5.00 40003.4 2000 NA NA 0.017 NA NA 1999.7 23.0 o-Xylen 103-65-N/A 36163 101923 orl-rat 6040mg/kg 0.05 5.00 40040.8 2000 NA NA 0.017 NA NA 2001.5 69. p-Xylene 23.0 95-47-6 100 ppm (435mg/m3/8H) lpr-mus 1364mg/kg 35183 101923 0.05

NA

NA

2000

5.00

40000.8

• The certified value is the constituting calculated from gravitantic and valumetric measurements unless either vide spinor.
• Standards are prepared gravitanticially using holeness that are calibrated with weights traceable to NSY (see abov).
• Standards are certified (+1) AN⁶ of the stands or video, using a diversity and under appropriate informatory conditions.
• All Standards are performed and the stored with either standard and under appropriate informatory conditions.
• All Standards, after opening ampete, should be stored with either for Standards are perpending the Uncertainty Reference Taylor, B.N. and Kayan, C.E., "Galatienes for Standards are perpending the Uncertainty and Standards are stored with either for Standards, and Expressing the Uncertainty and Standards are stored with either the standards, and the stored with either for Standards, and Expressing the Uncertainty Result.
NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

0.017

NA

NA

1999.5

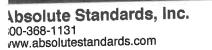
22.9

108-42-3

68.

100 ppm (435mg/m3/8H)

orl-rat 5g/kg



Certified Reference Material CRM



FID RT Run 16, "P95317 L021624 (2000µg/mL in MeOH)" (min.) 9,97 20,33 Peak i EENN Ester 1,1,2-136chloro+1,2,3-chifid 5,3-Dichloroethene Acesonattia Sodomethane Alsyschloride 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". 5.100 12,01 12,01 12,01 12,01 12,04, Indemethane Ashr chrone Cashon disuffidagifeghylane chloric trans. J.p. 2-chorderane 2,2-suscharanoodine 2,3-suscharanoodine 4estaacrymentickiesuly acrystal J. - Dubtemptopeane Cashon Starkersine 2,2-outbemptopeane Cashon Starkersine 2,2-outbemptopeane Cashon Starkersine 2,2-outbemptopeane Cashon Starkersine 2,2-outbemptopeane 2,2-outbemptopeane 2,2-outbemptopeane 2,2-outbemptopeane 2,2-outbemptopeane Diperentemptopeane Diperentemptopeane Cashon Analyzed using Method "GC5-M1". 10 11 12 13 14 15 19 19 20 21 22 23 24 25 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., Air(make-up)=230mL/min., Helium(make-up)=10mL/min., Air(make-up)=230mL/min., Helium(make-up)=10mL/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. Laurentalisaturen angen internetationen et al., Jar Gerbandergehan Tabuenta Laurentalisaturen (J. 2010) Laurentalisaturen (J. 20 FID Signal = Edag Channel 1 Standard injection = 0.5µL, Range=3 2 2 7 2 2 2 3 2 3 2 4 5 6 7 8 9 0 0 1 2 2 3 4 4 9 1 6 7 8 9 0 2 3 2 2 5 5 5 5 7 8 1000000 300000 600000 N 400000 Nacrobenzerie kscromenzanie 5,2,4-7michlionobenisene Hexechinnobuliadiene Kaphilitalene 200000 1.2.3-Trichtorobensen 0 50 30 48 20

min

Safety Data Sheet (SDS) **GHS/OSHA** Compliant

Section I Product and (Company Identification			
Manufacturer's Name Address	TICAL STANDARD DISSOLVED IN M ABSOLUTE STANDARDS INC 44 Rossotto Dr.	Emergency Tele	ephone USA & CANADA	1-800-535-5053
Section II - Hazards Ide	Hamden CT, 06514	Date Prepared/	Revised	1-352-323-3500 January 1, 2024
4005	GHS Classification in accord	dance with 29 CF	R 1910 (OSHA HCS)	
P271 Cause d	ilammable Liquid and Vapor amage to organs entilated area n, wash with soap and water Signal Word: DANGER	H301, 311, 331 H351 P280 P305,351,338	Toxic if swallowed, skin cont Suspected of causing cance Use gloves, eye protection/fa If in eyes, remove contacts, r	r Ice sheild
Section III - Composition				
Provide a second se				
methanor	emical Identity; Common Name(s)) METHYL ALCOHOL	CAS#: 67-56-1		% (optional) > 97
See Certified Weight	Report For Other Analytes Pre-	sent At Trace (Quantities.	
Section IV. FIRST AID ME	ASURES			
General advice If inhaled In case of skin contact In case of eye contact If swallowed	Consult a physician. Show this safety data If inhaled, move person into fresh air. If not Wash with soap and water. Consult a phys Rinse thoroughly with plenty of water for at Do NOT induce vomiting. Rinse mouth with	i breatning, give artific sician.	cial respiration. Consult a physician.	
Section V. FIREFIGHTING	MEASURES			
Flammability Suitable extinguishing media Protective equipment for fire	Flammable in the presence of a source heat/sparks/open flame/hot surface. N Use water spray, alcohol-resistant foar Wear self contained breathing apparate	no antoking.	nam alterated a	Keep away from
Section VI. ACCIDENTAL				
Personal precautions Environmental precautions Clean up	Wear respiratory protection. Avoid breathing ignition. Vapours accumulate to form explosi Prevent further leakage or spillage if safe to Contain spillage, and then collect and place	do so. Do not lot pro-	du al material.	
Section VII. HANDLING AN				
Precautions for safe handling Storage Conditions	Avoid contact with skin and eyes. Avoid Use ventilation Keep away from source	s of ignition No omo	king Descent the task of a second	tic charge
	and kept upright to prevent leakage.	to wen-ventilated plac	e. Containers which are opened must	be carefully resealed
Section VIII. EXPOSURE C	ONTROLS/PERSONAL PROTECTIO	N		
Methanol 67-56-1 TWA 3 Skin notation TWA 200 ppm Potential for skin absorption , inge Personal protective equipment Woid contact with skin, eyes and other		Gloves must be inspe	cted prior to use. Eye protection.	
Section IX - Physical/Chem				

Absolute Standards Inc.	Har	mden, CT 06518-0585	FAX: 203-201-2322
-iling Doint		Specific Gravity (H2O = 1)	0.79
Boiling Point	65°C	Melting Point	-98°C
/apor Pressure (mm Hg)			
/apor Density (AIR = 1)	1.11	(Butyl Acetate = 1)	4.6

PO Box 5585

Solubility in Water

Appearance and Odor

F

CLEAR, COLORLESS LIQUID WITH CHARACTERISTIC PUNGENT ODOR.

Section X. STABILITY AND REACTIVITY

COMPLETE

Chemical stabilityStable under recommended storage conditions.Possibility of hazardous reactionsVapours may form explosive mixture with air.Conditions to avoidHeat, flames, sparks, extreme temperature and sunlight.Materials to avoidAcid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, AcidsHazardous 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 MARCHANTABILITY OR ITS FTNESS 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.

Phone: 203-281-2917

FAX: 203-281-2922

Absolute Standards, Inc. 800-368-1131

www.absolutestandards.com



Certified Reference Material CRM Ree 03/17/24 \$

CERTIFIED WEIGHT REPORT Parl Number: 95317 Bolvent(s): Lot# Lot Number: 021624 Mathanol EG359-USQ12 Description: Universal VOA Megamix hant 69 components 021624 Formulated By: Prashant Chauhan Expiration Date: 021627 DATE Bacon mended Storage: Freezer (0 °C) Nominal Concentration (ug/mL): 2000 Alente dia NIST Test ID#: BUTB 021624 5E-05 Balance Uncertainty Reviewed By Weight(s) shown below were combined and diluted to (mL): Pedro L. Rentas DATE 100.0 0.021 Flask Docentaion Expanded SDS Information (RM#) DI. Initial Initial Nominal Purity Purity Target Actual Actual Uncertainty (Solvent Safety Info. On Attached pg.) Compound Part Nom Numb Factor Vol. (mL) Gonc.(ug/mL) Conc (µg/mL) (95) Uncertainty Pipetra (mL) Weight(g) Weight(g) Conc (ug/mL) (+/-) (ug/mL) CAS# OSHA PEL (TWA) LD30 1. Acetonitria (0324) 021544 NA NA 2000 99.99 0.2 NA 0.20007 0.20020 Allyl chloride (3-Chloropropene) 2001.3 75-05-8 40 ppm (70mg/m3/8H) (0325) 102396 NA ori-rat 2460mg/kg NA NA 2000 2000 99 0.2 NA 0.20207 3 Carbon disulphide 0.20221 2001.4 8.2 107-05-1 orl-rat 700mg/kg (0060) MKCB8561 NA NA NA 1 ppm (3mg/m3/8H) 99.99 0.2 NA 0.20007 0.20023 2001.6 cis-1,4-Dichtoro-2-butene 8.1 75-15-0 4 ppm (\$2mg/m3) (sidn 14718EF (1196)NA NA NA orl-rat 1200mg/kg 2000 95 0.2 NA 0.21058 0.21069 2001.1 8.5 1478-11-5 Irans-1,4-Dichloro-2-butene N/A MKBP8041V NA NA NA 2000 96.5 0.2 NA 0.2073 6. **Diethyl ether** 0.20746 2001.7 8.4 (0153) IK18CAS0000 110-57-6 NA NA NP N/A N/A 2000 99.9 0.2 NA 0.20025 0.20040 2001.5 7 Ethyl methacrylate 8.1 60-29-7 (0381) N/A 06126PX N/A NA NA NA 2000 0.2 Ø NA 0.20207 0.20230 2002.3 8.2 97-63-2 lodomethane N/A ori-rat 14800mg/kg (0489)SHBF8718V NA NA NA 2000 99.5 0.2 NA 0.20106 9. 2-Methyl-1-propanol 0.20121 2001.5 8.2 74-88-5 ppm(28mg/m3/6H)(skin) orl-rat 76mg/kg (0445) 16241EB NA NA NA 2000 99.5 0.2 NA 0.20108 0.20120 10. Methacrylonil/lie 2001.4 (0442) 8.1 78-83-1 60 ppm (150mg/m3/8H) 00427ET orl-rat 2460mg/kg NA NA NA 2000 99 0.2 Methyl acrylate NA 11. 0.20207 0.20221 2001.4 8.2 128-98-1 (1075)SHEK0679 1 ppm (3mg/m3/8H)(akin) NA NA orl-rat 120mg/kg NA 2000 99.9 0.2 NA 0.20025 0.20040 96-33-3 12. Methyl methacrylate 2001.5 8.1 10 ppm(35mg/m3/8H)(sidn) (0404) MKEW5137V NA orf-rat 277mg/kg NA NA 5000 99.9 0.2 NA 0.20026 0.20041 2001.8 13. Nitrobenzene (0228 8.1 80-62-6 100 ppm (410mg/m3/8H 01213TV ori-rat 7872mg/kg NA NA NA 2000 0.2 NA 2-Nilropropane 0.20207 0.20220 14. 2001.3 8.2 98-95-3 orl-rat 780mg/kg 10481 14002JX MA NA 1 ppm (5mg/m3/8H)(ekin) NA 2000 97.3 0.2 NA 0.20560 15. Pentachloroethane 0.20577 2001.6 8.3 70-46-0 10 ppm (35mg/m3/8H) (0450)HGA01 NA orl-ret 720mg/kg NA NA 2000 98 0.2 NA 0.20413 0.20430 2001.6 18. 1,1,2-Trichlorstriftuoroethane 8.3 78-01-7 (0474) 18930 N/A NA NA NA N/A 2000 99 0.2 NA 17. Bromodichioromethane 0.20207 0.20225 2001.6 8,2 76-13-1 1000 ppm (7600mg/m3/8H) 35171 101623 0.05 5.90 ori-rat 43g/kg 40001.1 2000 NA NA 0.017 NA 18. Dibromochloromethane NA 1999.6 22.9 75-27-4 N/A 35171 101623 0.05 ori-rat 916mg/kg 5.00 40002. 2000 NA NA 0.017 NA NA 1999.6 19. cis-1,2-Dichloroethene 35171 23.0 124-48-1 N/A orl-rat 848mg/kg 101823 0.05 5.00 40003.1 2000 NA NA 0.017 20. NA NA 1999.7 22.9 156-59-2 trans-1_2-Dichloroethen 35171 101623 0.05 N/A N/A 5.00 2000 40002.4 NA MA 0.017 NA NA Methylene chloride 21 1999.6 23.0 158-60-5 N/A ort-rat 1235mg/kg 35171 101623 0.05 5.00 40002.8 2000 NA NA 0.017 NA NA 1999.6 22 1,1-Dichloroethene 22.9 75-09-2 32251 500 ppn ori-rat 820mg/kg 102023 0.10 10.00 20001.6 2000 NA NA 0.042 NA NA 23 Bromotorm 1999.1 20.4 75-35-4 95321 020724 0.10 1 ppm (4mg/m3/8H) orl-rat 200mg/kg 10.00 20003.2 2000 NA NA 0.042 NA NA 24. 1999.8 20.5 78-25-2 Carbon tetrachioride 0.5 ppm (5mg/m3) (skin) 95321 020724 0.10 10.00 20003.4 orl-rat 933mg/kg 2000 NA NA 0.042 NA 25 NA 1999.8 Chioroform 20.4 56-23-5 2 ppm (12.6mg/m3/8 95321 ort-rat 2350mg/kg 020724 0.10 10.00 20024.0 2000 NA NA 0.042 NA NA 67-68-3 26. Dibromomethane 2001.9 20.5 60 ppm (240mg/m3) (CL) orl-ret 908mg/kg 95321 020724 0.10 10.00 20002.9 2000 NA NA 0.042 NA NA 74-95-3 27. 1.1-Dichloroethane 1999.8 20.5 95321 020724 0.10 N/A orl-rat 108mg/kg 10.00 20003.4 2000 NA NA 0.042 NA NA 2,2-Dichloropropane 1999.8 28. 9532 020724 20.5 75-34-3 100 ppm orl-rat 725mg/kg 0.10 10.00 20003.4 2000 NA NA 0.042 29 NA NA 1999.8 20.4 594-20-7 Tetrachloroethene N/A 85321 020724 0.10 BI/A 10.00 20201.1 2000 NA NA 0.042 NA 30. NA 2019.6 20.8 127-18-4 25 ppm (170mg/m3/6H)(final) ort-rat 2629mg/kg 1,1,1-Trichloroethane 0.10 95321 020724 10.00 20003.0 2000 NA NA 0.042 NA NA 31 1.2-Dibromo-3-chloroproparie 1999.8 20.5 71-55-8 35161 112322 350 ppm (1900mg/m3/8H) orl-rat 10300mg/kg 0.05 5.00 40016.5 2000 NA NA 0.017 NA NA 2000.3 32. 1.2-Dibromoethane 22.9 96-12-8 orl-rat 170mg/kg 35161 0.001 ppm 112322 0.05 5.00 40024.8 2000 NA NA 0.017 NA 33. 1,2-Dichlorcethane NA 2000.7 22.9 108-93-4 20 ppm (8H) orl-rat 108mg/kg 36161 112322 0.05 5.00 40018.0 2000 NA NA 0.017 NA NA 34. 1,2-Dichloropropane 2000.4 22.9 107-08-2 35161 50 ppm (8H 112322 orl-rat 670mg/kg 0.05 5.00 40051,0 2000 NA NA 0.017 NA NA 2002.0 22.9 35 1.3-Dichloropropane 78-87-5 orl-rat 1947mg/kg 35161 75 ppm (350mg/m3/8H) 112322 0.05 5.00 40005.9 2000 NA NA 0.017 NA NA 38. 1999.8 22.9 1.1-Dichlaropropene 142-28-9 NA 35161 unr-mus 3600mp/kg 112322 0.05 5.00 40012. 2000 NA NA 0.017 NA 37. cis-1,3-Dichloropropena NA 2000.1 29.7 35181 112322 563-58-6 N/A NFA 0.05 5.00 40010.0 2000 NA N 0.017 NA NA 2000.0 23.0 38. trans-1,3-Dichloropropene 10081-01-5 36161 112322 0.05 N/A N/A 5.00 40017.6 2000 NA MA 0.017 NA NA 39. Hexachloro-1,3-butadiene 2000.4 23.0 10061-02-6 NVA 35161 112322 0.05 5.00 N/A 40021.0 2000 NA 40. NA 0.017 NA NA 2000.6 0.02 ppm (0.24mg/m3/8 1,1,1,2-Tetrachloroethane 29.7 87-68-3 35161 orl-rat 82mg/kg 112322 0.05 5.00 40011.9 2000 NA NA 0.017 41. 1,1,2,2-Tetrachloroethane NA NA 2000.1 22.9 630-20-6 35161 N/A 112322 0.05 5.00 40007.5 orl-rat 670mg/kg 2000 NA NA 0.017 N/ NA 42. 1.1.2-Trichloroethane 1999.9 22.9 79-34-5 5 ppm (35mg/m3/9H)(skin) 35161 112322 0.05 5.00 40006.0 ori-rat 800mg/kg 2000 NA NA 0.017 NA NA 43. Trichloroethene 1999.8 23.0 79-00-5 10 ppm (45mg/m3/8H)(skin) 3516 orl-rat 836mg/kg 112322 0.05 5.00 40029.0 2000 NA NA 0.017 44. 1,2,3-Trichioropropane NA NA 2000.B 22.9 79-01-6 orl-mus 2402mg/kg 35161 112322 50 ppm (270mg/m3/8H) 0.05 5.00 40007.5 2000 NA NA 0.017 NA NA 45. Banzens 1999.9 22.9 96-18-4 10 ppm (60mg/m 35162 050823 0.05 5.00 40005.0 orl-ret 149.8mg/kg 2000 NA NA 0.017 NA NA 46. Bromobenzene 1999.7 22.9 71-43-2 3516 050823 1 000 orl-rat 4894mg/kg 0.05 5.00 40006.9 2000 NA NA 0.017 47. NA n-Butyl benzene NA 1999.8 22.9 108-86-1 ori-rat 2000mg/kg 35162 050823 0.0 5.00 40003.8 N/A 2000 NA NA 0.017 NA NA 48. Ethyl benzene 1999.7 22.9 104-51-8 N/A 36162 050823 0.08 5.00 40004.8 2000 NA NA N/A 0.017 NA NA 49. p-hopropyl toluene 1999.7 22.9 100 ppm (435mg/m3/8H) 100-41-4 35162 050823 pringing005< tar-ho 0.05 5.00 40005.8 2000 NA NA 0.017 50. Naphthalene NA NA 1999.8 22.9 99-87-6 orl-rat 4750mg/kg 35162 050823 40008.2 **N/A** 0.08 5.00 2000 NA NA 0.017 NA NA 51. Styrene 1999.8 22.9 91-20-3 m (Sümg/m 35162 050823 0.05 5.00 40004.8 orl-rat 490mg/kg 2000 NA NA 0.017 NA NA 1999. 22.9 52. Toluene 100-42-5 050823 100 ppm 35162 orl-rat 5000mg/kg 0.05 5.00 40006.2 2000 NA NA 0.017 53. 1,2,3-Trichlorobenzene NA NA 1999.8 22.9 108-88-3 35162 050823 200 ppm orl-rat 5000mg/kg 0.08 5.00 40003.1 2000 NA NA 0.017 NA NA 54. 1.2.4-Trichlorobenzane 1999.7 22.9 87-61-6 35162 050823 0.05 5.00 40006.6 NA pr-mus 1300mg/kg 2000 NA 0.017 NA NA 1999.8 22.3 56. 120-82-1 1.2.4-Trimetintbenzene 5 ppm (CL) (40mg/m3) orl-rat 756mg/kg 35162 050823 0.05 5.00 40001.8 2000 NA NA 0.017 NA 56. 1.3,5-Tranethylbenzene NA 1999.6 23.0 95-63-6 orl-rat 5g/kg 35162 050923 0.05 5.00 40006. N/A 2000 NA NA 0.017 NA NA 57. m-Xylene 1999.8 22.9 108-87-8 N/A 5.00 35162 050823 0.05 40005.8 2000 NA orl-rat 5000mg/kg 58. tert-Butyl benzene NA 0.017 NA NA 1999.6 22,9 108-38-3 100 ppm (435mg/m3/8H) 35163 101923 orl-rat 5g/kg 0.05 5.00 40001.2 2000 NA NA 0.017 NA 69 sec-Butyl benzene NA 1999.6 22.9 98-06-6 35163 101923 N/A N/A 0.05 5.00 40002.4 2000 NA NA 0.017 NA NA 1999.6 60. Chlorobenzene 22.9 135-98-8 N/A orl-rat 2240mg/kg 36163 101923 0.05 5.00 40003 6 NA 2000 NA 0.017 NA NA 61. 2-Chlorotoluene 1999.7 22.9 108-90-7 3516 101923 75 ppm (350mp/m3/8H) orl-rat 2290mg/kg 0.05 5.00 40000.3 2000 NA NA 0.017 NA 62. 4-Chlorotoluene NA 1999.5 22.9 95-49-8 60 ppm (250mg/m3/8H) orl-rat 3900mg/kg 35163 101923 0.05 5.00 40003.3 2000 NA NA 0.017 NA NA 1099.7 63. 1.2-Dichlorobenzene 22.9 106-43-4 N/A 35163 101923 0.05 5.00 40003.8 orl-rat 2100mg/kg 2000 N/ NA 64. 1,3-Dichlorobenzene 0.017 NA NA 1999.7 22.9 95-50-1 50 ppm (300mg/m3) (CL) 3516 101923 orl-rat 500mg/kg 0.05 5.00 40001.7 2000 NA NA 0.017 NA 65. 1,4-Dichlorobenzene NA 1999.6 23.0 541-73-1 N/A ipr-mus 1062mg/kg 35163 101923 0.05 5.00 40001.8 2000 NA NA 0.017 NA NA 1999.6 66. isopropylbenzene 22.9 106-48-7 75 ppm (450mg/m3/8F ori-rat 500mg/kg 35163 101923 0.05 5.00 40000.6 2000 NA NA 0.017 NA NA 1999.5 22.9 67. n-Propybenzene 98-82-8 35163 101923 50 ppm (245mg/m3/8H) orl-rat 1400mg/kg 0.05 5.00 40003.4 2000 NA NA 0.017 NA NA 1999.7 23.0 o-Xylen 103-65-N/A 36163 101923 orl-rat 6040mg/kg 0.05 5.00 40040.8 2000 NA NA 0.017 NA NA 2001.5 69. p-Xylene 23.0 95-47-6 100 ppm (435mg/m3/8H) lpr-mus 1364mg/kg 35183 101923 0.05

NA

NA

2000

5.00

40000.8

• The certified value is the constituting calculated from gravitantic and valumetric measurements unless either vide spinor.
• Standards are prepared gravitanticially using holeness that are calibrated with weights traceable to NSY (see abov).
• Standards are certified (+1) AN⁶ of the stands or video, using a diversity and under appropriate informatory conditions.
• All Standards are performed and the stored with either standard and under appropriate informatory conditions.
• All Standards, after opening ampete, should be stored with either for Standards are perpending the Uncertainty Reference Taylor, B.N. and Kayan, C.E., "Galatienes for Standards are perpending the Uncertainty and Standards are stored with either for Standards, and Expressing the Uncertainty and Standards are stored with either the standards, and the stored with either for Standards, and Expressing the Uncertainty Result.
NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

0.017

NA

NA

1999.5

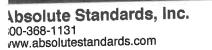
22.9

108-42-3

68.

100 ppm (435mg/m3/8H)

orl-rat 5g/kg



Certified Reference Material CRM



FID RT Run 16, "P95317 L021624 (2000µg/mL in MeOH)" (min.) 9,97 20,33 Peak i EENN Ester 1,1,2-136chloro+1,2,3-chifid 5,3-Dichloroethene Acesonattia Sodomethane Alsyschloride 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". 5.100 12,01 12,01 12,01 12,01 12,04, Indemethane Ashr chrone Cashon disuffidagifeghylane chloric trans. J.p. 2-chorderane 2,2-suscharanoodine 2,3-suscharanoodine 4estaacrymentickiesuly acrystal J. - Dubtemptopeane Cashon Starkersine 2,2-outbemptopeane Cashon Starkersine 2,2-outbemptopeane Cashon Starkersine 2,2-outbemptopeane Cashon Starkersine 2,2-outbemptopeane 2,2-outbemptopeane 2,2-outbemptopeane 2,2-outbemptopeane 2,2-outbemptopeane Diperentemptopeane Diperentemptopeane Cashon Analyzed using Method "GC5-M1". 10 11 12 13 14 15 19 19 20 21 22 23 24 25 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., Air(make-up)=230mL/min., Helium(make-up)=10mL/min., Air(make-up)=230mL/min., Helium(make-up)=10mL/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. Laurentalisaturen angen internetationen et al., Jar Gerbandergehan Tabuenta Laurentalisaturen (J. 2010) Laurentalisaturen (J. 20 FID Signal = Edag Channel 1 Standard injection = 0.5µL, Range=3 2 2 7 2 2 2 3 2 3 2 4 5 6 7 8 9 0 0 1 2 2 3 4 4 9 1 6 7 8 9 0 2 3 2 2 5 5 5 5 7 8 1000000 300000 600000 N 400000 Nacrobenzerie kscromenzanie 5,2,4-7michlionobenisene Hexechinnobuliadiene Kaphilitalene 200000 1.2.3-Trichtorobensen 0 50 30 48 20

min

Safety Data Sheet (SDS) **GHS/OSHA** Compliant

Section I Product and (Company Identification			
Manufacturer's Name Address	TICAL STANDARD DISSOLVED IN M ABSOLUTE STANDARDS INC 44 Rossotto Dr.	Emergency Tele	ephone USA & CANADA	1-800-535-5053
Section II - Hazards Ide	Hamden CT, 06514	Date Prepared/	Revised	1-352-323-3500 January 1, 2024
4005	GHS Classification in accord	dance with 29 CF	R 1910 (OSHA HCS)	
P271 Cause d	ilammable Liquid and Vapor amage to organs entilated area n, wash with soap and water Signal Word: DANGER	H301, 311, 331 H351 P280 P305,351,338	Toxic if swallowed, skin cont Suspected of causing cance Use gloves, eye protection/fa If in eyes, remove contacts, r	r Ice sheild
Section III - Composition				
Provide a second se				
methanor	emical Identity; Common Name(s)) METHYL ALCOHOL	CAS#: 67-56-1		% (optional) > 97
See Certified Weight	Report For Other Analytes Pre-	sent At Trace (Quantities.	
Section IV. FIRST AID ME	ASURES			
General advice If inhaled In case of skin contact In case of eye contact If swallowed	Consult a physician. Show this safety data If inhaled, move person into fresh air. If not Wash with soap and water. Consult a phys Rinse thoroughly with plenty of water for at Do NOT induce vomiting. Rinse mouth with	i breatning, give artific sician.	cial respiration. Consult a physician.	
Section V. FIREFIGHTING	MEASURES			
Flammability Suitable extinguishing media Protective equipment for fire	Flammable in the presence of a source heat/sparks/open flame/hot surface. N Use water spray, alcohol-resistant foar Wear self contained breathing apparate	no antoking.	nam alterated a	Keep away from
Section VI. ACCIDENTAL				
Personal precautions Environmental precautions Clean up	Wear respiratory protection. Avoid breathing ignition. Vapours accumulate to form explosi Prevent further leakage or spillage if safe to Contain spillage, and then collect and place	do so. Do not lot pro-	du al material.	
Section VII. HANDLING AN				
Precautions for safe handling Storage Conditions	Avoid contact with skin and eyes. Avoid Use ventilation Keep away from source	s of ignition No omo	king Descent the task of a second	tic charge
	and kept upright to prevent leakage.	to wen-ventilated plac	e. Containers which are opened must	be carefully resealed
Section VIII. EXPOSURE C	ONTROLS/PERSONAL PROTECTIO	N		
Methanol 67-56-1 TWA 3 Skin notation TWA 200 ppm Potential for skin absorption , inge Personal protective equipment Woid contact with skin, eyes and other		Gloves must be inspe	cted prior to use. Eye protection.	
Section IX - Physical/Chem				

Absolute Standards Inc.	Har	mden, CT 06518-0585	FAX: 203-201-2322
-iling Doint		Specific Gravity (H2O = 1)	0.79
Boiling Point	65°C	Melting Point	-98°C
/apor Pressure (mm Hg)			
/apor Density (AIR = 1)	1.11	(Butyl Acetate = 1)	4.6

PO Box 5585

Solubility in Water

Appearance and Odor

F

CLEAR, COLORLESS LIQUID WITH CHARACTERISTIC PUNGENT ODOR.

Section X. STABILITY AND REACTIVITY

COMPLETE

Chemical stabilityStable under recommended storage conditions.Possibility of hazardous reactionsVapours may form explosive mixture with air.Conditions to avoidHeat, flames, sparks, extreme temperature and sunlight.Materials to avoidAcid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, AcidsHazardous 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

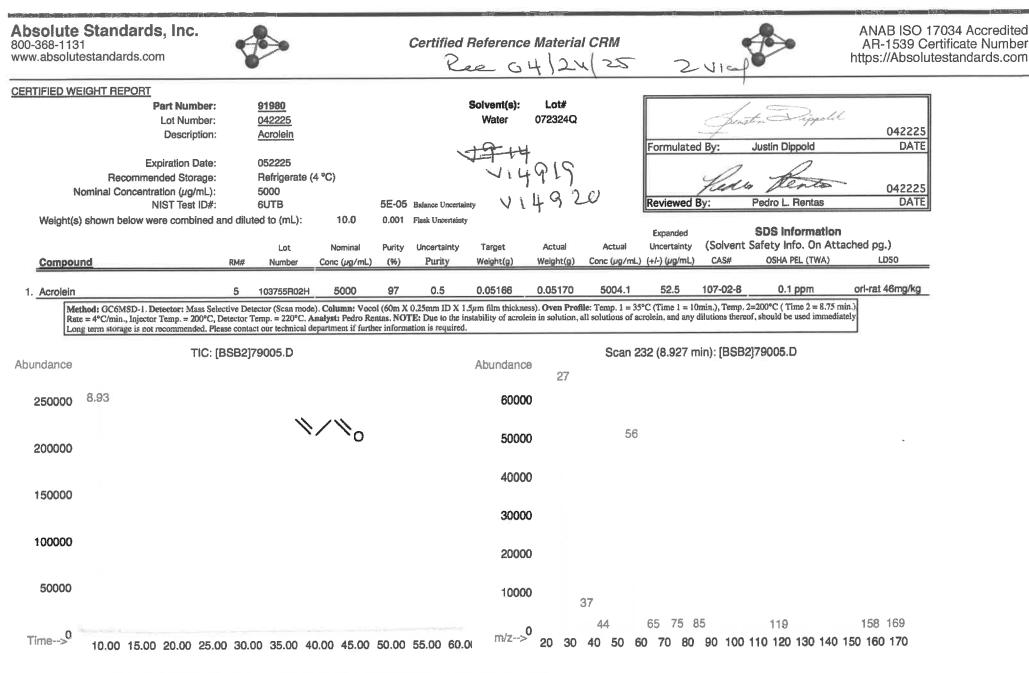
OSHA Hazards Flammable liquid, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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 MARCHANTABILITY OR ITS FTNESS 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.

Phone: 203-281-2917

FAX: 203-281-2922



• The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.

• Standards are prepared gravimetrically using halances that are calibrated by an ISO 17025 certified organization with weights traceable through NIST to the SI kilogram (see above).

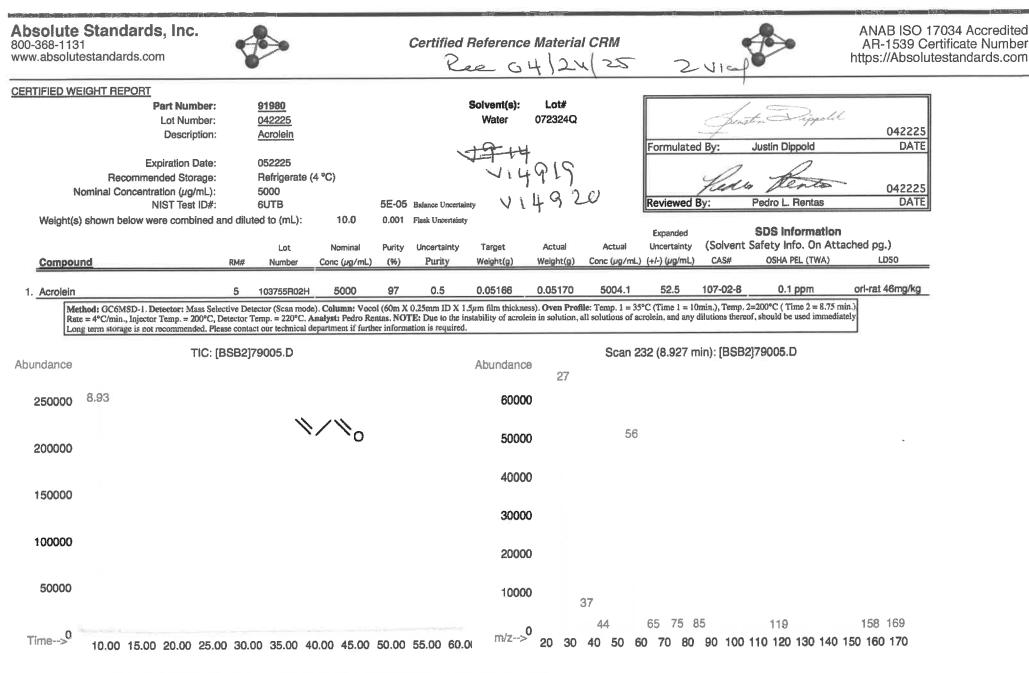
• Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.

· 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



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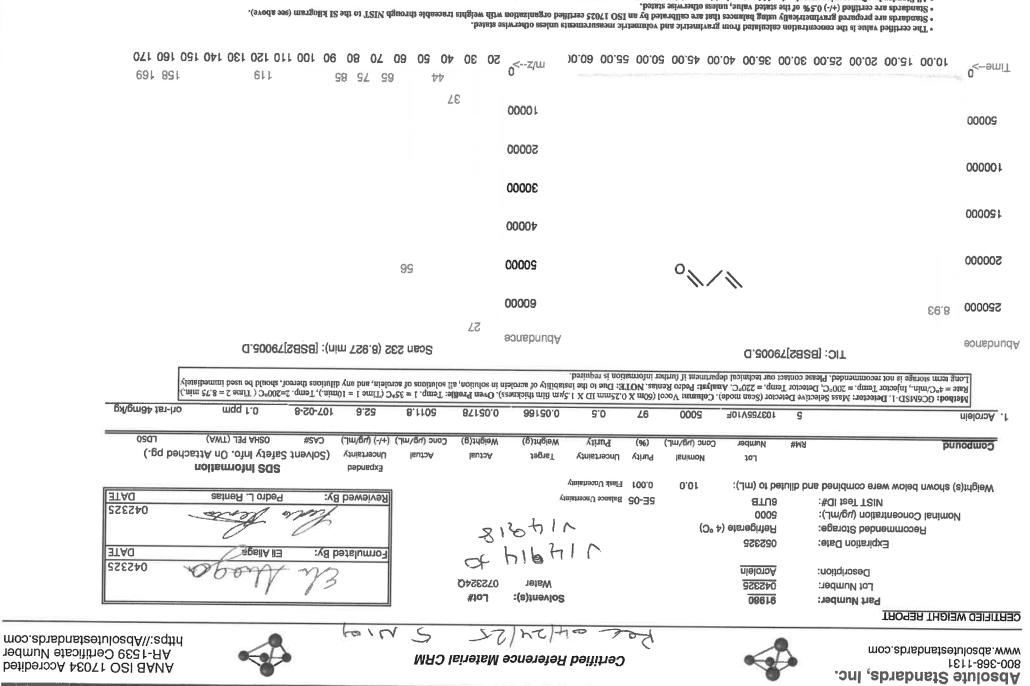
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Rev 1.0, 2/25/2025



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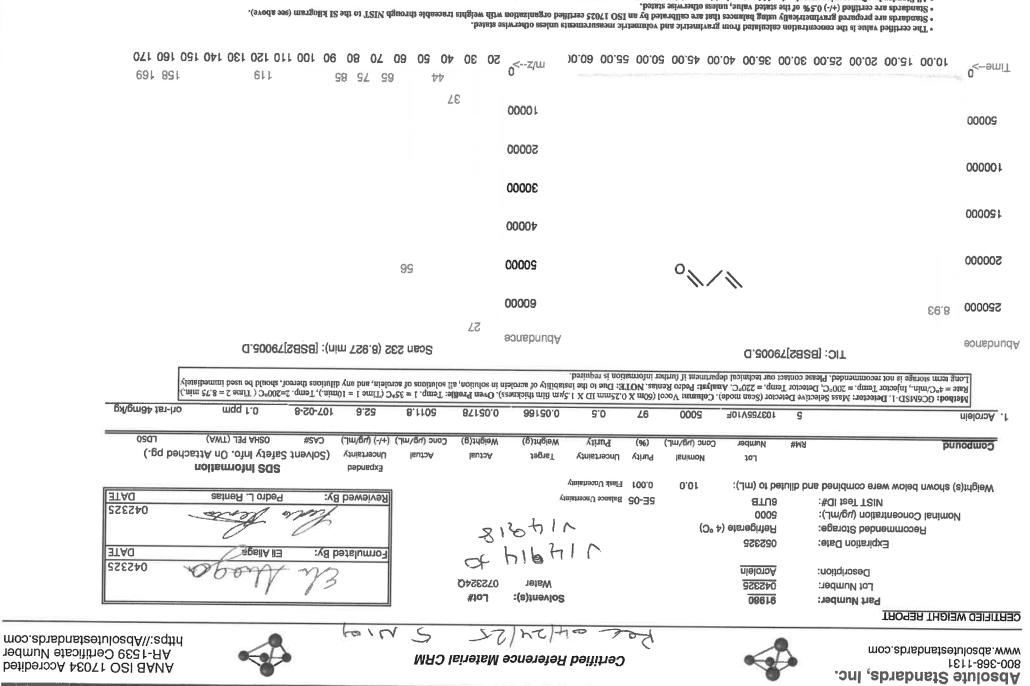
S202/22/2,0.1 Y9H

Absolute Standards Inc.	PO Box 5585 Hamden, CT 06518-0585	Phone: 203-281-2917 FAX: 203-281-2922
Safety Data Sheet (SDS)	t (SDS) GHS/OSHA Compliant	
Section I Product and Company Identification		
IDENTITY ANALYTICAL STANDARD DISSOLVED IN WATER Manufacturer's Name ABSOLUTE STANDARDS INC Er	7ED IN WATER S INC Emergency Telephone USA & CANADA	1-800-535-5053
Address Hamden CT, 06514	Emergency Telephone International Date Prepared/Revised	1-352-323-3500 January 1, 2025
Section II - Hazards Identification		
GHS Classification P271 Use in ventilated area P302,332 If on skin, wash with soap and water	Classification in accordance with 29 CFR 1910 (OSHA HCS) H315 Causes skin and eye irritation. Soap and water P280 Use gloves, eye protection/face sheild P305,351,338 If in eyes, remove contacts, rinse with water	ce sheild nse with water
Signal Word: DANGER		II SC MITH MOUS
Section III - Composition		
Components (Specific Chemical Identity; Common Name(s)) Water	ne(s)) CAS#: 7732-18-5	% (optional) > 97
See Certified Weight Report For Other Analytes Present At Trace Quantities INTENDED USE: REFERENCE MATERIAL Section IV. FIRST AID MEASURES	rtes Present At Trace Quantities.	
General adviceConsult a physician. Show thisIf inhaledIf inhaled, move person into fnIn case of skin contactWash with scap and water. CIn case of eye contactRinse thoroughly with plenty oIf swallowedDo NOT induce vomiting. Rinse	Consult a physician. Show this safety data sheet to the doctor in attendance. Move to safe area. If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Wash with soap and water. Consult a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Do NOT induce vomiting. Rinse mouth with water. Consult a physician.	
Section V. FIREFIGHTING MEASURES		
Suitable extinguishing media Use water spray, alcoh Protective equipment for fire Wear self contained br Hazardous Decomposition products Carbon oxides	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Wear self contained breathing apparatus for fire fighting if necessary. Carbon oxides	
Section VI. ACCIDENTAL RELEASE MEASURES		
Personal precautions Wear respiratory protection. Avian tion to the second seco	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove ignition. Vapours accumulate to form explosive concentrations	all sources of
Environmental precautions Prevent further leakage or spin Clean up Contain spillage, and then col	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Contain spillage, and then collect and place in container for disposal according to local regulations (see s	section 13).
Section VII. HANDLING AND STORAGE		
Precautions for safe handling Use ventilation Keep away from sou Storage Conditions Keep container tightly closed in a dr and kept upright to prevent leakage	void inhalation of vapour or mist. rces of ignition. No smoking, Prevent the build up y and well-ventilated place. Containers which are	o of electrostatic charge. opened must be carefully resealed
Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION	ROTECTION	
Water CAS#: 7732-18-5 'TM	TVVA: 500 ppm	
Personal protective equipment Respiratory protection Handle with gloves. Gloves mu Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product	Handle with gloves. Gloves must be inspected prior to use. Eye protection. ughly after handling the product.	
Section IX - PHYSICAL/CHEMICAL CHARACTERISTICS	ICS	
Boiling Point	Specific Gravity (H2O = 1)	
Vapor Pressure (mm Hg)	Melting Point	
Water-SDS.xls	Page 1 of 2	Printed: 4/22/25

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Phone: 203-281-2917 FAX: 203-281-2922

	NA	0°C
Vapor Density (AIR = 1)	NA (Butyl Acetate = 1)	NA
Solubility in Water Completely miscible		
Appearance and Odor CLEAR, COLORLESS I	CLEAR, COLORLESS LIQUID WITH SLIGHT CHEMICAL ODOR.	
Section X. STABILITY AND REACTIVITY		
Chemical stabilityStable under recommonPossibility of hazardous reactionsNAConditions to avoidNAMaterials to avoidNAHazardous decomposition products - No data available	Stable under recommended storage conditions. NA NA NA ata available	
Section XI. TOXICOLOGICAL INFORMATION		
LC50 Inhalation - Rat NA LD50 Dermal - Guinea pig NA Causes skin irritation. Eye irritation		
Section XII. ECOLOGICAL INFORMATION		
LC50 NA EC50 NA		
Section XIII. DISPOSAL CONSIDERATIONS		
Dispose with normal Laboratory Solvent Waste.		
Section XIV. TRANSPORT INFORMATION		
DOT (US) Not dangerous goods Proper shipping name: Water	IATA Not dangerous goods Proper shipping name: Water	
Section XV. REGULATORY INFORMATION		
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302	orting requirements of SARA Title III, Section 302.	
Section XVI. Misc. INFORMATION		
The information in this Material Safety Data Sheet meets the requirements o seq.) and Global Harmonized System (GHS). This document is intended on trained in chemical handling. The user is responsible for determining the pr including eye and face guards and respirators must be used to avoid contact This observed must interact with other substances.	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/furmes. Exposure for this product may have serious adverse health effects. This chemical handling is the product of the series the notation are not including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/furmes.	200 et. ing



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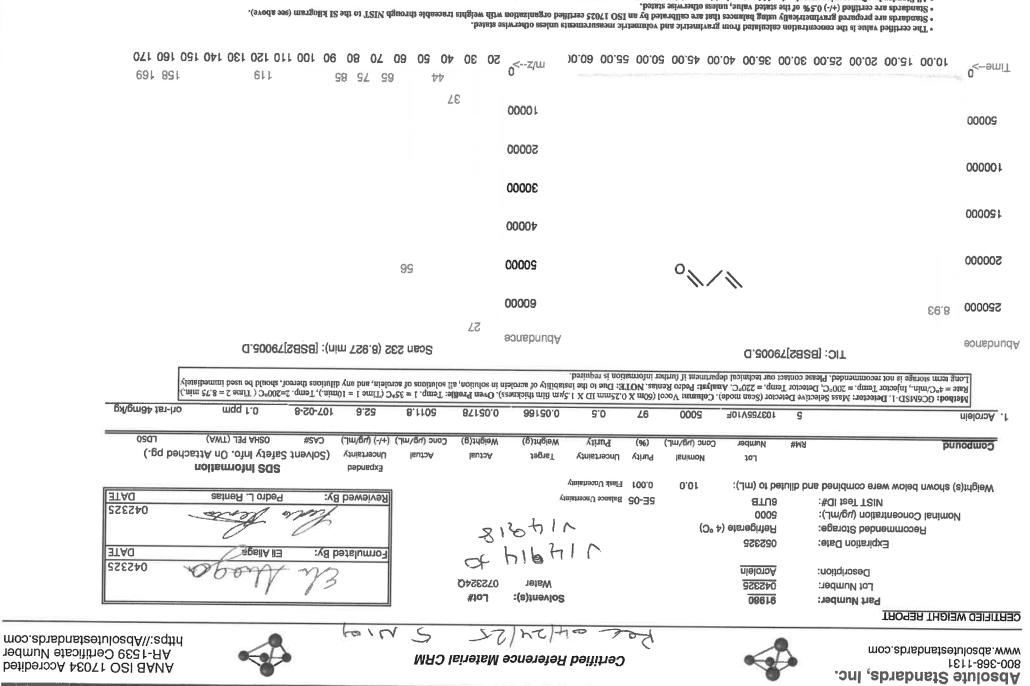
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Address Hamden CT, 06514	Emergency Telephone International Date Prepared/Revised	1-352-323-3500 January 1, 2025
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Signal Word: DANGER		II SC MITH MOUS
Section III - Composition		
Components (Specific Chemical Identity; Common Name(s)) Water	ne(s)) CAS#: 7732-18-5	% (optional) > 97
See Certified Weight Report For Other Analytes Present At Trace Quantities INTENDED USE: REFERENCE MATERIAL Section IV. FIRST AID MEASURES	rtes Present At Trace Quantities.	
General adviceConsult a physician. Show thisIf inhaledIf inhaled, move person into fnIn case of skin contactWash with scap and water. CIn case of eye contactRinse thoroughly with plenty oIf swallowedDo NOT induce vomiting. Rinse	Consult a physician. Show this safety data sheet to the doctor in attendance. Move to safe area. If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Wash with soap and water. Consult a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Do NOT induce vomiting. Rinse mouth with water. Consult a physician.	
Section V. FIREFIGHTING MEASURES		
Suitable extinguishing media Use water spray, alcoh Protective equipment for fire Wear self contained br Hazardous Decomposition products Carbon oxides	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Wear self contained breathing apparatus for fire fighting if necessary. Carbon oxides	
Section VI. ACCIDENTAL RELEASE MEASURES		
Personal precautions Wear respiratory protection. Avian tion to the second seco	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove ignition. Vapours accumulate to form explosive concentrations	all sources of
Environmental precautions Prevent further leakage or spin Clean up Contain spillage, and then col	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Contain spillage, and then collect and place in container for disposal according to local regulations (see s	section 13).
Section VII. HANDLING AND STORAGE		
Precautions for safe handling Use ventilation Keep away from sou Storage Conditions Keep container tightly closed in a dr and kept upright to prevent leakage	void inhalation of vapour or mist. rces of ignition. No smoking, Prevent the build up y and well-ventilated place. Containers which are	o of electrostatic charge. opened must be carefully resealed
Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION	ROTECTION	
Water CAS#: 7732-18-5 'TM	TVVA: 500 ppm	
Personal protective equipment Respiratory protection Handle with gloves. Gloves mu Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product	Handle with gloves. Gloves must be inspected prior to use. Eye protection. ughly after handling the product.	
Section IX - PHYSICAL/CHEMICAL CHARACTERISTICS	ICS	
Boiling Point	Specific Gravity (H2O = 1)	
Vapor Pressure (mm Hg)	Melting Point	
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	NA	0°C
Vapor Density (AIR = 1)	NA (Butyl Acetate = 1)	NA
Solubility in Water Completely miscible		
Appearance and Odor CLEAR, COLORLESS I	CLEAR, COLORLESS LIQUID WITH SLIGHT CHEMICAL ODOR.	
Section X. STABILITY AND REACTIVITY		
Chemical stabilityStable under recommonPossibility of hazardous reactionsNAConditions to avoidNAMaterials to avoidNAHazardous decomposition products - No data available	Stable under recommended storage conditions. NA NA NA ata available	
Section XI. TOXICOLOGICAL INFORMATION		
LC50 Inhalation - Rat NA LD50 Dermal - Guinea pig NA Causes skin irritation. Eye irritation		
Section XII. ECOLOGICAL INFORMATION		
LC50 NA EC50 NA		
Section XIII. DISPOSAL CONSIDERATIONS		
Dispose with normal Laboratory Solvent Waste.		
Section XIV. TRANSPORT INFORMATION		
DOT (US) Not dangerous goods Proper shipping name: Water	IATA Not dangerous goods Proper shipping name: Water	
Section XV. REGULATORY INFORMATION		
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302	orting requirements of SARA Title III, Section 302.	
Section XVI. Misc. INFORMATION		
The information in this Material Safety Data Sheet meets the requirements o seq.) and Global Harmonized System (GHS). This document is intended on trained in chemical handling. The user is responsible for determining the pr including eye and face guards and respirators must be used to avoid contact This observed must interact with other substances.	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/furmes. Exposure for this product may have serious adverse health effects. This chemical handling is the product of the series the notation are not including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/furmes.	200 et. ing



[•] 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).

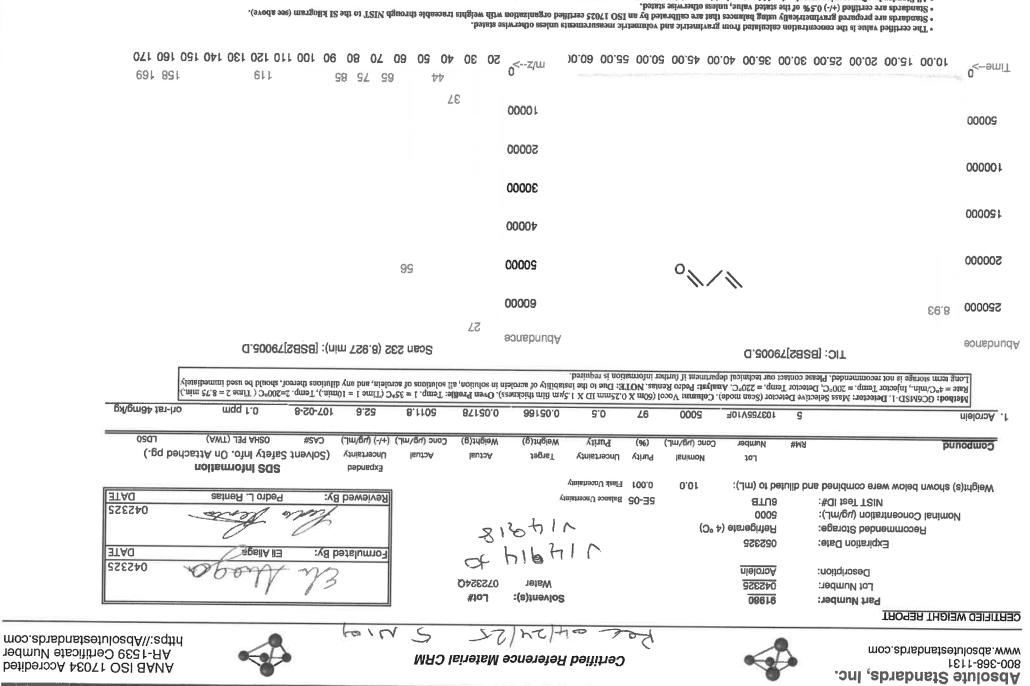
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Absolute Standards Inc.	PO Box 5585 Hamden, CT 06518-0585	Phone: 203-281-2917 FAX: 203-281-2922
Safety Data Sheet (SDS)	t (SDS) GHS/OSHA Compliant	
Section I Product and Company Identification		
IDENTITY ANALYTICAL STANDARD DISSOLVED IN WATER Manufacturer's Name ABSOLUTE STANDARDS INC Er	7ED IN WATER S INC Emergency Telephone USA & CANADA	1-800-535-5053
Address Hamden CT, 06514	Emergency Telephone International Date Prepared/Revised	1-352-323-3500 January 1, 2025
Section II - Hazards Identification		
GHS Classification P271 Use in ventilated area P302,332 If on skin, wash with soap and water	Classification in accordance with 29 CFR 1910 (OSHA HCS) H315 Causes skin and eye irritation. Soap and water P280 Use gloves, eye protection/face sheild P305,351,338 If in eyes, remove contacts, rinse with water	ce sheild nse with water
Signal Word: DANGER		II SC MITH MOUS
Section III - Composition		
Components (Specific Chemical Identity; Common Name(s)) Water	ne(s)) CAS#: 7732-18-5	% (optional) > 97
See Certified Weight Report For Other Analytes Present At Trace Quantities INTENDED USE: REFERENCE MATERIAL Section IV. FIRST AID MEASURES	rtes Present At Trace Quantities.	
General adviceConsult a physician. Show thisIf inhaledIf inhaled, move person into fnIn case of skin contactWash with scap and water. CIn case of eye contactRinse thoroughly with plenty oIf swallowedDo NOT induce vomiting. Rinse	Consult a physician. Show this safety data sheet to the doctor in attendance. Move to safe area. If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Wash with soap and water. Consult a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Do NOT induce vomiting. Rinse mouth with water. Consult a physician.	
Section V. FIREFIGHTING MEASURES		
Suitable extinguishing media Use water spray, alcoh Protective equipment for fire Wear self contained br Hazardous Decomposition products Carbon oxides	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Wear self contained breathing apparatus for fire fighting if necessary. Carbon oxides	
Section VI. ACCIDENTAL RELEASE MEASURES		
Personal precautions Wear respiratory protection. Avian tion to the second seco	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove ignition. Vapours accumulate to form explosive concentrations	all sources of
Environmental precautions Prevent further leakage or spin Clean up Contain spillage, and then col	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Contain spillage, and then collect and place in container for disposal according to local regulations (see s	section 13).
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Precautions for safe handling Use ventilation Keep away from sou Storage Conditions Keep container tightly closed in a dr and kept upright to prevent leakage	void inhalation of vapour or mist. rces of ignition. No smoking, Prevent the build up y and well-ventilated place. Containers which are	o of electrostatic charge. opened must be carefully resealed
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Water CAS#: 7732-18-5 'TM	TVVA: 500 ppm	
Personal protective equipment Respiratory protection Handle with gloves. Gloves mu Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product	Handle with gloves. Gloves must be inspected prior to use. Eye protection. ughly after handling the product.	
Section IX - PHYSICAL/CHEMICAL CHARACTERISTICS	ICS	
Boiling Point	Specific Gravity (H2O = 1)	
Vapor Pressure (mm Hg)	Melting Point	
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	NA	0°0
Vapor Density (AIR = 1)	NA (Butyl Acetate = 1)	NA
Solubility in Water Completely miscible		
Appearance and Odor CLEAR, COLORLESS	CLEAR, COLORLESS LIQUID WITH SLIGHT CHEMICAL ODOR.	
Section X. STABILITY AND REACTIVITY		
Chemical stability Stable under recom Possibility of hazardous reactions NA Conditions to avoid NA Materials to avoid NA Materials to avoid NA	Stable under recommended storage conditions. NA NA NA ata available	
Section XI. TOXICOLOGICAL INFORMATION		
LC50 Inhalation - Rat NA LD50 Dermal - Guinea pig NA Causes skin irritation. Eye irritation		
Section XII. ECOLOGICAL INFORMATION		
NA EC50 NA		
Section XIII. DISPOSAL CONSIDERATIONS		
Dispose with normal Laboratory Solvent Waste.		
Section XIV. TRANSPORT INFORMATION		
DOT (US) Not dangerous goods Proper shipping name: Water	IATA Not dangerous goods Proper shipping name: Water	
Section XV. REGULATORY INFORMATION		
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Section XVI. Misc. INFORMATION		
The information in this Material Safety Data Sheet meets the requirements or seq.) and Global Harmonized System (GHS). This document is intended or trained in chemical handling. The user is responsible for determining the principle of the set	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 contract with material or breathing chemical vapors/fures. Exposure to this product may have serious adverse health effects. This chemical material to be for the product of the product of the product of the respirators must be used to avoid contract or to trace or be therein or breathing chemical vapors/fures.	0.1200 et. a person lothing effects.



[•] 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,"

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Absolute Standards Inc.	PO Box 5585 Hamden, CT 06518-0585	Phone: 203-281-2917 FAX: 203-281-2922
Safety Data Sheet (SDS)	t (SDS) GHS/OSHA Compliant	
Section I Product and Company Identification		
IDENTITY ANALYTICAL STANDARD DISSOLVED IN WATER Manufacturer's Name ABSOLUTE STANDARDS INC Er	7ED IN WATER S INC Emergency Telephone USA & CANADA	1-800-535-5053
Address Hamden CT, 06514	Emergency Telephone International Date Prepared/Revised	1-352-323-3500 January 1, 2025
Section II - Hazards Identification		
GHS Classification P271 Use in ventilated area P302,332 If on skin, wash with soap and water	Classification in accordance with 29 CFR 1910 (OSHA HCS) H315 Causes skin and eye irritation. Soap and water P280 Use gloves, eye protection/face sheild P305,351,338 If in eyes, remove contacts, rinse with water	ce sheild nse with water
Signal Word: DANGER		II SC MITH MOUS
Section III - Composition		
Components (Specific Chemical Identity; Common Name(s)) Water	ne(s)) CAS#: 7732-18-5	% (optional) > 97
See Certified Weight Report For Other Analytes Present At Trace Quantities INTENDED USE: REFERENCE MATERIAL Section IV. FIRST AID MEASURES	rtes Present At Trace Quantities.	
General adviceConsult a physician. Show thisIf inhaledIf inhaled, move person into fnIn case of skin contactWash with scap and water. CIn case of eye contactRinse thoroughly with plenty oIf swallowedDo NOT induce vomiting. Rinse	Consult a physician. Show this safety data sheet to the doctor in attendance. Move to safe area. If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Wash with soap and water. Consult a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Do NOT induce vomiting. Rinse mouth with water. Consult a physician.	
Section V. FIREFIGHTING MEASURES		
Suitable extinguishing media Use water spray, alcoh Protective equipment for fire Wear self contained br Hazardous Decomposition products Carbon oxides	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Wear self contained breathing apparatus for fire fighting if necessary. Carbon oxides	
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Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION	ROTECTION	
Water CAS#: 7732-18-5 'TM	TVVA: 500 ppm	
Personal protective equipment Respiratory protection Handle with gloves. Gloves mu Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product	Handle with gloves. Gloves must be inspected prior to use. Eye protection. ughly after handling the product.	
Section IX - PHYSICAL/CHEMICAL CHARACTERISTICS	ICS	
Boiling Point	Specific Gravity (H2O = 1)	
Vapor Pressure (mm Hg)	Melting Point	
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	NA	0°0
Vapor Density (AIR = 1)	NA (Butyl Acetate = 1)	NA
Solubility in Water Completely miscible		
Appearance and Odor CLEAR, COLORLESS	CLEAR, COLORLESS LIQUID WITH SLIGHT CHEMICAL ODOR.	
Section X. STABILITY AND REACTIVITY		
Chemical stability Stable under recom Possibility of hazardous reactions NA Conditions to avoid NA Materials to avoid NA Materials to avoid NA	Stable under recommended storage conditions. NA NA NA ata available	
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Absolute Standards, 800-368-1131 www.absolutestandards.com	Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com			Certified	Certified Reference Material CRM	e Material C	I CRM	2 119	to the second se	 	ANAB ISO 1 AR-1539 Ce https://Absolut	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
CERTIFIED WEIGHT REPORT	Lot Number: Lot Number: Description:	91980 091424 Acrolein			Solve	Lots 072324			Justine	Harden K		
Nomine Weight(s) show	Expiration Date: 101424 Recommended Storage: Refrigerate Nominal Concentration (<i>ug/mL</i>): 5000 NIST Test ID#; 6UTB Weight(s) shown below were combined and diluted to (mL):	101424 Refrigerate (4 °C) 5000 6UTB d diluted to (mL):	10.0	5E-05 Balance Uncertainty 0.001 Flask Uncertainty	ertainty ainty			Formulated By:	N N	Justin Dippold	091424 DATE 091424 DATE	
Compound	. Ka	Lot RM# Number	Nominat Conc (µg/mL)	Purity Uncertainty (%) Purity	ty Target Weight(g)	Actual Weight(g)	Expanded Actual Uncertainty Conc (µg/mL) (+/-) (µg/mL)		Solvent Safety CAS# 0SH	SDS Information (Solvent Safety info. On Attached pg.) CAS# 05HA PEL (TWA) UDS	hed pg.) LDS0	
1. Acrolein Method: G Rate = 4°C Lone tern°	oil 5 103755V10F 5000 97 0.5 0.05166 0.05175 5008.9 52.5 107-02-8 0.1 ppm o Mathed GC6MSD-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 = 10min.). Temp. 2=20°C (Time 2 = 8.75 min.) 0 Lone term strater is not recommended for comment of the context. NOTE: Due to the instability of acrolein in solutions of acrolein, and any dilutions thereaf, found the need immediation. 2 8.75 min.)	5 103755V10F we Detector (Scan mode) ector Temp. = 220°C. An	5000). Column: Vocol (nalyst: Pedro Rent	97 0.5 (60m X 0.25mm ID ms. NOTTE: Due to ti	0.05166 X 1.5µm film thicknown in the context of acrol	0.05175 css). Oven Profile cita in solution, all	5008.9 le: Temp. 1 = 35°C. Il solutions of acrol	52.5 10 (Time 1 = 10min. tein, and any dilut	107-02-8 0 nin.), Temp. 2–200°C (littions thereof, should	0.1 ppm (Time 2 = 8.75 min.) (he need inversely	-La	
Abundance	TIC: [BS	TIC: [BSB2]79005.D	partners n sunner	untormation is requ	Abundance	φ	Scan 232	(8.927 min).	Scan 232 (8.927 min): [BSB2]79005.D	D.		
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10000					30000	0						
					2000	0						
20000					10000	37	~					
Time>0 10.0	10.00 15.00 20.00 25.00 30.00 35.00	30.00 35.00 40.	00 45.00 50	40.00 45.00 50.00 55.00 60.00	0<2/UL 10.0	20 30	44 65 7 40 50 60 70	5 80 80	119 100 110 120	130 140 150	158 169 1 160 170	
	 The certification Shandards Shandards Shandards All Standards Uncertainty NIST Tech 	 The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated. Shandards are prepared gravimetrically using bacos that are existrated with weights traceable to NIST (see above). Shandards are certified (<i>++</i>) 0.5% of the stated value, unless otherwise stated. All Standards, after opening ampule, should be stored with easy fand under appropriate laboratory conditions. Uncertainty Reference: Taylor, B.N. and Kuyat, C.R., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Rendt," NIST 7 echnical Note 1297, U.S. Government Printing Office, Washington, DC, (1994). 	ation calculated f rically using bala of the stated vaim ule, should be sto 'N. and Kuyat, C.	rum gravimetric an nocs that are calibr s, unless otherwise ved with caps tight. E., "Guidelines for ing Office, Washing	d volumetric means ated with weights th statted. Bud under appropri- tion, DC, (1994).	arcashie to NIST accashie to NIST ate laboratory or prossing the Uno	otherwise stated. (see above), onditions. tertainty of NIST)	Measurement Ro	ल्ह्यार्थन,"			

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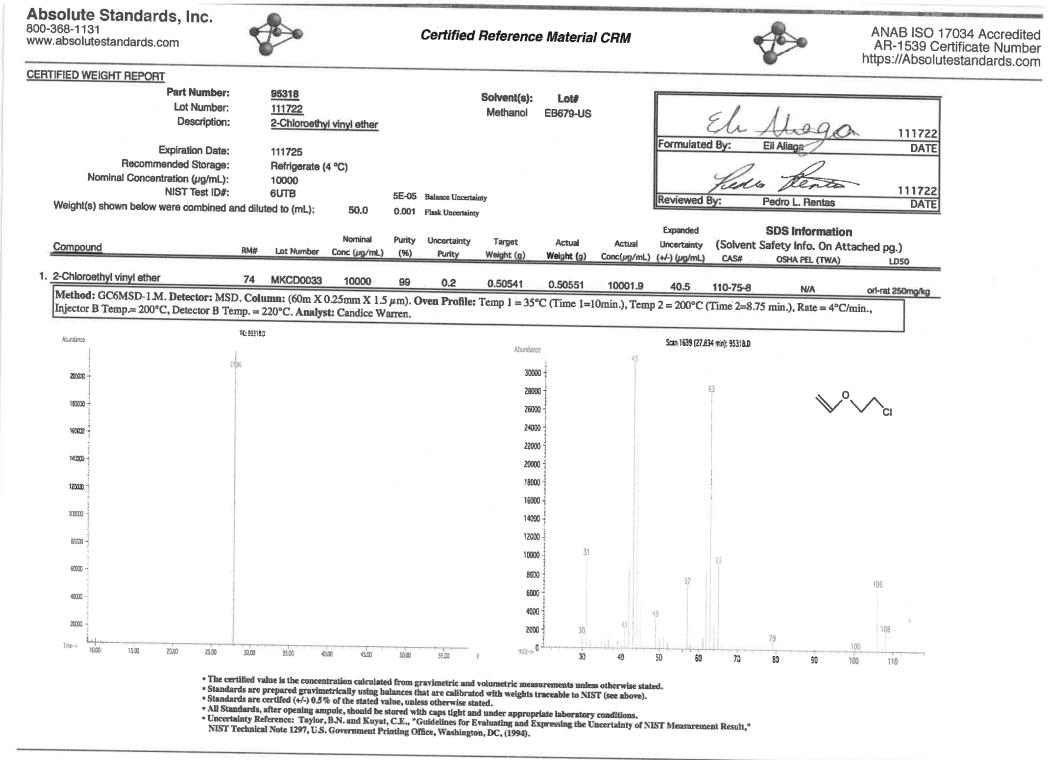
Lot # 091424 Part # 91980

Absolute Standards, 800-368-1131 www.absolutestandards.com	Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com			Certified	Certified Reference Material CRM	e Material C	I CRM	2 119	to the second se	 	ANAB ISO 1 AR-1539 Ce https://Absolut	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
CERTIFIED WEIGHT REPORT	Lot Number: Lot Number: Description:	91980 091424 Acrolein			Solve	Lots 072324			Justine	Harden K		
Nomine Weight(s) show	Expiration Date: 101424 Recommended Storage: Refrigerate Nominal Concentration (<i>ug/mL</i>): 5000 NIST Test ID#; 6UTB Weight(s) shown below were combined and diluted to (mL):	101424 Refrigerate (4 °C) 5000 6UTB d diluted to (mL):	10.0	5E-05 Balance Uncertainty 0.001 Flask Uncertainty	ertainty ainty			Formulated By:	N N	Justin Dippold	091424 DATE 091424 DATE	
Compound	. Ka	Lot RM# Number	Nominat Conc (µg/mL)	Purity Uncertainty (%) Purity	ty Target Weight(g)	Actual Weight(g)	Expanded Actual Uncertainty Conc (µg/mL) (+/-) (µg/mL)		Solvent Safety CAS# 0SH	SDS Information (Solvent Safety info. On Attached pg.) CAS# 05HA PEL (TWA) UDS	hed pg.) LDS0	
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Abundance	TIC: [BS	TIC: [BSB2]79005.D	partners n surber	untormation is requ	Abundance	φ	Scan 232	(8.927 min).	Scan 232 (8.927 min): [BSB2]79005.D	D.		
250000 8.93					6000	27 0						
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Time>0 10.0	10.00 15.00 20.00 25.00 30.00 35.00	30.00 35.00 40.	00 45.00 50	40.00 45.00 50.00 55.00 60.00	0<2/UL 10.0	20 30	44 65 7 40 50 60 70	5 80 80	119 100 110 120	130 140 150	158 169 1 160 170	
	 The certification Shandards Shandards Shandards All Standards Uncertainty NIST Tech 	 The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated. Shandards are prepared gravimetrically using bacos that are existrated with weights traceable to NIST (see above). Shandards are certified (<i>++</i>) 0.5% of the stated value, unless otherwise stated. All Standards, after opening ampule, should be stored with easy fand under appropriate laboratory conditions. Uncertainty Reference: Taylor, B.N. and Kuyat, C.R., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Rendt," NIST 7 echnical Note 1297, U.S. Government Printing Office, Washington, DC, (1994). 	ation calculated f rically using bala of the stated vaim ule, should be sto 'N. and Kuyat, C.	rum gravimetric an nocs that are calibr s, unless otherwise ved with caps tight. E., "Guidelines for ing Office, Washing	d volumetric means ated with weights th statted. Bud under appropri- tion, DC, (1994).	arcashie to NIST accashie to NIST ate laboratory or prossing the Uno	otherwise stated. (see above), onditions. tertainty of NIST)	Measurement Ro	ल्ह्यार्थन,"			

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Lot # 091424 Part # 91980



Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com		Certified Reference Material CRM	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
CERTIFIED WEIGHT REPORT 95318 Part Number: 95318 Lot Number: 120524 Description: 2-Chloroet Expiration Date: 120527 Recommended Storage: Refrigerat Nominal Concentration (<i>ug/mL</i>): 10000 Neight(s) shown below were combined and diluted to (mL): Under the combined and diluted to (mL):	95318 120524 2-Chloroethyl vinyl ether 120527 Refrigerate (4 °C) 10000 6UTB 10000 6UTB 30.0 M# Lot Number Conc (vg/mt)	2.6.1 1.1 $2.6Solvent(s): LotsMethanol EJ143-US1.14.520 t^{2}1.14.520 t^{2}1.14.5$	Formulated By: Prashant Chaufuan 120524 Formulated By: Prashant Chaufuan DATE Formulated By: Prashant Chaufuan DATE Reviewed By: Pedro L. Rentas DATE Expanded SS Information Uncertainty (Solvent Safety Info. On Attached pg.) (++) (ug/mL) Case OstA PEL (TWA) LD50
1. 2-Chloroethyl vinyl ether 74 MKCD0033 10000 99 Method: GC6MSD-1.M. Detector: MSD. Column: (60m X 0.25mm X 1.5 μ m). Injector B Temp = 200°C, Detector B Temp. = 220°C. Analyst: Candice Warren.	74 MKCD0033 10000 . Column: (60m X 0.25mm X 1.5 np. = 220°C. Analyst: Candice W	2-Chloroethyl viryl ether 74 MKCD0033 10000 99 0.2 0.50536 0.50550 10002.9 40.5 110-75-8 NA 00 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.	40.5 110-75-8 N/A ori-rat 250mg/kg ap 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min.,
Abordance 222000 160000 140000 100000 60000 60000 20000 100000 100000 100000 100000 100000 100000 15.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	MG 553162	Abordance 20005 20005 20005 20005 20005 16000 16000 16000 16000 200 200	
 The ce Shanda Shanda Shanda Shanda Uncert NLST 	 The certified value is the concentration calculated from gravimetri standards are prepend gravinetrically using balances that are cal estandards are recrifted (<i>H</i>.) 0.5% of the stated value, unless otherwa . All Standards, after opening ampule, should be stored with caps fig of Uncertainty Reference: Taylor, B.N. and Kuyat, C.B., "Guidelines NIST Technical Note 1297, U.S. Government Printing Office, Wasl 	 The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated. Standards are prepared gravimetrically using balances that are calificated with weights traccable 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. 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). 	asted. NIST Measurement Result,"

Constant Con

Safety Data Sheet (SDS)

GHS/OSHA Compliant

Section I Product and Co	mpany Identification			
	CAL STANDARD DISSOLVED IN ME			4 000 505 5050
Manufacturer's Name	ABSOLUTE STANDARDS INC		phone USA & CANADA	1-800-535-5053
Address	44 Rossotto Dr. Hamden CT, 06514	Date Prepared/F	phone International Revised	1-352-323-3500 January 1, 2024
Section II - Hazards Identi				
	GHS Classification in accord	ance with 29 CF	R 1910 (OSHA HCS)	
H370 Cause dar P271 Use in ver	mmable Liquid and Vapor nage to organs ntilated area wash with soap and water Signal Word: DANGER		Toxic if swallowed, skin co Suspected of causing canc Use gloves, eye protection if in eyes, remove contacts	er fface sheild
Section III - Composition				
Components (Specific Cher Methanol	nical Identity; Common Name(s)) METHYL ALCOHOL	CAS#: 67-56-1		% (optional) > 97
See Certified Weight F	Report For Other Analytes Pre	esent At Trace	Quantities.	
Section IV. FIRST AID ME	ASURES			
If inhaled In case of skin contact In case of eye contact If swallowed	If inhaled, move person into fresh air. If no Wash with soap and water. Consult a phy Rinse thoroughly with plenty of water for a Do NOT induce vomiting. Rinse mouth wit	/sician. at least 15 minutes ar	d consult a physician.	
Section V. FIREFIGHTING	MEASURES			
Flammability Suitable extinguishing media Protective equipment for fire	Flammable in the presence of a sour heat/sparks/open flame/hot surface. Use water spray, alcohol-resistant for Wear self contained breathing appare	No smoking. am, dry chemical or c	arbon dioxide.	int. Keep away from
Section VI. ACCIDENTAL	RELEASE MEASURES			
Personal precautions Environmental precautions Clean up	Wear respiratory protection. Avoid breathin ignition. Vapours accumulate to form explo Prevent further leakage or spillage if safe Contain spillage, and then collect and place	osive concentrations. to do so. Do not let p	roduct enter drains.	
Section VII. HANDLING A	ND STORAGE			
Precautions for safe handling Storage Conditions	Avoid contact with skin and eyes. Ave Use ventilation Keep away from sour Keep container tightly closed in a dry and kept upright to prevent leakage.	ces of ignition. No si	noking. Prevent the build up of elec	
Section VIII. EXPOSURE (CONTROLS/PERSONAL PROTECT	ION		
	m =		spected prior to use. Eye protect	ion.
Section IX - Physical/Che	mical Characteristics			

Boiling Point			Specific Gravity (H2O = 1)	
J. J		65°C		0.79
Vapor Pressure (mm Hg)			Melting Point	
		96		-98°C
Vapor Density (AIR = 1)		· · · · · · · · · · · · · · · · · · ·	Evaporation rate	
		1.11	(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 stabilityStable under recommended storage conditions.Possibility of hazardous reactionsVapours may form explosive mixture with air.Conditions to avoidHeat, flames, sparks, extreme temperature and sunlight.Materials to avoidAcid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, AcidsHazardous 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.

Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com		Certified Reference Material CRM	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
CERTIFIED WEIGHT REPORT 95318 Part Number: 95318 Lot Number: 120524 Description: 2-Chloroet Expiration Date: 120527 Recommended Storage: Refrigerat Nominal Concentration (<i>ug/mL</i>): 10000 Neight(s) shown below were combined and diluted to (mL): Under the combined and diluted to (mL):	95318 120524 2-Chloroethyl vinyl ether 120527 Refrigerate (4 °C) 10000 6UTB 10000 6UTB 30.0 M# Lot Number Conc (vg/mt)	2.6.1 1.1 $2.6Solvent(s): LotsMethanol EJ143-US1.14.520 t^{2}1.14.520 t^{2}1.14.5$	Formulated By: Prashant Chaufuan 120524 Formulated By: Prashant Chaufuan DATE Formulated By: Prashant Chaufuan DATE Reviewed By: Pedro L. Rentas DATE Expanded SS Information Uncertainty (Solvent Safety Info. On Attached pg.) (++) (ug/mL) Case OstA PEL (TWA) LD50
1. 2-Chloroethyl vinyl ether 74 MKCD0033 10000 99 Method: GC6MSD-1.M. Detector: MSD. Column: (60m X 0.25mm X 1.5 μ m). Injector B Temp = 200°C, Detector B Temp. = 220°C. Analyst: Candice Warren.	74 MKCD0033 10000 . Column: (60m X 0.25mm X 1.5 np. = 220°C. Analyst: Candice W	2-Chloroethyl viryl ether 74 MKCD0033 10000 99 0.2 0.50536 0.50550 10002.9 40.5 110-75-8 NA 00 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.	40.5 110-75-8 N/A ori-rat 250mg/kg ap 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min.,
Abordance 222000 160000 140000 100000 60000 60000 20000 100000 100000 100000 100000 100000 100000 15.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	MG 553162	Abordance 20005 20005 20005 20005 20005 16000 16000 16000 16000 200 200	
 The ce Shanda Shanda Shanda Shanda Uncert NLST 	 The certified value is the concentration calculated from gravimetri standards are prepend gravinetrically using balances that are cal estandards are recrifted (<i>H</i>.) 0.5% of the stated value, unless otherwa . All Standards, after opening ampule, should be stored with caps fig of Uncertainty Reference: Taylor, B.N. and Kuyat, C.B., "Guidelines NIST Technical Note 1297, U.S. Government Printing Office, Wasl 	 The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated. Standards are prepared gravimetrically using balances that are calificated with weights traccable 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. 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). 	asted. NIST Measurement Result,"

Constant Con

Safety Data Sheet (SDS)

GHS/OSHA Compliant

Section I Product and Co	mpany Identification			
	CAL STANDARD DISSOLVED IN ME			4 000 525 5052
Manufacturer's Name	ABSOLUTE STANDARDS INC 44 Rossotto Dr.		phone USA & CANADA phone International	1-800-535-5053 1-352-323-3500
Address	Hamden CT, 06514	Date Prepared/F		January 1, 2024
Section II - Hazards Identi				
	GHS Classification in accord	ance with 29 CF	R 1910 (OSHA HCS)	
H370 Cause dar P271 Use in ver	mmable Liquid and Vapor nage to organs ntilated area wash with soap and water Signal Word: DANGER		Toxic if swallowed, skin co Suspected of causing canc Use gloves, eye protection if in eyes, remove contacts	er fface sheild
Section III - Composition	·			
Components (Specific Cher Methanol	nical Identity; Common Name(s)) METHYL ALCOHOL	CAS#: 67-56-1		% (optional) > 97
See Certified Weight F	Report For Other Analytes Pre	esent At Trace	Quantities.	
Section IV. FIRST AID ME	ASURES			
If inhaled In case of skin contact In case of eye contact If swallowed	If inhaled, move person into fresh air. If no Wash with soap and water. Consult a phy Rinse thoroughly with plenty of water for a Do NOT induce vomiting. Rinse mouth wit	/sician. at least 15 minutes ar	d consult a physician.	
Section V. FIREFIGHTING	MEASURES			
Flammability Suitable extinguishing media Protective equipment for fire	Flammable in the presence of a sour heat/sparks/open flame/hot surface. Use water spray, alcohol-resistant for Wear self contained breathing appare	No smoking. am, dry chemical or c	arbon dioxide.	int. Keep away from
Section VI. ACCIDENTAL	RELEASE MEASURES			
Personal precautions Environmental precautions Clean up	Wear respiratory protection. Avoid breathin ignition. Vapours accumulate to form explo Prevent further leakage or spillage if safe Contain spillage, and then collect and place	osive concentrations. to do so. Do not let p	roduct enter drains.	
Section VII. HANDLING A	ND STORAGE			
Precautions for safe handling Storage Conditions	Avoid contact with skin and eyes. Ave Use ventilation Keep away from sour Keep container tightly closed in a dry and kept upright to prevent leakage.	ces of ignition. No si	noking. Prevent the build up of elec	
Section VIII. EXPOSURE (CONTROLS/PERSONAL PROTECT	ION		
	m =		spected prior to use. Eye protect	ion.
Section IX - Physical/Che	mical Characteristics			

Boiling Point			Specific Gravity (H2O = 1)	
J. J		65°C		0.79
Vapor Pressure (mm Hg)			Melting Point	
		96		-98°C
Vapor Density (AIR = 1)			Evaporation rate	
		1.11	(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 stabilityStable under recommended storage conditions.Possibility of hazardous reactionsVapours may form explosive mixture with air.Conditions to avoidHeat, flames, sparks, extreme temperature and sunlight.Materials to avoidAcid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, AcidsHazardous 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.

Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com		Certified Reference Material CRM	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
CERTIFIED WEIGHT REPORT 95318 Part Number: 95318 Lot Number: 120524 Description: 2-Chloroet Expiration Date: 120527 Recommended Storage: Refrigerat Nominal Concentration (<i>ug/mL</i>): 10000 Neight(s) shown below were combined and diluted to (mL): Under the combined and diluted to (mL):	95318 120524 2-Chloroethyl vinyl ether 120527 Refrigerate (4 °C) 10000 6UTB 10000 6UTB 30.0 M# Lot Number Conc (vg/mt)	2.6.1 1.1 $2.6Solvent(s): LotsMethanol EJ143-US1.14.520 t^{2}1.14.520 t^{2}1.14.5$	Formulated By: Prashant Chaufuan 120524 Formulated By: Prashant Chaufuan DATE Reviewed By: Pedro L. Rentas DATE Expanded SDS Information Uncertainty (Solvent Safety Info. On Attached pg.) (++) (ug/mL) Case OstA PEL (TWA) LD50
1. 2-Chloroethyl vinyl ether 74 MKCD0033 10000 99 Method: GC6MSD-1 M. Detector: MSD. Column: (60m X 0.25mm X 1.5 μ m). Injector B Temp = 200°C, Detector B Temp. = 220°C. Analyst: Candice Warren.	74 MKCD0033 10000 . Column: (60m X 0.25mm X 1.5 np. = 220°C. Analyst: Candice W	2-Chloroethyl viryl ether 74 MKCD0033 10000 99 0.2 0.50536 0.50550 10002.9 40.5 110-75-8 NA 00 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.	40.5 110-75-8 N/A ort-rat 250mg/kg ap 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min.,
Abordance 222000 160000 140000 100000 60000 60000 20000 100000 100000 100000 100000 100000 100000 15.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	MG 553162	Abordance 20005 20005 20005 20005 20005 16000 16000 16000 16000 200 200	
 The ce Stands Stands Stands All Sta Uncert NUST' 	 The certified value is the concentration calculated from gravimetri standards are prepend gravinetrically using balances that are cal smalards are precrifted (<i>H</i>-1) 0.3% of the stated value, unless otherw - All Standards, after opening ampule, should be stored with caps fig of Uncertainty Reference: Taylor, B.N. and Kuyat, C.B., "Guidelines NIST Technical Note 1297, U.S. Government Printing Office, Wasl 	 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 are certified (+/-) 0.5% of the stated value, unless otherwise stated. All Standards, after opening ampule, should be stored with cass 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). 	tated.). NIST Measurement Result,"

Contraction of the

Safety Data Sheet (SDS)

GHS/OSHA Compliant

Section I Product and Co	mpany Identification			
	CAL STANDARD DISSOLVED IN ME			4 000 525 5052
Manufacturer's Name	ABSOLUTE STANDARDS INC 44 Rossotto Dr.		phone USA & CANADA phone International	1-800-535-5053 1-352-323-3500
Address	Hamden CT, 06514	Date Prepared/F		January 1, 2024
Section II - Hazards Identi				
	GHS Classification in accord	ance with 29 CF	R 1910 (OSHA HCS)	
H370 Cause dar P271 Use in ver	mmable Liquid and Vapor nage to organs ntilated area wash with soap and water Signal Word: DANGER		Toxic if swallowed, skin co Suspected of causing canc Use gloves, eye protection if in eyes, remove contacts	er fface sheild
Section III - Composition	·			
Components (Specific Cher Methanol	nical Identity; Common Name(s)) METHYL ALCOHOL	CAS#: 67-56-1		% (optional) > 97
See Certified Weight F	Report For Other Analytes Pre	esent At Trace	Quantities.	
Section IV. FIRST AID ME	ASURES			
If inhaled In case of skin contact In case of eye contact If swallowed	If inhaled, move person into fresh air. If no Wash with soap and water. Consult a phy Rinse thoroughly with plenty of water for a Do NOT induce vomiting. Rinse mouth wit	/sician. at least 15 minutes ar	d consult a physician.	
Section V. FIREFIGHTING	MEASURES			
Flammability Suitable extinguishing media Protective equipment for fire	Flammable in the presence of a sour heat/sparks/open flame/hot surface. Use water spray, alcohol-resistant for Wear self contained breathing appare	No smoking. am, dry chemical or c	arbon dioxide.	int. Keep away from
Section VI. ACCIDENTAL	RELEASE MEASURES			
Personal precautions Environmental precautions Clean up	Wear respiratory protection. Avoid breathin ignition. Vapours accumulate to form explo Prevent further leakage or spillage if safe Contain spillage, and then collect and place	osive concentrations. to do so. Do not let p	roduct enter drains.	
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Section VIII. EXPOSURE (CONTROLS/PERSONAL PROTECT	ION		
	m =		spected prior to use. Eye protect	ion.
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Boiling Point			Specific Gravity (H2O = 1)	
J. J		65°C		0.79
Vapor Pressure (mm Hg)			Melting Point	
		96		-98°C
Vapor Density (AIR = 1)			Evaporation rate	
		1.11	(Butyl Acetate = 1)	4.6
Solubility in Water	COMPLETE			

Appearance and Odor

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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

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Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com		Certified Reference Material CRM	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
CERTIFIED WEIGHT REPORT 95318 Part Number: 95318 Lot Number: 120524 Description: 2-Chloroet Expiration Date: 120527 Recommended Storage: Refrigerat Nominal Concentration (<i>ug/mL</i>): 10000 Neight(s) shown below were combined and diluted to (mL): Under the combined and diluted to (mL):	95318 120524 2-Chloroethyl vinyl ether 120527 Refrigerate (4 °C) 10000 6UTB 10000 6UTB 30.0 M# Lot Number Conc (vg/mt)	2.6.1 1.1 $2.6Solvent(s): LotsMethanol EJ143-US1.14.520 t^{2}1.14.520 t^{2}1.14.5$	Formulated By: Prashant Chaufuan 120524 Formulated By: Prashant Chaufuan DATE Reviewed By: Pedro L. Rentas DATE Expanded SDS Information Uncertainty (Solvent Safety Info. On Attached pg.) (++) (ug/mL) Case OstA PEL (TWA) LD50
1. 2-Chloroethyl vinyl ether 74 MKCD0033 10000 99 Method: GC6MSD-1 M. Detector: MSD. Column: (60m X 0.25mm X 1.5 μ m). Injector B Temp = 200°C, Detector B Temp. = 220°C. Analyst: Candice Warren.	74 MKCD0033 10000 . Column: (60m X 0.25mm X 1.5 np. = 220°C. Analyst: Candice W	2-Chloroethyl viryl ether 74 MKCD0033 10000 99 0.2 0.50536 0.50550 10002.9 40.5 110-75-8 NA 00 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.	40.5 110-75-8 N/A ort-rat 250mg/kg ap 2 = 200°C (Time 2=8.75 min.), Rate = 4°C/min.,
Abordance 222000 160000 140000 100000 60000 60000 20000 100000 100000 100000 100000 100000 100000 15.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	MG 553162	Abordance 20005 20005 20005 20005 20005 16000 16000 16000 16000 200 200	
 The ce Stands Stands Stands All Sta Uncert NUST' 	 The certified value is the concentration calculated from gravimetri standards are prepend gravinetrically using balances that are cal smalards are precrifted (<i>H</i>-1) 0.3% of the stated value, unless otherw - All Standards, after opening ampule, should be stored with caps fig of Uncertainty Reference: Taylor, B.N. and Kuyat, C.B., "Guidelines NIST Technical Note 1297, U.S. Government Printing Office, Wasl 	 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 are certified (+/-) 0.5% of the stated value, unless otherwise stated. All Standards, after opening ampule, should be stored with cass 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). 	tated.). NIST Measurement Result,"

Contraction of the

Safety Data Sheet (SDS)

GHS/OSHA Compliant

Section I Product and Co	mpany Identification			
	CAL STANDARD DISSOLVED IN ME			4 000 525 5052
Manufacturer's Name	ABSOLUTE STANDARDS INC 44 Rossotto Dr.		phone USA & CANADA phone International	1-800-535-5053 1-352-323-3500
Address	Hamden CT, 06514	Date Prepared/F		January 1, 2024
Section II - Hazards Identi				
	GHS Classification in accord	ance with 29 CF	R 1910 (OSHA HCS)	
H370 Cause dar P271 Use in ver	mmable Liquid and Vapor nage to organs ntilated area wash with soap and water Signal Word: DANGER		Toxic if swallowed, skin co Suspected of causing canc Use gloves, eye protection if in eyes, remove contacts	er fface sheild
Section III - Composition	·			
Components (Specific Cher Methanol	nical Identity; Common Name(s)) METHYL ALCOHOL	CAS#: 67-56-1		% (optional) > 97
See Certified Weight F	Report For Other Analytes Pre	esent At Trace	Quantities.	
Section IV. FIRST AID ME	ASURES			
If inhaled In case of skin contact In case of eye contact If swallowed	If inhaled, move person into fresh air. If no Wash with soap and water. Consult a phy Rinse thoroughly with plenty of water for a Do NOT induce vomiting. Rinse mouth wit	/sician. at least 15 minutes ar	d consult a physician.	
Section V. FIREFIGHTING	MEASURES			
Flammability Suitable extinguishing media Protective equipment for fire	Flammable in the presence of a sour heat/sparks/open flame/hot surface. Use water spray, alcohol-resistant for Wear self contained breathing appare	No smoking. am, dry chemical or c	arbon dioxide.	int. Keep away from
Section VI. ACCIDENTAL	RELEASE MEASURES			
Personal precautions Environmental precautions Clean up	Wear respiratory protection. Avoid breathin ignition. Vapours accumulate to form explo Prevent further leakage or spillage if safe Contain spillage, and then collect and place	osive concentrations. to do so. Do not let p	roduct enter drains.	
Section VII. HANDLING A	ND STORAGE			
Precautions for safe handling Storage Conditions	Avoid contact with skin and eyes. Ave Use ventilation Keep away from sour Keep container tightly closed in a dry and kept upright to prevent leakage.	ces of ignition. No si	noking. Prevent the build up of elec	
Section VIII. EXPOSURE (CONTROLS/PERSONAL PROTECT	ION		
	m =		spected prior to use. Eye protect	ion.
Section IX - Physical/Che	mical Characteristics			

Boiling Point			Specific Gravity (H2O = 1)	
J. J		65°C		0.79
Vapor Pressure (mm Hg)			Melting Point	
		96		-98°C
Vapor Density (AIR = 1)			Evaporation rate	
		1.11	(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 stabilityStable under recommended storage conditions.Possibility of hazardous reactionsVapours may form explosive mixture with air.Conditions to avoidHeat, flames, sparks, extreme temperature and sunlight.Materials to avoidAcid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, AcidsHazardous 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.



CERTIFIED REFERENCE MATERIAL

4 V

Certificate of Analysis



110 Benner Circle Bellefonte, PA 16823-8812 Tel: (800)356-1688 Fax: (814)353-1309

www.restek.com



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.

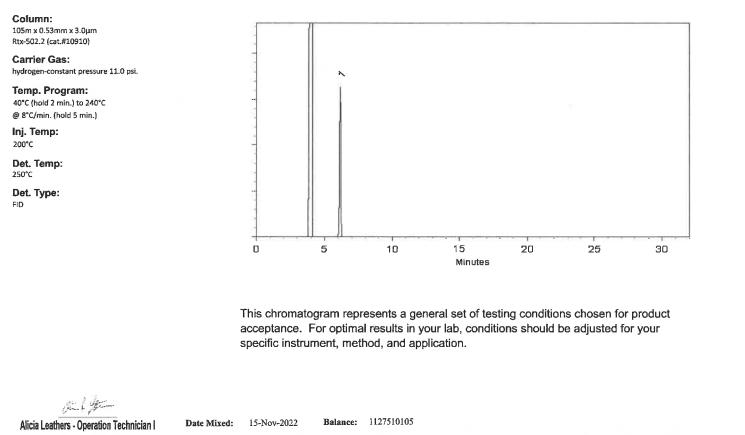
Catalog No. :	30470	Lot No.:	A0191703	
Description :	tert-Butanol Standard			
	tert-Butanol Std 50,000µg/mL, F	P&T Methanol, 1mL/an	npul	
Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	November 30, 2025	Storage:	0°C or colder	
		Ship:	Ambient	

CERTIFIED VALUES

Elution Order		Compound	Grav. Conc. (weight/volume)		Expanded U (95% C.L.; K	the second second second	
1	tert-Butanol (TBA) CAS # 75-65-0 Purity 99%	(Lot 101619K21F-1)	50,122.0 μg/mL	+/-	293.4753 1,073.6797 1,104.8612	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
Solvent:	P&T Methanol						

CAS# 67-56-1

Purity 99%



Spale & Barrisk

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 17-Nov-2022

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

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 combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

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

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

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer) -20°C or colder (Deep Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at <u>www.restek.com/Contact-Us</u>.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules 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 ampules. 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.



www.restek.com

CERTIFIED REFERENCE MATERIAL



Certificate of Analysis

chromatographic plus



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, 1mL/ampul	500μg/mL, P&T Methanol,
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.

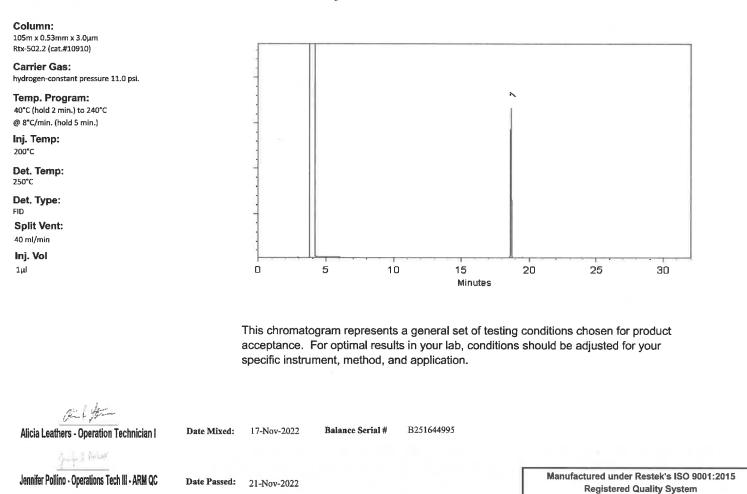
 Solvent:
 P&T Methanol

 CAS #
 67-56-1

 Purity
 99%



Quality Confirmation Test





Certificate #FM 80397

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.





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. :	30225	25 Lot No.: <u>A0193071</u>				
Description :	Bromochloromethane Standard					
	Bromochloromethane 2000µg/m	L, P&T Methanol, 1mL	./ampul			
Container Size :	2 mL	Pkg Amt:	> 1 mL			
Expiration Date :	December 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	Bromochloromethane	74-97-5	00008541	99%	2,018.0 µg/mL	+/- 113.3890

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

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



Quality Confirmation Test





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:

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$U_{combined uncertainty} = k$	$u^{4} + u^{2} + u^{2}$	
COMPONING CHECKING	gravimetric homogeneity "storage stability "shipping stability	
o sen di ancia di Multer di tercente del term	. 2011년 1월 19일 - 19일 - 19일 - 19g - 19	

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.





www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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Catalog No. :	30225	25 Lot No.: <u>A0193071</u>				
Description :	Bromochloromethane Standard					
	Bromochloromethane 2000µg/m	L, P&T Methanol, 1mL	./ampul			
Container Size :	2 mL	Pkg Amt:	> 1 mL			
Expiration Date :	December 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	Bromochloromethane	74-97-5	00008541	99%	2,018.0 µg/mL	+/- 113.3890

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

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



Quality Confirmation Test





Expiration Notes:

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- 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.

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 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:

	le 🖕 a Marinan Marina de La Constante Marina de La Constante de Constante de Carlos de Constante de C	
$U_{combined uncertainty} = k$	$u^{4} + u^{2} + u^{2}$	
COMPONING CHECKING	gravimetric homogeneity "storage stability "shipping stability	
o sen di ancia di Multer di tercente del term	. 2011년 1월 19일 - 19일 - 19일 - 19g - 19	

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:

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- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.





www.restek.com

CERTIFIED REFERENCE MATERIAL



ISO/IEC 17 025 Acared Testing Laboratory Certificate #3222.02

Certificate of Analysis

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. :	555582 Lot No.: A0196865					
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 :	April 30, 2026	Storage:	10°C or colder			
		Ship:	Ambient			

CERTIFIED VALUES

Componen t#	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2-Dichloroethane-d4	17060-07-0	PR-32845	99% 2	25,036.0 μg/mL	+/- 1,417.9179
2	1-Bromo-4-fluorobenzene (BFB)	460-00-4	184975	99% 2	25,132.0 μg/mL	+/- 1,423.3549
3	Dibromofluoromethane	1868-53-7	022013	99% 2	25,040.0 μg/mL	+/- 1,418.1445
4	Toluene-d8	2037-26-5	PR-33397	99% 2	25,028.0 μg/mL	+/- 1,417.4648

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

Darker 7. Bu

Date Mixed:

Balance: 1127510105

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

Russ Bookhamer - Operations Technician I

11-Apr-2023



Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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uncertainty and shipping stability uncertainty and were combined using the following formula:

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U_{combined\ uncertainty} = k \sqrt{u_{gravimetric}^2 + u_{homogeneity}^2 + u_{storage\ stability}^2 + u_{shipping\ stability}^2}
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k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

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Manufacturing Notes:

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- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.





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. :	30042	Lot No.:	A0197644					
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 :	January 31, 2030	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	00012554	99%	2,001.6 µg/mL	+/- 112.7159
2	Chloromethane (methyl chloride)	74-87-3	SHBM9611	99%	2,002.0 µg/mL	+/- 112.7840
3	Vinyl chloride	75-01-4	00015559	99%	2,002.2 µg/mL	+/- 112.6713
4	Bromomethane (methyl bromide)	74-83-9	101604	99%	2,006.4 µg/mL	+/- 112.8861
5	Chloroethane (ethyl chloride)	75-00-3	107-401039114-1	99%	2,000.9 µg/mL	+/- 112.5990
6	Trichlorofluoromethane (CFC-11)	75-69-4	MKCL8411	99%	1,999.2 μg/mL	+/- 112.4861

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

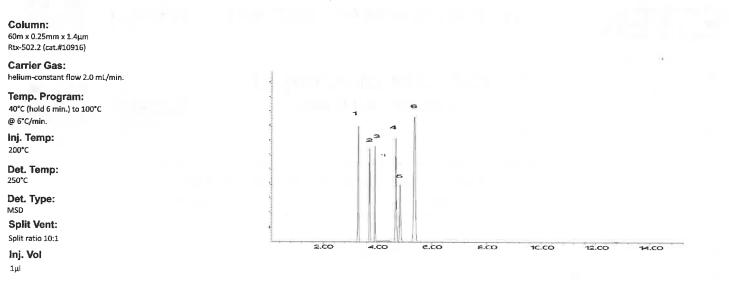
Solvent: P&T Methanol

> CAS # 67-56-1

Purity 99%



Quality Confirmation Test



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.



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



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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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.:	A0200785	
Description :	VOA Calibration Mix #1			
	VOA Calibration Mix #1 5,000µg 1mL/ampul	/mL, P&T Methanol/W	ater(90:10),	
Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	November 30, 2026	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	SHBP8774	99%	5,018.5 μg/mL	+/- 173.4162
2	2-Butanone (MEK)	78-93-3	SHBL5543	99%	5,016.0 μg/mL	+/- 173.3298
3	4-Methyl-2-pentanone (MIBK)	108-10-1	SHBP4724	99%	5,010.7 μg/mL	+/- 173.1455
4	2-Hexanone	591-78-6	MKCQ6663	99%	5,015.0 µg/mL	+/- 173.2952

* 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



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

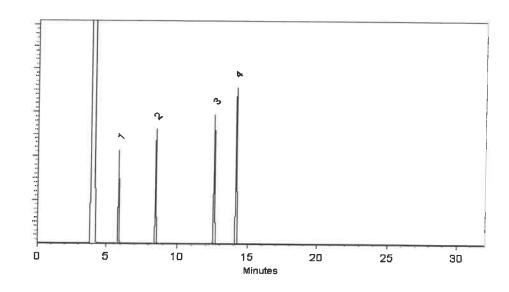
Det. Temp: 250°C

Det. Type: FID

Split Vent: 40 ml/min

lnj. Vol

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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.

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Laith Clemente - Operations Technician I

Date Mixed: 09-Aug-2023

Balance Serial # B707717271

Mandatas

Marlina Cowan - Operations Tech II ARM QC

Date Passed: 16-Aug-2023

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

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:

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- 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:

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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. :	30489	Lot No.:	<u>A0205013</u>		
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 :	June 30, 2025	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	SHBP3100	99%	2,012.7 μg/mL	+/- 69.5670
2	Vinyl acetate	108-05-4	RP231030CTH	98%	2,017.5 μg/mL	+/- 69.7338
3	Ethyl acetate	141-78-6	SHBQ9682	99%	2,020.0 μg/mL	+/- 69.8205
4	Isopropyl acetate	108-21-4	BCCG7069	99%	2,018.7 μg/mL	+/- 69.7744
5	Propyl acetate	109-60-4	KLOBM	99%	2,012.0 μg/mL	+/- 69.5439
6	Butyl acetate	123-86-4	SHBP6314		2,020.0 μg/mL	+/- 69.8205
7	Amyl acetate	628-63-7	41325/1		2,019.5 μg/mL	+/- 69.8046

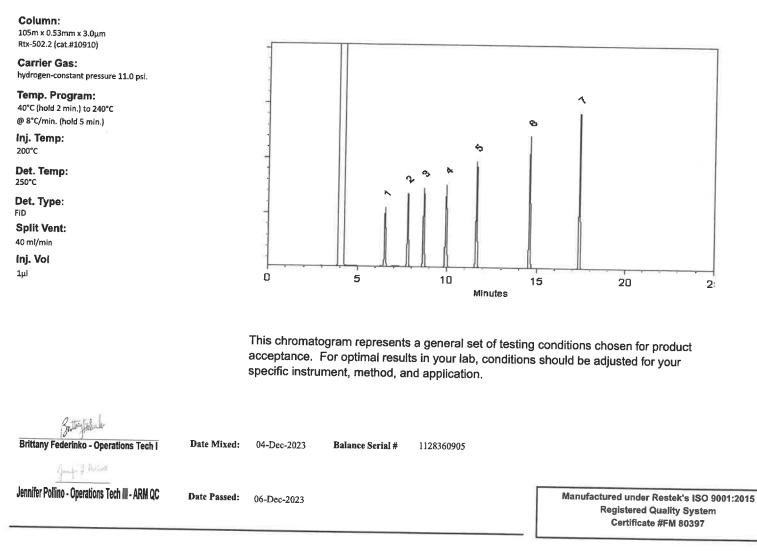
Solvent: P&T Methanol CAS # 67-56-1 Purity 99% * Expanded Uncertainty displayed in same units as Grav. Conc.

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



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:

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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.

- 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
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 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. :	30489	Lot No.:	A0209618	
Description :	8260B Acetates Mix			
	8260B Acetates Mix 2,000 µg/ml	L, P&T Methanol, 1mL	/ampul	
Container Size :	<u>2 mL</u>	Pkg Amt:	> 1 mL	
Expiration Date :	September 30, 2025	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	SHBP3100	99%	2,019.3 μg/mL	+/- 69.7974
2	Vinyl acetate	108-05-4	RP231030CTH	98%	2,016.8 μg/mL	+/- 69.7112
3	Ethyl acetate	141-78-6	SHBQ9682	99%	2,010.7 μg/mL	+/- 69.4979
4	Isopropyl acetate	108-21-4	BCCG7069	99%	2,016.0 µg/mL	+/- 69.6822
5	Propyl acetate	109-60-4	P8XLN	99%	2,008.0 µg/mL	+/- 69.4057
6	Butyl acetate	123-86-4	SHBP6314	99%	2,007.3 µg/mL	+/- 69.3826
7	Amyl acetate	628-63-7	41325/1	97%	2,004.7 μg/mL	+/- 69.2905

* 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: ٩ 40°C (hold 2 min.) to 240°C @ 8°C/min. (hold 5 min.) Ø Inj. Temp: ÷-200°C Det. Temp: 0 250°C Det. Type: FID **Split Vent:** 40 ml/min Inj. Vol ٥ **1**µl 5 10 15 20 Minutes 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. Soumuer Moodler Sam Moodler - Operations Tech I Date Mixed: 28-Mar-2024 **Balance Serial #** B707717271 Tiller Hurthy **Dillan Murphy - Operations Technician I** Manufactured under Restek's ISO 9001:2015 Date Passed: 01-Apr-2024 **Registered Quality System**

Certificate #FM 80397

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.
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 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.
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Certified Uncertainty Value Notes:

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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.

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through
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Catalog No. :	30489	Lot No.:	A0209618	
Description :	8260B Acetates Mix			
	8260B Acetates Mix 2,000 µg/ml	L, P&T Methanol, 1mL	/ampul	
Container Size :	<u>2 mL</u>	Pkg Amt:	> 1 mL	
Expiration Date :	September 30, 2025	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	SHBP3100	99%	2,019.3 μg/mL	+/- 69.7974
2	Vinyl acetate	108-05-4	RP231030CTH	98%	2,016.8 μg/mL	+/- 69.7112
3	Ethyl acetate	141-78-6	SHBQ9682	99%	2,010.7 μg/mL	+/- 69.4979
4	Isopropyl acetate	108-21-4	BCCG7069	99%	2,016.0 µg/mL	+/- 69.6822
5	Propyl acetate	109-60-4	P8XLN	99%	2,008.0 µg/mL	+/- 69.4057
6	Butyl acetate	123-86-4	SHBP6314	99%	2,007.3 µg/mL	+/- 69.3826
7	Amyl acetate	628-63-7	41325/1	97%	2,004.7 μg/mL	+/- 69.2905

* 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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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: ٩ 40°C (hold 2 min.) to 240°C @ 8°C/min. (hold 5 min.) Ø Inj. Temp: ÷-200°C Det. Temp: 0 250°C Det. Type: FID **Split Vent:** 40 ml/min Inj. Vol ٥ **1**µl 5 10 15 20 Minutes 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. Soumuer Moodler Sam Moodler - Operations Tech I Date Mixed: 28-Mar-2024 **Balance Serial #** B707717271 Tiller Hurthy **Dillan Murphy - Operations Technician I** Manufactured under Restek's ISO 9001:2015 Date Passed: 01-Apr-2024 **Registered Quality System**

Certificate #FM 80397

Expiration Notes:

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Certified Uncertainty Value Notes:

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Manufacturing Notes:

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gravimetric





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	נוים להמוומואם מנותיחו להמונומואם הבובוווווומוחיו חו נוום מומואבו(א) וואפחי	ui ui iile ailaiyie(s) iisieu.
Catalog No. :	555581 Lot No.: A0210184	84
Description :	Custom 8260 Internal Standard Mix	
	Custom 8260 Internal Standard Mix 25,000µg/mL, P&T Methanol, 1mL/ampul	0,
Container Size :	2 mL Pkg Amt: > 1 mL	
Expiration Date :	April 30, 2027 Storage: 10°C or colder	r colder

VALUES CERTIFIED

Ship: Ambient

Componen t#	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)	ty * K=2)
1	1,4-Dichlorobenzene-d4	3855-82-1 PR-30447	PR-30447	666	99% 25,212.0 μg/mL	+/- 1,427.8857	.8857
2	1,4-Difluorobenzene	540-36-3	MKCS8657	%66	99% 25,220.0 μg/mL	+/- 1,428.3388	.3388
ε	Chlorobenzene-d5	3114-55-4 PR-31132	PR-31132	%66	99% 25,116.0 μg/mL	+/- 1,422.4487	.4487
4	Pentafluorobenzene	363-72-4	MKCR9383	666	99% 25,180.0 μg/mL	+/- 1,426.0734	.0734
Solvent:	P&T Methanol CAS # 67-56-1 Purity 99%						

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397 HAR SA MY WART IN COMPANYING TO 1127510105 Balance: 11-Apr-2024 Date Mixed: John Friedline - Operations Technician I Mr. J. Mi



Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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Purity Notes:

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uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula: The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded

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

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Manufacturing Notes:

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric





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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.

	נוים להמוומואם מנותיחו להמונומואם הבובוווווומוחיו חו נוום מומואבו(א) וואפחי	ui ui iile ailaiyie(s) iisieu.
Catalog No. :	555581 Lot No.: A0210184	84
Description :	Custom 8260 Internal Standard Mix	
	Custom 8260 Internal Standard Mix 25,000µg/mL, P&T Methanol, 1mL/ampul	0,
Container Size :	2 mL Pkg Amt: > 1 mL	
Expiration Date :	April 30, 2027 Storage: 10°C or colder	r colder

VALUES CERTIFIED

Ship: Ambient

Componen t#	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)	ty * K=2)
1	1,4-Dichlorobenzene-d4	3855-82-1 PR-30447	PR-30447	666	99% 25,212.0 μg/mL	+/- 1,427.8857	.8857
2	1,4-Difluorobenzene	540-36-3	MKCS8657	%66	99% 25,220.0 μg/mL	+/- 1,428.3388	.3388
ε	Chlorobenzene-d5	3114-55-4 PR-31132	PR-31132	%66	99% 25,116.0 μg/mL	+/- 1,422.4487	.4487
4	Pentafluorobenzene	363-72-4	MKCR9383	666	99% 25,180.0 μg/mL	+/- 1,426.0734	.0734
Solvent:	P&T Methanol CAS # 67-56-1 Purity 99%						

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397 HAR SA MY WART IN COMPANYING TO 1127510105 Balance: 11-Apr-2024 Date Mixed: John Friedline - Operations Technician I Mr. J. Mi



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. .
- 4 Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. 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 i

uncertainty value includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula: The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified expanded

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

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

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

- environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom 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 which includes complete instructions. .
 - If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved. .



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 5,00 1mL/ampul	0µg/mL, P&T Methanol/W	/ater(90:10),	
Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	July 31, 2027	Storage:	0°C or colder	
	3	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%

-



Expiration Notes:

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Purity Notes:

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- 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:

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

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Manufacturing Notes:

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Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	July 31, 2027	Storage:	0°C or colder	
	3	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%

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Catalog No. :	30006	Lot No.:	A0210618	
Description :	VOA Calibration Mix #1			
	VOA Calibration Mix #1 5,00 1mL/ampul	0µg/mL, P&T Methanol/W	/ater(90:10),	
Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	July 31, 2027	Storage:	0°C or colder	
	3	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%

-



Expiration Notes:

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Manufacturing Notes:

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Description :	VOA Calibration Mix #1			
	VOA Calibration Mix #1 5,00 1mL/ampul	0µg/mL, P&T Methanol/W	/ater(90:10),	
Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	July 31, 2027	Storage:	0°C or colder	
	3	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
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* 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%

-



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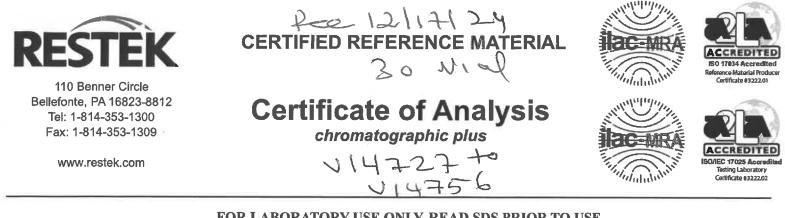
k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

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Manufacturing Notes:

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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 2,000)µg/mL, P&T Methanol, 1	ImL/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%

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

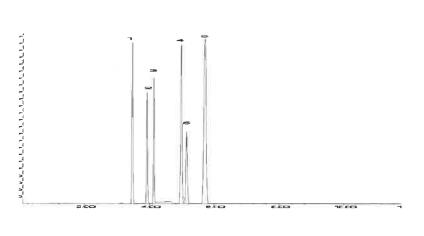
Det. Temp: 250°C

Det. Type:

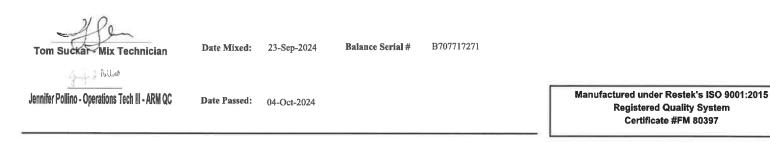
MSD Split Vent:

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.



Expiration Notes:

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Certified Uncertainty Value Notes:

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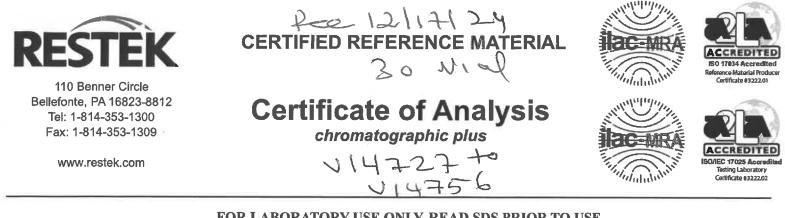
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Manufacturing Notes:

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Catalog No. :	30042	Lot No.:	A0216826	
Description :	502.2 Calibration Mix #1			
	502.2 Calibration Mix #1 2,000)µg/mL, P&T Methanol, 1	ImL/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
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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

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

Purity 99%

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

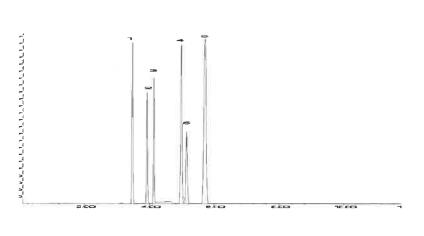
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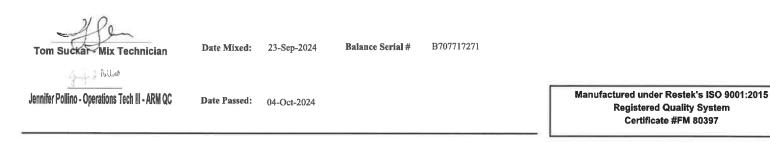
MSD Split Vent:

Split ratio 10:1 Inj. Vol

1µl



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

CERTIFIED VALUES

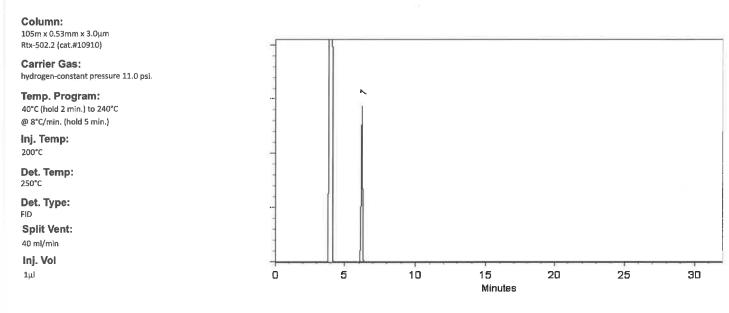
Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	tert-Butanol (TBA)	75-65-0	SHBQ8002-1	99%	50,007.5 μg/mL	+/- 717.6137

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

 Solvent:
 P&T Methanol

 CAS #
 67-56-1

 Purity
 99%



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.

WOLF Aaron Enyart - Operations Tech I

Date Mixed: 07-Oct-2024

Balance Serial #

B251644995

Sittery Falend

Brittany Federinko - Operations Tech I

Date Passed: 09-Oct-2024 Manufactured under Restek's ISO 9001:2015 **Registered Quality System** Certificate #FM 80397

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:

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

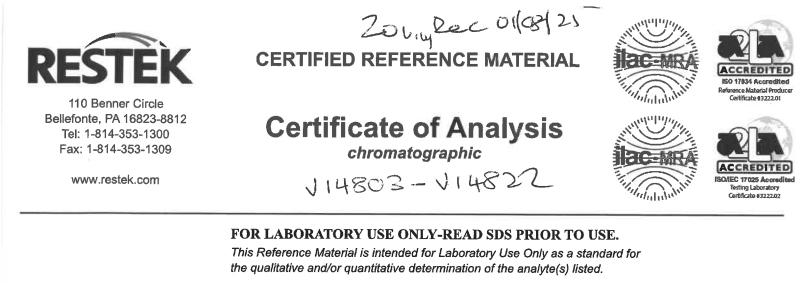
k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

• 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.

- 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.



Catalog No. :	555408-SL	Lot No.: <u>A0220471</u>				
Description :	Custom Vinyl Acetate Standard					
	Custom Vinyl Acetate Standard 8	3,000µg/mL, P&T Meth	nanol, 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			

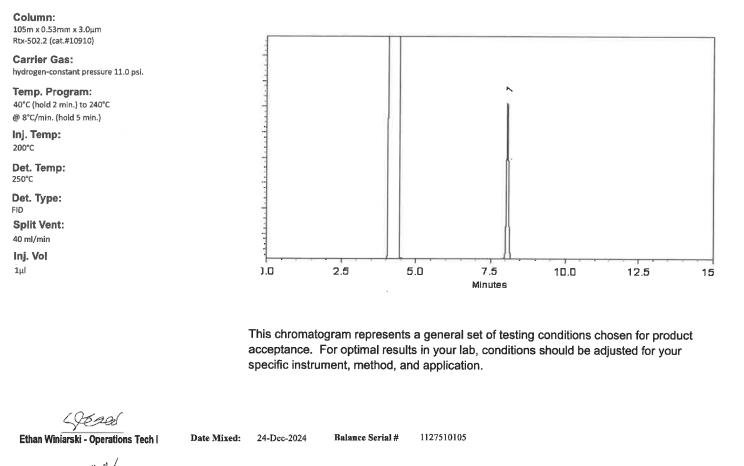
CERTIFIED VALUES

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	Uncertaint	y 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.



<u>بنائیہ</u> Dillan Murphy - Operations Technician I

02-Jan-2025

Date Passed:

REVIEWED By Janviller Polities at 7:12 um, Jan 63, 2025

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

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
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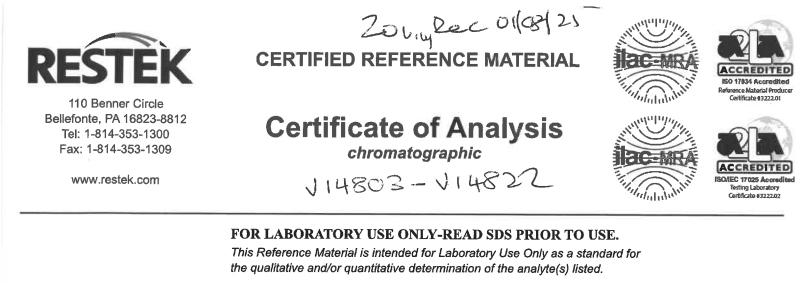
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	Custom Vinyl Acetate Standard 8	3,000µg/mL, P&T Meth	nanol, 1mL/ampul	
Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	June 30, 2026	Storage:	-20°C or colder	
Handling:	This product is photosensitive.	Ship:	On Ice	

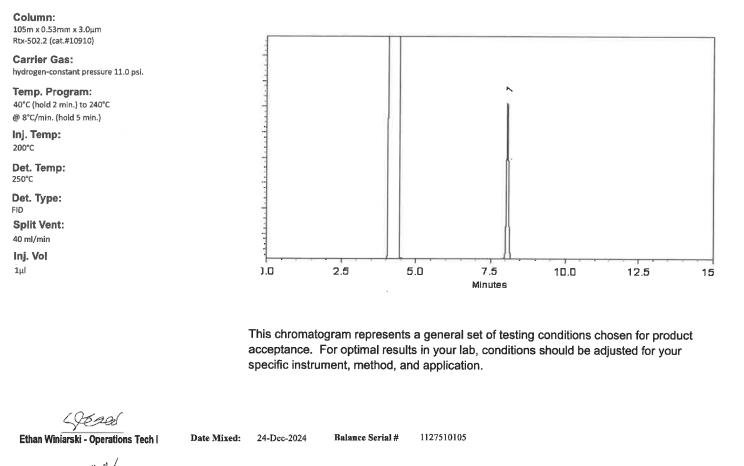
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Solvent: P&T Methanol CAS # 67-56-1 Purity 99%

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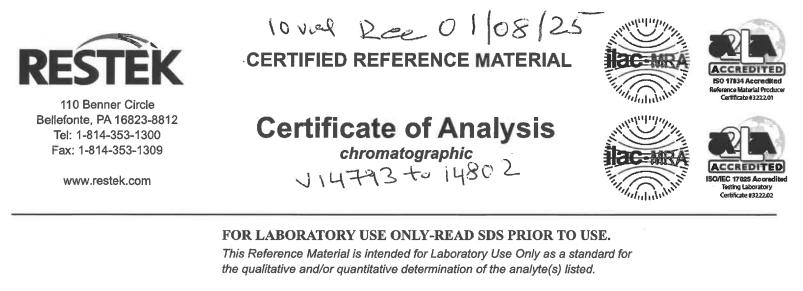
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Catalog No. :	555408-FL	Lot No.:	A0220563
Description :	Custom Vinyl Acetate Standard		
	Custom Vinyl Acetate Standard 8	,000µg/mL, P&T Meth	nanol, 1mL/ampul
Container Size :	2 mL	Pkg Amt:	> 1 mL
Expiration Date :	June 30, 2026	Storage:	-20°C or colder
Handling:	This product is photosensitive.	Ship:	On Ice

CERTIFIED VALUES

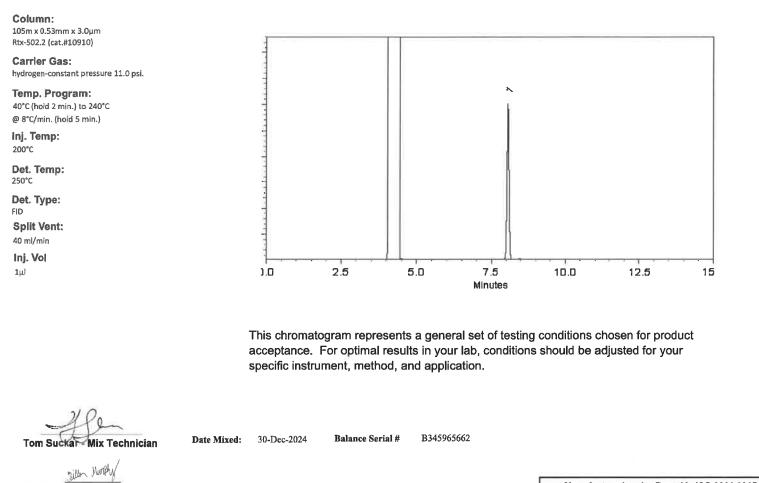
Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1 1	/inyl acetate	108-05-4	RD240423RSR	99%	8,060.0 μg/mL	+/- 278.5905

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

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

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Dillan Murphy - Operations Technician I

Date Passed: 02-Jan-2025

REVIEWED By Jamiller Publico at 7:11 are, Jan 00, 2025 Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

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Absolute 800-368-1131	Absolute Standards, Inc. 800-368-1131				Sertified	Referenc	Certified Reference Material CRM	CRM				ANAB ISC	ANAB ISO 17034 Accredited
											5	AH-1539 https://Absc	AH-1539 Certificate Number https://Absolutestandards.com
CEATIFIED	CERTIFIED WEIGHT REPORT Part Number: Lot Number: Description:	70046 070122 Bromochlor	70046 070122 Bromochloromethane			Solvent: Methanol	Lot# EC592-US			Habriel	R Hellon		
l Weigh	Constant of Constant Expiration Date: 070127 Recommended Storage: Refrigeration Nominal Concentration (µg/mL): 1000 NIST Test ID#: 6UTB Weight(s) shown below were combined and diluted to (mL):	070127 Refrigerate (4 °C) 1000 6UTB d diluted to (mL):	t (4 °C) 25.0	5E-05 0.0002	Balance Uncertainty Flask Uncertainty	artainty unty			Formulated By:	ter .	dro dro		DATE DATE 070122 DATE
Comp	Compound	Lot RM# Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Target Weight(g)	Actual Weight(g) (Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	CA	SDS Information (Solvent Safety Info. On Attached pg.) S# OSHA PEL (TWA)	on ttached pg.)	
1. Brome Meth Cand	Bromochloromethane 46 AY01 1000 99 0.2 0.02530 0.02540 1004.1 5.7 74-97-5 200 ppm (1050mg/m3/8H) Method GC6MSD-1.M: Column : (60m X 0.25mm X 1.5 µm) Temp 1 = 35°C (10min.), Temp 2 = 200°C (8.75 min.), Rate = 4°C/min., Injector B = 200°C, Detector B = 220°C, Analvst:	46 AY01 X 0.25mm X 1.5 µ	1000 um) Temp 1 = 3	99 5°C (10r	0.2 nin.), Temp	0.02530 2 = 200°C ()	0.02540 (8.75 min.), Rate	1004.1 : = 4°C/min.	5.7 ., Injector B=	74-97-5 = 200°C, Dete	200 ppm (1050mg/m3/8H) ector B = 220°C. Analys	orl-rat	By
Abundance		TIC: 70046.D				4	Abuniance		Scan 1136	Scan 1136 (19.943 min): 70046.D			
							30000 -	4					
100000							25000 -				<u>س</u> ا ت	H L	
80000							20000				0	_	
60000	-					-	15000 -					130	
40000						-	10000						
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Time->0	10.00 15.00 20.00 25.00	30.00 35.00 4	40.00 45.00	50.00	55.00 60.00		m/z>0 - 37 30 40	20	63 60 70	80	100	114 120 130 140	
	• The Slan • Slan • All S • Jal S • Unc • Unc	 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 MIST (see above). Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated. All Standards are certified (a) 0.5% of the stated value, unless otherwise stated. All Standards are certified (a) 0.5% of the stated value, unless otherwise stated. All Standards are certified (a) 0.5% of the stated value, unless otherwise stated. All Standards after opening ampule, should be stored with caps tight and under appropriate taboratory 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). 	oncentration calcul avimetrically using 0.5% of the stated yearpule, should 1 year, B.N. and Kuy J.S. Government P	ated from t balances l value, un e stored v et, C.E., ' rinting Of	gravimetric a that are calib less otherwist rith caps tight 'Guidelines fo fice, Washing	und volumetric rated with wei stated. : and under apl r Evaluating a ton, DC, (1994)	measurements unl ghts traceable to N. propriate laborator nd Expressing the ').	ess otherwise : LST (see above 7 conditions, Uncertainty of	e). E). [NIST Measu	rement Result,"			

Printed: 7/1/2022, 3:42:22 PM

1 of 1

Part # 70046 Lot # 070122

Methanol ULTRA RESI-ANALYZED For Purge and Trap Analysis

Avantor



Material No.: 9077-02 Batch No.: 22L0562016 Manufactured Date: 2022-10-26 Expiration Date: 2025-10-25 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (CH3OH) (by GC, corrected for water)	≥ 99.9 %	100.0 %
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.2
Titrable 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

James Techie

Jamie Ethier Vice President Global Quality

Methanol ULTRA RESI-ANALYZED For Purge and Trap Analysis





V14921 to

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

Certificate of Analysis

Test Assay (CHsOH) (by GC, corrected for water) Residue after Evaporation Titrable Acid (mode)	Specification ≥ 99.9 % ≤ 1.0 ppm	Result 100.0 % 0.3 ppm
		0.5
Titrable Base (µeq/g)	≤ 0.10	0.03
Water (by KF, coulometric)	≤ 0.08 %	< 0.01 %
Volatile Organic Trace Analysis – Below EPA 8260B CRQL	Conforms	Conforme

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

Director Quality Operations, Bioscience Production Jamie Croak YOUN