

Prep Standard - Chemical Standard Summary

Order ID: 04699 Test : Pesticide-TCL

Prepbatch ID : PB156248,

Sequence ID/Qc Batch ID: PL100923,pl101023,

Standard ID :

EP2394,PP22265,PP22271,PP22272,PP22273,PP22274,PP22275,PP22276,PP22277,PP22278,PP22279,PP22283,PP22284,PP22285,PP22286,PP22287,PP22288,PP22289,PP22290,PP22291,PP22292,PP22293,PP22294,PP22295,PP22296,PP22297,PP22298,PP22299,PP22450,PP22451,PP22491,PP22520,PP22539,

Chemical ID :

E3412,E3520,E3531,E3533,E3546,E3563,E3583,E3585,P10345,P11063,P11143,P11388,P11389,P11741,P11743,P1179 1,P11813,P11892,P12596,P12606,P12651,P9049,W3042,

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Extractions STANDARD PREPARATION LOG

Recipe ID 3923	NAME Baked Sodium Sulfate	<u>NO.</u> EP2394	Prep Date 10/03/2023	<u>Prepared</u> <u>By</u> RUPESHKUMA R SHAH	ALE_2	PipetteID None	Supervised By Rajesh Parikh 10/03/2023
<u>FROM</u>	1.00000gram of E3412 = Final Quar	ntity: 4000.0	00 gram	I	(EX-SC-2)		

<u>Recipe</u>				Expiration	Prepared			Supervised By
<u>ID</u>	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipetteID	Yogesh Patel
758	PEM Mix w/Surr	PP22265	07/03/2023	12/17/2023	Abdul Mirza	None	None	
								07/05/2023
FROM	1.00000ml of P11791 + 99.00000ml of	of E3520 =	Final Quantity	/: 100.000 ml				

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 3629	NAME 20 PPM PEST stock Solution 1st source(RESTEK)	<u>NO.</u> PP22271	Prep Date 07/03/2023	Expiration Date 01/03/2024	Prepared By Abdul Mirza	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Yogesh Patel 07/05/2023
FROM	1.00000ml of P11063 + 9.00000ml of	E3533 = F	inal Quantity:	10.000 ml				

<u>Recipe</u> <u>ID</u> 1472	NAME 20 PPM Pest Stock Solution 2nd Source	<u>NO.</u> PP22272	Prep Date 07/03/2023	Expiration Date 01/03/2024	<u>Prepared</u> <u>By</u> Abdul Mirza	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Yogesh Patel 07/05/2023
FROM	1.00000ml of P10345 + 9.00000ml of	I f E3533 = F	inal Quantity:	10.000 ml				51100/2020

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

FROM 0.20000ml of P9049 + 9.80000ml of E3533 = Final Quantity: 10.000 ml	Recipe ID 1273	NAME 20 PPM Mirex Stock (Primary Source)	<u>NO.</u> PP22273	Prep Date 07/03/2023	Expiration Date 01/03/2024	Prepared By Abdul Mirza	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Yogesh Patel 07/05/2023
	FROM	0.20000ml of P9049 + 9.80000ml of I	E3533 = Fi	nal Quantity: 1	10.000 ml				

<u>Recipe</u> <u>ID</u> 3663	NAME 20 PPM MIREX Stock STD (Secondary source)	<u>NO.</u> PP22274	Prep Date 07/03/2023	Expiration Date 01/03/2024	<u>Prepared</u> <u>By</u> Abdul Mirza	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Yogesh Patel 07/05/2023
FROM	0.20000ml of P11143 + 9.80000ml of	<u> </u> E3533 = F	I inal Quantity:	10.000 ml				01103/2023

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 84	NAME Pest/PCB Surrogate Stock 20 PPM	<u>NO.</u> PP22275	Prep Date 07/03/2023	Expiration Date 01/03/2024	Prepared By Abdul Mirza	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Yogesh Patel 07/05/2023
FROM	1.00000ml of P11741 + 9.00000ml of	E3533 = F	inal 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>	PipettelD	Yogesh Patel
3630	100/100 PPB PEST Working std.1st Source(RESTEK)	<u>PP22276</u>	07/03/2023	01/03/2024	Abdul Mirza	None	None	07/05/2023
FROM	98.50000ml of E3533 + 0.50000ml of	f PP22271 +	0.50000ml o	f PP22273 + 0.	50000ml of PP2	22275 = Final G	Quantity: 100.0	00
	ml							

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 80	NAME 100/100 PPB Pesticide Working Solution 2nd Source	<u>NO.</u> PP22277	Prep Date 07/03/2023	Expiration Date 01/03/2024	<u>Prepared</u> <u>By</u> Abdul Mirza	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Yogesh Patel 07/05/2023
FROM	98.50000ml of E3533 + 0.50000ml of ml	FP22272 +	⊧ 0.50000ml o	f PP22274 + 0.	50000ml of PP2	22275 = Final G	Quantity: 100.0	00

<u>Recipe</u> <u>ID</u> 3631	NAME 75 PPB ICAL PEST STD(RESTEK)	<u>NO.</u> PP22278	Prep Date 07/03/2023	Expiration Date 01/03/2024	<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
FROM	0.25000ml of E3533 + 0.75000ml of l	<u> </u> PP22276 =	I Final Quantit	l y: 1.000 ml	<u> </u>			0110112023

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 3632	NAME 50 PPB ICAL PEST STD(RESTEK)	<u>NO.</u> PP22279	<u>Prep Date</u> 07/03/2023		<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
FROM	0.50000ml of E3533 + 0.50000ml of I	P22276 =	Final Quantit <u>y</u>	y: 1.000 ml	<u> </u>			
<u>Recipe</u> ID	NAME	NO.	Prep Date	<u>Expiration</u> Date	<u>Prepared</u> By	ScaleID	PipettelD	Supervised By

<u>Recipe</u>				Expiration	Prepared			Supervised By
ID	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipettelD	mohammad
3633	25 PPB ICAL PEST	PP22283	07/03/2023	01/03/2024	Ankita Jodhani	None	None	ahmed
	STD(RESTEK)							07/07/2023
FROM	0.75000ml of E3533 + 0.25000ml of	PP22276 =	Final Quantity	y: 1.000 ml				
<u> </u>								

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 3634	NAME 5 PPB ICAL PEST STD(RESTEK)	<u>NO.</u> PP22284	Prep Date 07/03/2023		<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
FROM	0.90000ml of E3533 + 0.10000ml of I	PP22279 =	Final Quantit	y: 1.000 ml				

<u>Recipe</u> <u>ID</u> 3988	NAME 50 PPB PEST ICV STD(RESTEK)	<u>NO.</u> PP22285	<u>Prep Date</u> 07/03/2023		<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
FROM	0.50000ml of E3533 + 0.50000ml of l	PP22277 =	Final Quantity	y: 1.000 ml	<u> </u>			

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 386	NAME 1000/100 PPB Chlordane STD (Restek)	<u>NO.</u> PP22286	Prep Date 07/03/2023		<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
<u>FROM</u>	0.10000ml of P12596 + 99.40000ml o	of E3533 + (0.50000ml of l	PP22275 = Fir	al Quantity: 100	0.000 ml		
Recipe				Expiration	Prenared			Supervised By

Recipe				Expiration	Prepared			Supervised By
ID	NAME	<u>NO.</u>	Prep Date	Date	<u>By</u>	<u>ScaleID</u>	PipettelD	mohammad
528	CHLOR 750 PPB STD	PP22287	07/03/2023	01/03/2024	Ankita Jodhani	None	None	ahmed
								07/07/2023
FROM	0.25000ml of E3533 + 0.75000ml of l	PP22286 =	Final Quantity	y: 1.000 ml				

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 529	NAME CHLOR 500 PPB STD	<u>NO.</u> PP22288	Prep Date 07/03/2023		<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
<u>FROM</u>	0.50000ml of E3533 + 0.50000ml of I	PP22286 =	Final Quantit	y: 1.000 ml				
								a

<u>Recipe</u> <u>ID</u> 530	NAME CHLOR 250 PPB STD	<u>NO.</u> PP22289	Prep Date 07/03/2023		<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
FROM	0.75000ml of E3533 + 0.25000ml of	I PP22286 =	Final Quantity	y: 1.000 ml	<u> </u>			0110112023

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 3408	NAME CHLOR 50 PPB STD	<u>NO.</u> PP22290	<u>Prep Date</u> 07/03/2023	Expiration Date 01/03/2024	<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	PipettelD None	Supervised By mohammad ahmed 07/07/2023
<u>FROM</u>	0.90000ml of E3533 + 0.10000ml of I	PP22288 =	Final Quantity	y: 1.000 ml	· · · · · ·			
Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipettelD	Supervised By

<u>Recipe</u>				Expiration	Prepared			Supervised By
<u>ID</u>	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipetteID	mohammad
3746	1000/100 ppb Chlordane	PP22291	07/03/2023	01/03/2024	Ankita Jodhani	None	None	ahmed
	STD-RESTEK 2ND SOURCE							07/07/2023
FROM	0.10000ml of P12606 + 99.40000ml of	of E3533 + ().50000ml of I	PP22275 = Fir	nal Quantity: 100).000 ml		

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 532	NAME CHLOR 500 PPB ICV STD	<u>NO.</u> PP22292	Prep Date 07/03/2023		<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
<u>FROM</u>	0.50000ml of E3533 + 0.50000ml of I	PP22291 =	Final Quantit	y: 1.000 ml				

Recipe				Expiration	Prepared			Supervised By
ID	NAME	<u>NO.</u>	Prep Date	Date	<u>By</u>	<u>ScaleID</u>	PipettelD	mohammad
383	1000/100 PPB Toxaphene STD	PP22293	07/03/2023	01/03/2024	Ankita Jodhani	None	None	ahmed
	(Restek)							07/07/2023
FROM	0.10000ml of P11388 + 99.40000ml of	of E3533 + ().50000ml of I	PP22275 = Fir	al Quantity: 100).000 ml		

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 533	NAME TOX 750 PPB STD	<u>NO.</u> PP22294	Prep Date 07/03/2023	Expiration Date 01/03/2024	<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
<u>FROM</u>	0.25000ml of E3533 + 0.75000ml of	PP22293 =	Final Quantity	y: 1.000 ml				
Pacina				Expiration	Bronarod			Supervised By

Recipe				Expiration	Prepared			Supervised By
<u>ID</u>	NAME	<u>NO.</u>	Prep Date	Date	<u>By</u>	<u>ScaleID</u>	PipettelD	mohammad
534	TOX 500 PPB STD	PP22295	07/03/2023	01/03/2024	Ankita Jodhani	None	None	ahmed
								07/07/2023
FROM	0.50000ml of E3533 + 0.50000ml of l	PP22293 =	Final Quantity	y: 1.000 ml				

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

<u>Recipe</u> <u>ID</u> 535	NAME TOX 250 PPB STD	<u>NO.</u> PP22296	Prep Date 07/03/2023	Expiration Date 01/03/2024	<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
FROM	0.75000ml of E3533 + 0.25000ml of l	PP22293 =	Final Quantity	y: 1.000 ml				
Recipe				Expiration	Prenared			Supervised By

Recipe				Expiration	Prepared			Supervised By
ID	NAME	<u>NO.</u>	Prep Date	Date	<u>By</u>	<u>ScaleID</u>	PipettelD	mohammad
2217	TOX 100 PPB STD	PP22297	07/03/2023	01/03/2024	Ankita Jodhani	None	None	ahmed
								07/07/2023
FROM	0.90000ml of E3533 + 0.10000ml of	PP22293 =	Final Quantity	y: 1.000 ml				
<u></u>			· · ·					

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 3669	NAME 1000/100 PPB TOXAPHENE STD 2nd source (RESTEK)	<u>NO.</u> PP22298	Prep Date 07/03/2023		<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
FROM	0.10000ml of P11813 + 99.40000ml o	of E3533 + ().50000ml of F	PP22275 = Fir	nal Quantity: 100	0.000 ml		
					1			

<u>Recipe</u> <u>ID</u> 3670	NAME TOX 500 PPB ICV std (RESTEK)	<u>NO.</u> PP22299	Prep Date 07/03/2023	Expiration Date 01/03/2024	<u>Prepared</u> <u>By</u> Ankita Jodhani	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By mohammad ahmed 07/07/2023
FROM	0.50000ml of E3533 + 0.50000ml of	PP22298 =	Final Quantit	y: 1.000 ml	<u> </u>		1	

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

<u>Recipe</u> <u>ID</u> 1501	NAME 1000 ppb CHLORDANE SPIKE (RESTEK)	<u>NO.</u> PP22450	Prep Date 08/02/2023	Expiration Date 01/21/2024	Prepared By Abdul Mirza	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Ankita Jodhani 08/03/2023
FROM	0.10000ml of P11892 + 99.90000ml o	of E3546 =	Final Quantity	/: 100.000 ml				

Recipe				Expiration	Prepared			Supervised By
<u>ID</u>	NAME	<u>NO.</u>	Prep Date	<u>Date</u>	<u>By</u>	<u>ScaleID</u>	PipettelD	Ankita Jodhani
3878	1000 PPB TOXAPHENE SPIKE	<u>PP22451</u>	08/02/2023	01/21/2024	Abdul Mirza	None	None	
	(RESTEK)							08/03/2023
FROM	0.10000ml of P11389 + 99.90000ml of	of E3546 =	Final Quantity	r: 100.000 ml				

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 2156	NAME 100 PPB Pest Spike for LOD-LOQ (Restek)	<u>NO.</u> PP22491	Prep Date 08/18/2023	Expiration Date 01/03/2024	Prepared By Abdul Mirza	<u>ScaleID</u> None	<u>PipetteID</u> None	Supervised By Ankita Jodhani 08/18/2023
FROM	99.00000ml of E3546 + 0.50000ml of	f PP22272 -	⊦ 0.50000ml o	f PP22274 = F	inal Quantity: 10	00.000 ml		
Recipe				Expiration	Prepared			Supervised By

Recipe				Expiration	Prepared			Supervised By
ID	NAME	<u>NO.</u>	Prep Date	Date	By	<u>ScaleID</u>	PipetteID	Ankita Jodhani
4027	Pesticide resolution Check	PP22520	08/31/2023	01/28/2024	Abdul Mirza	None	None	
	Mixture 8081							09/05/2023
FROM	1.00000ml of P12651 + 99.00000ml	of W3042 =	Final Quantit	y: 100.000 ml				

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Recipe ID 465	NAME 200 PPB Pest/PCB Surrogate Spike	<u>NO.</u> PP22539	Prep Date 09/08/2023	Expiration Date 03/05/2024	Prepared By Abdul Mirza	<u>ScaleID</u> None	PipetteID None	Supervised By Ankita Jodhani 09/11/2023
<u>FROM</u>	1.00000ml of P11743 + 999.00000ml	of E3563 =	= Final Quanti	ty: 1000.000 m	l			



CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19631-100 / SODIUM SULFATE, ANHYDROUS, PEST GRADE, 1	139404	04/10/2024	10/18/2022 / Rajesh	10/13/2022 / Rajesh	E3412
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	23C2462011	01/19/2024	06/17/2023 / Rajesh	06/15/2023 / Rajesh	E3520
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
phenomenex	FS0006 / Cleanert SPE Silica, 1000 mg/6ml, 30PK	YO307-2	12/24/2023	08/07/2023 / Rajesh	06/21/2023 / Rajesh	E3531
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #

	Supplier	ItemCode / ItemName	Lot #	Date	Opened By	Received By	Lot #
Se	eidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	23C2462011	01/03/2024	07/03/2023 / Rajesh	06/29/2023 / Rajesh	E3533

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	22L2862006	03/12/2024	07/21/2023 / Rajesh	07/20/2023 / Rajesh	E3546

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	22L2862006	03/05/2024	09/05/2023 / Rajesh	08/31/2023 / Rajesh	E3563



CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	23G1962004	04/04/2024	10/04/2023 / Rajesh	09/25/2023 / Rajesh	E3583
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	23C2462011	04/09/2024	10/09/2023 / Rajesh	10/05/2023 / Rajesh	E3585
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32291 / Pesticide Mix, CLP method, organochlorine Std AB#1, 200ug/mL, hexane/toluene, 1mL/ampul	A0162166	01/03/2024	07/03/2023 / Abdul	03/05/2021 / Abdul	P10345
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32291 / Pesticide Mix, CLP method, organochlorine Std AB#1, 200ug/mL, hexane/toluene, 1mL/ampul	A0168439	01/03/2024	07/03/2023 / Abdul	09/29/2021 / Abdul	P11063
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	79136 / Mirex, 1000 ug/ml	102821	01/03/2024	07/03/2023 / Abdul	10/29/2021 / Abdul	P11143
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32005 / Toxaphene Standard	A0176614	01/05/2024	07/03/2023 / Ankita	02/09/2022 / Ankita	P11388



CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32005 / Toxaphene Standard	A0176614	02/02/2024	08/02/2023 / Abdul	02/09/2022 / Ankita	P11389
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32000 / Pesticide Mix, CLP method, Pesticide Surrogate Mix, 200ug/mL, Acetone, 1mL	A0179404	01/03/2024	07/03/2023 / Abdul	05/27/2022 / Sohil	P11741
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32000 / Pesticide Mix, CLP method, Pesticide Surrogate Mix, 200ug/mL, Acetone, 1mL	A0179404	03/08/2024	09/08/2023 / Abdul	05/27/2022 / Sohil	P11743
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32074 / Pesticide Performance Evaluation Mix w/Surrogate	A0183168	01/03/2024	07/03/2023 / Abdul	05/27/2022 / Sohil	P11791
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32005 / Toxaphene Standard	A0177326	01/05/2024	07/03/2023 / Ankita	06/17/2022 / Ankita	P11813
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32021 / Chlordane Std.	A0181737	02/02/2024	08/02/2023 / Abdul	06/17/2022 / Abdul	P11892



CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32021 / Chlordane Std.	A0193299	01/03/2024	07/03/2023 / Abdul	07/03/2023 / Abdul	P12596
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32021 / Chlordane Std.	A0197993	01/03/2024	07/03/2023 / Abdul	07/03/2023 / Abdul	P12606
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards,Inc	19161 / 8081 pesticide resolution check mixture	012819	01/28/2024	08/31/2023 / Ankita	07/07/2023 / Ankita	P12651
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	79136 / Mirex, 1000 ug/ml	112018	01/03/2024	07/03/2023 / Abdul	11/01/2019 / Stephen	P9049
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	23C2462011	08/06/2024	07/12/2023 / JIGNESH	07/11/2023 / JIGNESH	W3042



E 3412



MIRADOR 201, COL. MIRADOR MONTERREY, N.L. MEXICO CP 64070 TEL +52 81 13 52 57 57 www.pgm.com.mx

CERTIFICATE OF ANALYSIS

	ULFATE CRYSTALS AN	HYDROUS
	E RMB3375)	FORMULA : Na ₂ SO ₄
SPECIFICATION NUMBER: 6399		RELEASE DATE: OCT/28/2021
LOT NUMBER : 139404	Description of the second s	
TEST	SPECIFICATION	IS LOT VALUES
Assay (Na ₂ SO ₄)	Min. 99.0%	99.8 %
pH of a 5% solution at 25%	5.2 - 9.2	6.0
Insoluble matter	Max. 0.01%	0.005 %
Loss on ignition	Max. 0.5%	0.1%
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (as N)	Max. 5 ppm	<5 ppm
Phosphate (PO ₄)	Max. 0.001%	<0.001 %
Heavy metals (as Pb)	Max. 5 ppm	<5 ppm
Iron (Fe)	Max. 0.001%	<0.001 %
Calcium (Ca)	Max. 0.01%	
Magnesium (Mg)	Max. 0.005%	0.002 %
Potassium (K)	Max. 0.008%	0.001 %
Extraction-concentration suitability	Passes test	0.002 %
Appearance	Passes test	Passes test
dentification	Passes test	Passes test
solubility and foreing matter	Passes test	Passes test
Retained on US Standard No. 10 sieve	Max. 1%	Passes test
Retained on US Standard No. 60 sieve		0.2 %
hrough US Standard No. 60 sieve	Min. 94%	97.6 %
	Max. 5%	2.1 %
hrough US Standard No. 100 sieve	Max. 10%	0.2 %
		A. S.
	COMMENTS	
		-23
		QC: PhC Irma Belmares

If you need further details, please call our factory or contact our local distributor.

Recd. 57 RP on 10/13/22

RE-02-01, Ed. 3

Hexanes (95% n-hexane) BAKER RESI-ANALYZED® Reagent

(V) avantor



Material No.: 9262-03 Batch No.: 23C2462011 Manufactured Date: 2023-03-10 Expiration Date: 2024-06-08 Revision No.: 0

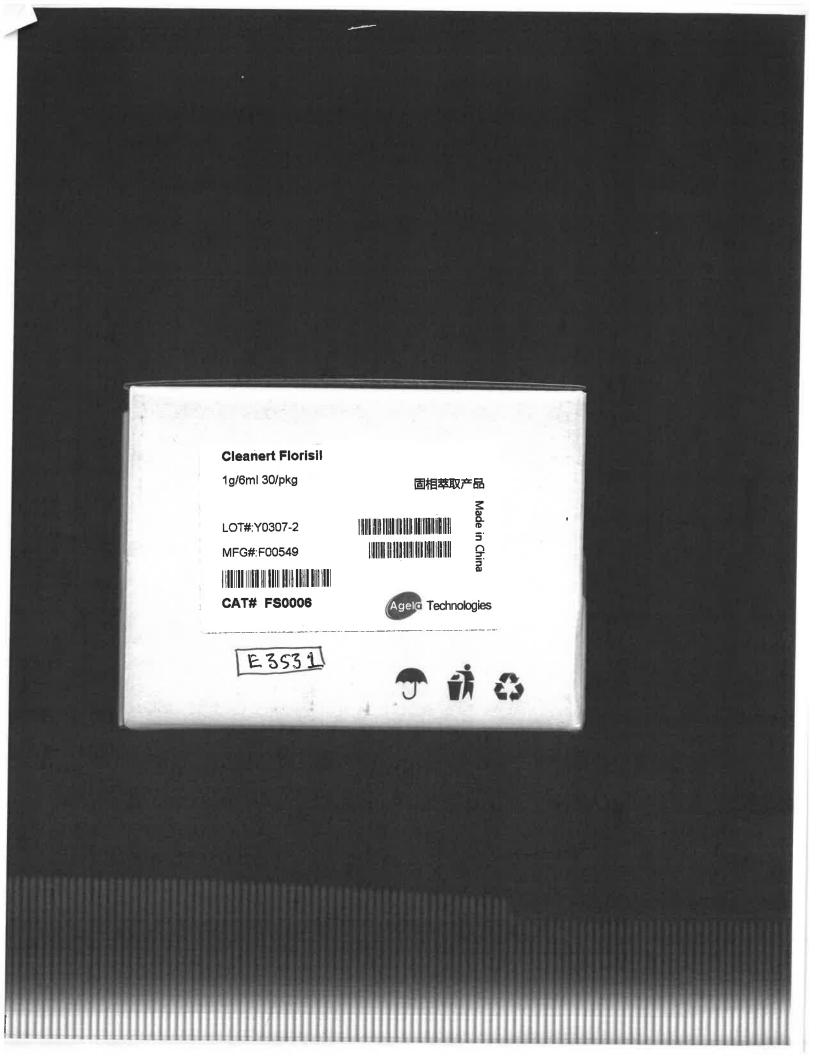
Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
ECD-Sensitive Impurities (as Ethylene Dibromide) – Single Impurity Peak (ng/mL)	≤ 5	< 1
Assay (Total Saturated C6 Isomers) (by GC, corrected for water)	≥ 99.5 %	99.7 %
Assay (as n-Hexane) (by GC, corrected for water)	≥ 95 %	97 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Darkened by H2SO4	Passes Test	Passes Test
Water (by KF, coulometric)	≤ 0.05 %	< 0.01 %

For Laboratory,Research,or Manufacturing Use MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA Packaging Site: Phillipsburg Mfg Ctr & DC

James Techies Jamie Ethier Vice President Global Quality



Hexanes (95% n-hexane) BAKER RESI-ANALYZED® Reagent





Material No.: 9262-03 Batch No.: 23C2462011 Manufactured Date: 2023-03-10 Expiration Date: 2024-06-08 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
ECD-Sensitive Impurities (as Ethylene Dibromide) – Single Impurity Peak (ng/mL)	≤ 5	< 1
Assay (Total Saturated C6 Isomers) (by GC, corrected for water)	≥ 99.5 %	99.7 %
Assay (as n-Hexane) (by GC, corrected for water)	≥ 95 %	97 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Darkened by H₂SO₄	Passes Test	Passes Test
Water (by KF, coulometric)	≤ 0.05 %	< 0.01 %

For Laboratory,Research,or Manufacturing Use MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA Packaging Site: Phillipsburg Mfg Ctr & DC

Reed. 57 R? on 6123/23 E 3533



Acetone BAKER RESI-ANALYZED® Reagent For Organic Residue Analysis

(V) avantor



Material No.: 9254-03 Batch No.: 22L2862006 Manufactured Date: 2022-12-19 Expiration Date: 2025-12-18 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ((CH3)2CO) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	≤ 0.3	0.1
Titrable Base (µeq/g)	≤ 0.6	< 0.1
Water (H2O)	≤ 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	4

For Laboratory,Research,or Manufacturing Use MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA Packaging Site: Phillipsburg Mfg Ctr & DC

Recd by Ri on 4/20123 3546

ames Techie Jamie Ethier Vice President Global Quality

Acetone BAKER RESI-ANALYZED® Reagent For Organic Residue Analysis





Material No.: 9254-03 Batch No.: 22L2862006 Manufactured Date: 2022-12-19 Expiration Date: 2025-12-18 Revision No.: 0

Certificate of Analysis

Test	Specification	Result	
Assay ((CH3)2CO) (by GC, corrected for water)	≥ 99.4 %	99.7 %	
Color (APHA)	≤ 10	5	
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm	
Substances Reducing Permanganate	Passes Test	Passes Test	
Titrable Acid (µeq/g)	≤ 0.3	0.1	
Titrable Base (µeq/g)	≤ 0.6	< 0.1	
Water (H2O)	≤ 0.5 %	0.3 %	
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1	
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	4	

For Laboratory,Research,or Manufacturing Use MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA Packaging Site: Phillipsburg Mfg Ctr & DC

imes Techies Jamie Ethier Vice President Global Quality

Methylene Chloride ULTRA RESI-ANALYZED For Organic Residue Analysis (dichloromethane)

(V) avantor



Material No.: 9266-A4 Batch No.: 23G1962004 Manufactured Date: 2023-06-16 Expiration Date: 2024-09-14 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
Assay (CH2Cl2) (by GC, exclusive of preservative, corrected for water)	≥ 99.8 %	100.0 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Titrable Acid (µeq/g)	≤ 0.3	< 0.1
Chloride (CI)	≤ 10 ppm	5 ppm
Water (by KF, coulometric)	≤ 0.02 %	0.01 %

For Laboratory,Research,or Manufacturing Use MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA Packaging Site: Phillipsburg Mfg Ctr & DC Manufacturer source batch: MG23F16083

temetalel.

Hexanes (95% n-hexane) BAKER RESI-ANALYZED® Reagent





Material No.: 9262-03 Batch No.: 23C2462011 Manufactured Date: 2023-03-10 Expiration Date: 2024-06-08 Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
ECD-Sensitive Impurities (as Ethylene Dibromide) – Single Impurity Peak (ng/mL)	≤ 5	< 1
Assay (Total Saturated Ce Isomers) (by GC, corrected for water)	≥ 99.5 %	99.7 %
Assay (as n-Hexane) (by GC, corrected for water)	≥ 95 %	97 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Darkened by H2SO4	Passes Test	Passes Test
Water (by KF, coulometric)	≤ 0.05 %	< 0.01 %

For Laboratory,Research,or Manufacturing Use MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA Packaging Site: Phillipsburg Mfg Ctr & DC

James Techies Jamie Ethier Vice President Global Quality



* CERTIFIED REFERENCE MATERIAL

Certificate of Analysis



ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #322202

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. :	32021	Lot No.: <u>A0181737</u>				
Description :	Chlordane Standard					
	Chlordane Standard 1000µg/	mL, Hexane, 1mL/ampul				
Container Size :	2 mL	Pkg Amt:	> 1 mL			
Expiration Date :	May 31, 2028	Storage:	10°C or colder			
		Ship:	Ambient			

CERTIFIED VALUES

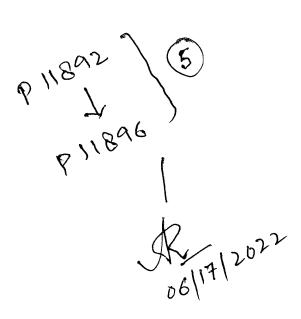
Winhall

Elution	Compound	Grav. Conc.	Expanded Uncertainty
Order		(weight/volume)	(95% C.L.; K=2)
1	Chlordane CAS # 57-74-9 (Lot 978545) Purity %	1,006.0 µg/mL	+/- 5.9753 μg/mL Gravimetric +/- 31.8975 μg/mL Unstressed +/- 41.6615 μg/mL Stressed

Solvent:	Hexane	
	CAS #	110-54-3
	Purity	99%

Tech Tips:

CAS #57-74-9 nomenclature is based on EPA method 8081B.



Column: 30m x .25mm x .2um Rtx-CLP II (cat.# 11323)

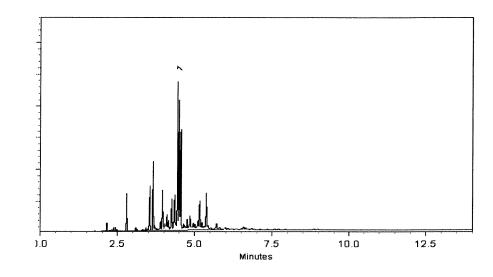
Carrier Gas: helium-constant pressure 20 psi.

Temp. Program: 200°C to 300°C @ 25°C/min. (hold 10 min.)

Inj. Temp: 250°C

Det. Temp: 300°C

Det. Type: ECD



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.



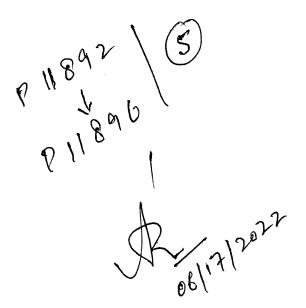
Date Mixed: 11-Feb-2022

Balance: B442140311



,# . Date Passed: 24-Feb-2022

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





CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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.

		BORATORY USE ON rence Material is intended		· · · · · · · · · · · · · · · · · · ·
		tive and/or quantitative de		
Catalog No. :	32291	Lot No.:	A0162166	- Pto 1, P10301-
Description :	Organochlorine Pesticide Mix	< AB #1		
	Organochlorine Pesticide Mix 1mL/ampul	κ AB #1 200μg/mL, Hexar	e/Toluene(50:50),	Rta 318/21
Container Size :	<u>2 mL</u>	Pkg Amt:	> 1 mL	-
Expiration Date :	June 30, 2024	Storage:	10°C or colder	-

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	alpha-BHC CAS # 319-84-6 (Lot 0012 Purity 99%	202.0 μg/mL 2018BHC)	+/- 1.4323 μg/mL Gravimetric +/- 9.2360 μg/mL Unstressed +/- 13.3092 μg/mL Stressed
2	gamma-BHC (Lindane) CAS # 58-89-9 (Lot 9823 Purity 99%	201.5 µg/mL 200)	+/- 1.4288 μg/mL Gravimetric +/- 9.2131 μg/mL Unstressed +/- 13.2763 μg/mL Stressed
3	beta-BHC CAS # 319-85-7 (Lot G13 Purity 99%	201.0 µg/mL 8918)	+/- 1.4253 μg/mL Gravimetric +/- 9.1903 μg/mL Unstressed +/- 13.2433 μg/mL Stressed
4	delta-BHC CAS # 319-86-8 (Lot ER0 Purity 99%	201.5 μg/mL 2101401)	+/- 1.4288 μg/mL Gravimetric +/- 9.2131 μg/mL Unstressed +/- 13.2763 μg/mL Stressed
5	Heptachlor CAS # 76-44-8 (Lot 0000 Purity 99%	201.0 μg/mL 530009)	+/- 1.4253 μg/mL Gravimetric +/- 9.1903 μg/mL Unstressed +/- 13.2433 μg/mL Stressed
6	Aldrin CAS # 309-00-2 (Lot 9298 Purity 97%	200.3 μg/mL 200)	 +/- 1.4203 μg/mL Gravimetric +/- 9.1585 μg/mL Unstressed +/- 13.1975 μg/mL Stressed
7	Heptachlor epoxide (isomer B) CAS # 1024-57-3 (Lot 1003 Purity 99%	201.5 μg/mL 9000)	+/- 1.4288 μg/mL Gravimetric +/- 9.2131 μg/mL Unstressed +/- 13.2763 μg/mL Stressed

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

www.restek.com







Solvent:	Hexane/Toluene (50:50)						
20	Endrin ketone CAS # 53494-70-5 Purity 99%	(Lot 9985500)	200.5 μg/mL	+/- 1.4217 +/- 9.1674 +/- 13.2104	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
19	Methoxychlor CAS # 72-43-5 Purity 99%	(Lot 9863300)	201.5 μg/mL	+/- 1.4288 +/- 9.2131 +/- 13.2763	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
18	Endosulfan sulfate CAS # 1031-07-8 Purity 99%	(Lot BCCB0424)	202.0 μg/mL	+/- 1.4323 +/- 9.2360 +/- 13.3092	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
17	Endrin aldehyde CAS # 7421-93-4 Purity 99%	(Lot 30606)	200.5 μg/mL	+/- 1.4217 +/- 9.1674 +/- 13.2104	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
16	4,4'-DDT CAS # 50-29-3 Purity 99%	(Lot S37912V)	200.0 μg/mL	+/- 1.4182 +/- 9.1446 +/- 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	C
15	Endosulfan II CAS # 33213-65-9 Purity 99%	(Lot 8999300)	201.0 µg/mL	+/- 1.4253 +/- 9.1903 +/- 13.2433	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
14	4,4'-DDD CAS # 72-54-8 Purity 99%	(Lot HAN02)	201.5 μg/mL	+/- 1.4288 +/- 9.2131 +/- 13.2763	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
13	Endrin CAS # 72-20-8 Purity 98%	(Lot 9863200)	201.9 μg/mL	+/- 1.4315 +/- 9.2305 +/- 13.3013	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
12	Dieldrin CAS # 60-57-1 Purity 98%	(Lot 9448800)	201.4 μg/mL	+/- 1.4280 +/- 9.2081 +/- 13.2690	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
11	4,4'-DDE CAS # 72-55-9 Purity 99%	(Lot GHYQG)	200.0 µg/mL	+/- 1.4182 +/- 9.1446 +/- 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
10	Endosulfan I CAS # 959-98-8 Purity 99%	(Lot BCBS8631)	200.0 μg/mL	+/- 1.4182 +/- 9.1446 +/- 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	
9	cis-Chlordane CAS # 5103-71-9 Purity 99%	(Lot 31707)	201.0 μg/mL	+/- 1.4253 +/- 9.1903 +/- 13.2433	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	C
8	trans-Chlordane CAS # 5103-74-2 Purity 99%	(Lot ER061906-04)	201.0 µg/mL	+/- 1.4253 +/- 9.1903 +/- 13.2433	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed	* , ,

Solvent: Hexane/Toluene (50:50) CAS # 110-54-3/108-88-3 Purity 99%



.

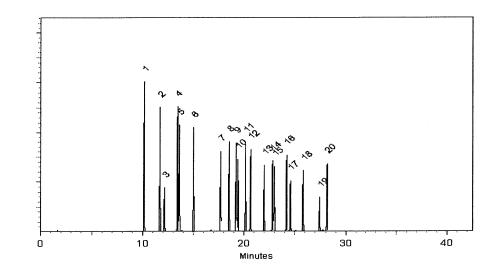
Carrier Gas: helium-constant pressure 20 psi.

Temp. Program: 150°C to 300°C @ 4°C/min. (hold 5 min.)

Inj. Temp: 200°C

Det. Temp: 300°C

Det. Type: ECD



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.

12 m - Operations Tech I

Date Mixed:

Balance: 1128353505



MQC Date Passed: 06-Jul-2020

29-Jun-2020

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

.

General Certified Reference Material Notes

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 <u>www.restek.com/Contact-Us</u> for use recommendations if your shipment was in-transit for more than 7 days at nonstandard 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.



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

www.restek.com



Certificate of Analysis



2

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. :	32291	Lot No.:	A0168439	- 81100
Description :	Organochlorine Pesticide M	fix AB #1		- 4,5,
	Organochlorine Pesticide M 1mL/ampul	lix AB #1 200µg/mL, Hexan	e/Toluene(50:50),	P1100 24
Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	January 31, 2025	Storage:	10°C or colder	Atol
		Ship:	Ambient	$\frac{1}{4}$

CERTIFIED VALUES

Elution Order	Сотро	und	Grav. Conc. (weight/volume)		Expanded (95% C.L.;	Uncertainty K=2)	
1	alpha-BHC CAS # 319-84-6 Purity 99%	(Lot 0012018BHC)	200.5 μg/mL	+/- +/- +/-	1.4217 9.1674 13.2104	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2	gamma-BHC (Lindane) CAS # 58-89-9 Purity 97%	(Lot 10972000)	200.8 µg/mL	+/- +/- +/-	1.4238 9.1807 13.2295	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
3	beta-BHC CAS # 319-85-7 Purity 99%	(Lot SL210106)	200.0 µg/mL	+/- +/- +/-	1.4182 9.1446 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
4	delta-BHC CAS # 319-86-8 Purity 98%	(Lot ER02101401)	199.9 μg/mL	+/- +/- +/-	1.4176 9.1409 13.1722	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
5	Heptachlor CAS # 76-44-8 Purity 99%	(Lot 0006540595)	200.0 μg/mL	+/- +/- +/-	1.4182 9.1446 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
6	Aldrin CAS # 309-00-2 Purity 97%	(Lot 11129800)	199.8 µg/mL	+/- +/- +/-	1.4169 9.1363 13.1656	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
7	Heptachlor epoxide (isomer B) CAS # 1024-57-3 Purity 99%	(Lot 10039000)	200.5 μg/mL	+/- +/- +/-	1.4217 9.1674 13.2104	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

Solvent:	Hexane/Toluene (50:50)					
20	Endrin ketone CAS # 53494-70-5 Purity 97%	(Lot 11129600)	199.8 μg/mL	+/- 1.4169 +/- 9.1363 +/- 13.1656	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
19	Methoxychlor CAS # 72-43-5 Purity 97%	(Lot 10720900)	199.8 μg/mL	+/- 1.4169 +/- 9.1363 +/- 13.1656	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
18	Endosulfan sulfate CAS # 1031-07-8 Purity 99%	(Lot BCCB0424)	200.0 μg/mL	+/- 1.4182 +/- 9.1446 +/- 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
17	Endrin aldehyde CAS # 7421-93-4 Purity 98%	(Lot 30455)	200.9 μg/mL	+/- 1.4245 +/- 9.1857 +/- 13.2367	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
16	4,4'-DDT CAS # 50-29-3 Purity 99%	(Lot S37912V)	200.0 µg/mL	+/- 1.4182 +/- 9.1446 +/- 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
15	Endosulfan II CAS # 33213-65-9 Purity 99%	(Lot 11129400)	201.0 μg/mL	+/- 1.4253 +/- 9.1903 +/- 13.2433	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
14	4,4'-DDD CAS # 72-54-8 Purity 99%	(Lot HAN02)	200.5 μg/mL	+/- 1.4217 +/- 9.1674 +/- 13.2104	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
13	Endrin CAS # 72-20-8 Purity [®] 98%	(Lot 11129700)	199.9 μg/mL	+/- 1.4176 +/- 9.1409 +/- 13.1722	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
12	Dieldrin CAS # 60-57-1 Purity 98%	(Lot 10714300)	200.4 μg/mL	+/- 1.4211 +/- 9.1633 +/- 13.2045	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
11	4,4'-DDE CAS # 72-55-9 Purity 99%	(Lot GHYQG)	200.0 μg/mL	+/- 1.4182 +/- 9.1446 +/- 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
10	Endosulfan I CAS # 959-98-8 Purity 99%	(Lot BCBS8631)	200.5 μg/mL	+/- 1.4217 +/- 9.1674 +/- 13.2104	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
9	cis-Chlordane CAS # 5103-71-9 Purity 99%	(Lot 31707)	200.0 µg/mL	+/- 1.4182 +/- 9.1446 +/- 13.1774	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
8	trans-Chlordane CAS # 5103-74-2 Purity 99%	(Lot 32095)	200.5 µg/mL	+/- 1.4217 +/- 9.1674 +/- 13.2104	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

110-54-3/108-88-3 CAS# Purity 99%

Column: 30m x .25mm x .2um Rtx-CLP II (cat.# 11323)

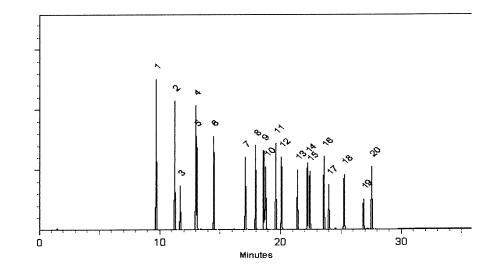
Carrier Gas: helium-constant pressure 20 psi.

Temp. Program: 150°C to 300°C @ 4°C/min. (hold 5 min.)

Inj. Temp: 200°C

Det. Temp: 300°C

Det. Type: ECD



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.

Much

Matt Fragassi - Mix Technician

25-Jan-2021 Balance: 1128342314

Marlina man Marlina Cowan - Operations Tech I

Date Passed: 29-Jan-2021

Date Mixed:

P1106' J1065 P11065 A 301 2021

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 <u>www.restek.com/Contact-Us</u> for use recommendations if your shipment was in-transit for more than 7 days at nonstandard 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.

Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com	лс.				Ŭ	srtified F	Referenc	Certified Reference Material CRM	al CRM				Ahttp	NAB ISO 170 R-1539 Cert Ss://Absolute:	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
CERTIFIED WEIGHT REPORT Part Number: Lot Number: Description: Expiration Date: Recommended Stressor	T Part Number: Lot Number: Description: Expiration Date:	79136 102821 Mirex 102826	79136 102821 Mirex 102826				Solvent(s): Acetone	Lot# 81025		Formu	Formulated By:	HL BY		102821 DATE	
Nominal Concentration (µg/mL): 1000 NIST Test ID#: 6UTB Weight(s) shown below were combined and diluted to (mL):	ration (µg/mL): NIST Test ID#: vere combined and	diluted to (r	t n	50.0 Nominal	5E-05 Ba 0.006 Pa	Balance Uncertainty Flask Uncertainty I Incertainty	tty Tarret			Reviewed By Expanded		Pedro L. Rentas Pedro L. Rentas SDS Information	Market Contraction	102821 DATE	
<u>Compound</u> 1. Mirex	- 4	RM# Nun 437 949;	Number Co 9492400	Conc (µg/mL) 1000	1	Purity 0.5	Weight (g) 0.05034	Weight (g) 0.05039			3	OSHA PEL (TWA) N/A	(AWT)	LD50	
Method GC7MSD-1.M: Column: SPB-608 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 150°C (4min.), Temp 2 = 290°C (13.5 min.), Rate = 8°C/min., Injector B= 200°C, Detector B = 290°C. Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Candice Warren.	mn: SPB-608 Scan Rate = 2	8 (30m X 0. 2. Analysis	25mm ID 2 performed	X 0.25μm fi I by Candic	Im thickn : Warren.	ess) Temp	1 = 150°C ([,]	4min.), Tem	p 2 = 290°C	(13.5 min.), Rate = 8°C/mi	n., Injector B=	200°C, Dete	00°C, Detector B	
Aburdance Aburdance	Ĕ	TC: 79136.D					end X	Abundance		8	Scar 1468 (23,276 min); 73136.D]	
0000002		<u>8</u>	8					33000				ō^	יכ כ כ	م م	
00000022		gantarda ante e de seren en en en en					m	30000				U U	¥.		
5000002		ga ting ang ng pang ng					~	- 32000				0 D D	Ū	δō	
- 0000851		ويترابها والمراجع					~ :	500			j				، - بر بر ح
0000001		tang kang penuhagi di kenang penuhagi di kenang kenang tang di kenang kenang tang di kenang kenang tang di kena					pa 200	1 0000 0000 00000			. Knowe was and				25
- 000005										\$2 					
Tere> 0 5.00 10.00	15.00	5000		25.00	0000		1. 1. 1.	E 6		8	8 8		89 • 89	93 13	
	 The certi Standarc Standard All Stand Uncertain 	• The certified value is the concentration calculated from gravimetric • Standards are prepared gravimetrically using balances that are call • Standards are certified $(+i)$ 0.5% of the stated value, unless otherwis • All Standards, after opening ampule, should be stored with caps tig • Uncertainty Reference: Taylor, B.N. and Kuval, C.E., "Guldefines	the concentra ed gravimetri I (+/-) 0.5% o pening ampul :: Tavlor, B.J	tion calculate ically using b f the stated vi le, should be i N. and Kuvat	d from gra llances that the, unless tored with C.E., "Gu"	vimetric and volu t are calibrated w otherwise stated caps tight and un idelines for Evalu	volumetric me ed with weight: tted. d under appro valuatine and	and volumetric measurements unless otherwise stated. In ated with weights traceable to NIST (see above). Se stated. Int and under appropriate laboratory conditions.	iless otherwise VIST (see abov ory conditions.	stated. re). v NIST Mea	 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. Mismaturds, after opening ampule, stored with caps tight and under appropriate laboratory conditions. Uncertainty Reference: Taylor, BA, and Kurst, C.E., "Guidefines for hand and reader the function of NIST Mesurement Pacult". 				
	NIST T ₆	schnical Note	1297, US.G	overnment Pr	inting Office	ce, Washingto	n, DC, (1994).								

Lot # 102821 Part # 79136

1 of 1





BIC NR

A Martine Charles

www.restek.com

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE. This Reference Material is intended for Laboratory Use Only as a standard

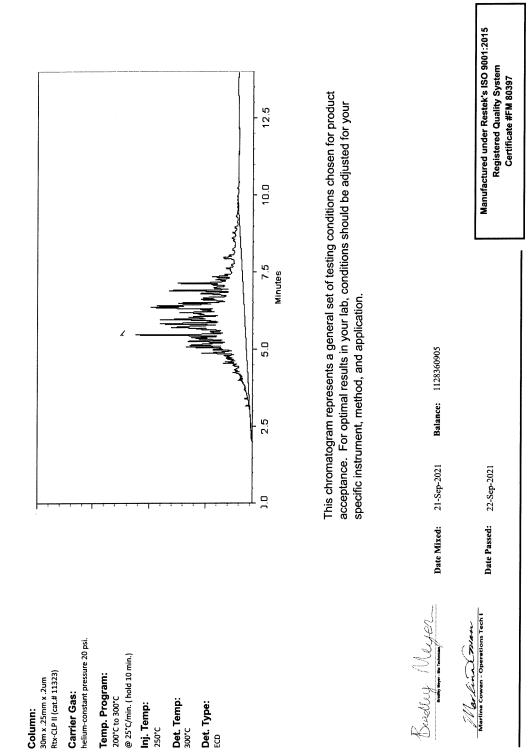
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

			ייים אמשיימיים מיומים אממוויימייזה מכיביווייומיוסון חו וווב מוומולוב(א) וואובחי		
Catalog No. :	32005	Lot No.: <u>/</u>	Lot No.: <u>A0176614</u>	p 113611 d	
Description :	Toxaphene Standard			<i></i> う	C C L -
	Toxaphene Standard 1000 µg/mL, Hexane, 1mL/ampul	1mL/ampul		-1120 S 02/2416-	02/20/20
Container Size :	2 mL	Pkg Amt: > 1 mL	> 1 mL		
Expiration Date :	December 31, 2025	Storage:	Storage: 10°C or colder		
		Ship:	Ship: Ambient		

CERTIFIED VALUES

Elution Order		Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	Jncertainty K=2)	
-	Toxaphene CAS # 8001-35-2 Purity %	(Lot 1051817)	1,005.3 µg/mL	+/- 5.9714 +/- 31.8763 +/- 41.6339	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
Solvent: Hexane	Hexane					

/ent: Hexane CAS # 110-54-3 Purity 99%







BIC NR

A Martine Charles

www.restek.com

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE. This Reference Material is intended for Laboratory Use Only as a standard

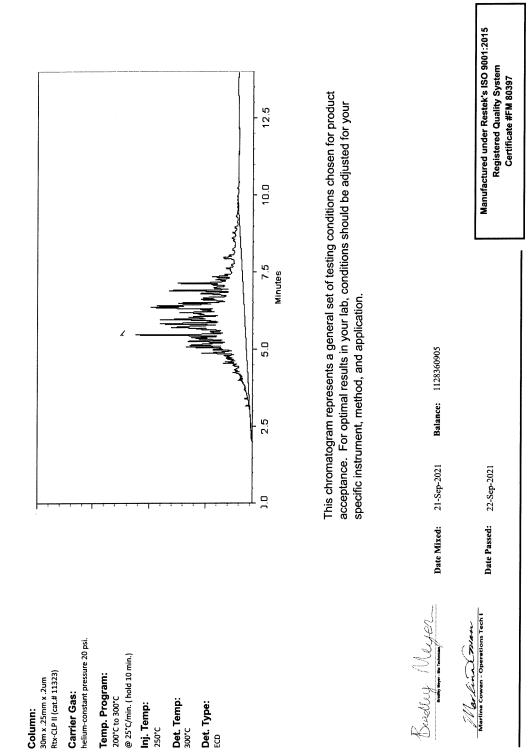
This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

			ייים אמשיימיים מיומים אממוויימייזה מכיביווייומיוסון חו וווב מוומולוב(א) וואובחי		
Catalog No. :	32005	Lot No.: <u>/</u>	Lot No.: <u>A0176614</u>	p 113611 d	
Description :	Toxaphene Standard			<i></i> う	C C L -
	Toxaphene Standard 1000 µg/mL, Hexane, 1mL/ampul	1mL/ampul		-1120 S 02/2416-	02/20/20
Container Size :	2 mL	Pkg Amt: > 1 mL	> 1 mL		
Expiration Date :	December 31, 2025	Storage:	Storage: 10°C or colder		
		Ship:	Ship: Ambient		

CERTIFIED VALUES

Elution Order		Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	Jncertainty K=2)	
-	Toxaphene CAS # 8001-35-2 Purity %	(Lot 1051817)	1,005.3 µg/mL	+/- 5.9714 +/- 31.8763 +/- 41.6339	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
Solvent: Hexane	Hexane					

/ent: Hexane CAS # 110-54-3 Purity 99%



RESTEK 110 Benner Circle	CERTIFIED REFERENCE MATE	RIAL	ACCREDITED ISO 17034 Accredited Reference Material Producer Cartificate #222201
Bellefonte, PA 16823-8812 Tel: (800)356-1688	Certificate of Analysis	and the second s	
Fax: (814)353-1309	P11739 to P11748	Hac-MRA	ACCREDITED
www.restek.com	Received by SJ 5/27/2022	The Andulutur	ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

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. :	32000	Lot No.:	A0179404
Description :	Pesticide Surrogate Mix		
	Pesticide Surrogate Mix 200 µg/mL, A	cetone, 1mL/am	pul
Container Size :	2 mL	Pkg Amt:	> 1 mL
Expiration Date :	March 31, 2028	Storage:	10°C or colder
Handling:	Contains PCBs - sonicate prior to use.	Ship:	Ambient

CERTIFIED VALUES

Elution Order		Compound	Grav. C (weight/v			Expanded (95% C.L.;	Uncertainty K=2)	
1	2,4,5,6-Tetrachloro-m-x CAS # 877-09-8 Purity 98%	ylene (Lot 0052481)	200.7	μg/mL	+/- +/- +/-	1.1840 6.3622 8.3106	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2	Decachlorobiphenyl (BZ CAS # 2051-24-3 Purity 99%	Z# 209) (Lot 30679)	200.8	μg/mL	+/- +/- +/-	1.1845 6.3653 8.3146	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone CAS # 67-64-1 Purity 99%

Column: 30m x .25mm x .2um Rtx-CLP II (cat.# 11323)

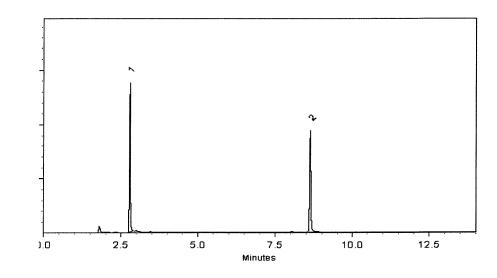
Carrier Gas: helium-constant pressure 20 psi.

Temp. Program: 200°C to 300°C @ 25°C/min. (hold 10 min.)

Inj. Temp: 250°C

Det. Temp: 300°C

Det. Type: ECD



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.

Balance: 1127510105

Matt Fragassi - Mix Technician

Vora-Wide Clara Windle - Operations Technician I

Date Passed: 14-Dec-2021

09-Dec-2021

Date Mixed:

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 nonstandard 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.

RESTEK 110 Benner Circle	CERTIFIED REFERENCE MATE	RIAL	ACCREDITED ISO 17034 Accredited Reference Material Producer Cartificate #222201
Bellefonte, PA 16823-8812 Tel: (800)356-1688	Certificate of Analysis	and the second s	
Fax: (814)353-1309	P11739 to P11748	Hac-MRA	ACCREDITED
www.restek.com	Received by SJ 5/27/2022	The Andulutur	ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

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. :	32000	Lot No.: <u>A0179404</u>					
Description :	Pesticide Surrogate Mix						
	Pesticide Surrogate Mix 200 μg/mL, Acetone, 1mL/ampul						
Container Size :	2 mL	Pkg Amt:	> 1 mL				
Expiration Date :	March 31, 2028	Storage:	10°C or colder				
Handling:	Contains PCBs - sonicate prior to use.	Ship:	Ambient				

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)			Expanded Uncertainty (95% C.L.; K=2)		
1	2,4,5,6-Tetrachloro-m-x CAS # 877-09-8 Purity 98%	ylene (Lot 0052481)	200.7	μg/mL	+/- +/- +/-	1.1840 6.3622 8.3106	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2	Decachlorobiphenyl (BZ CAS # 2051-24-3 Purity 99%	Z# 209) (Lot 30679)	200.8	μg/mL	+/- +/- +/-	1.1845 6.3653 8.3146	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

Solvent: Acetone CAS # 67-64-1 Purity 99%

Column: 30m x .25mm x .2um Rtx-CLP II (cat.# 11323)

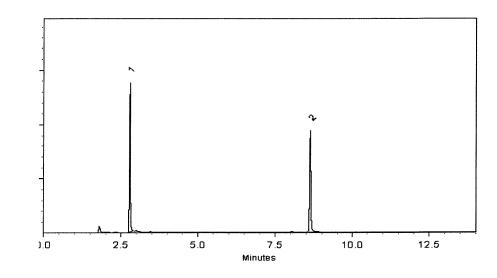
Carrier Gas: helium-constant pressure 20 psi.

Temp. Program: 200°C to 300°C @ 25°C/min. (hold 10 min.)

Inj. Temp: 250°C

Det. Temp: 300°C

Det. Type: ECD



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.

Balance: 1127510105

Matt Fragassi - Mix Technician

Vora-Wide Clara Windle - Operations Technician I

Date Passed: 14-Dec-2021

09-Dec-2021

Date Mixed:

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 nonstandard 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.

		₹.	
R	FS	Ê	K

CERTIFIED REFERENCE MATERIAL

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

www.restek.com

Certificate of Analysis





P11789 to P11793

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

Received by 51 5/27/2022

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. :	32074	Lot No.:	A0183168					
Description :	Pesticide Performance Eval Mix w/Su	rrogate						
	Performance Evaluation Std. 3/90 SOW w/surrogates 1-25µg/mL, Hexane, 1mL/ampul							
Container Size :	2 mL	Pkg Amt:	> 1 mL					
Expiration Date :	March 31, 2026	Storage:	10°C or colder					
Handling:	Contains PCBs - sonicate prior to	Ship:	Ambient					

CERTIFIED VALUES

"hilalah

Elution Order		Compou	nd	Grav. (weight/v			Expandec (95% C.L.	l Uncertainty ; K=2)	÷
1	CAS #	trachloro-m-xylene 877-09-8 98%	(Lot 0052481)	2.0	µg/mL	+/- +/- +/-	0.1220 0.1523 0.1799	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2		C 319-84-6 99%	(Lot 12469000)	1.0	µg/mL	+/- +/- +/-	0.0610 0.0762 0.0900	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
3	CAS #	HC (Lindane) 58-89-9 99%	(Lot 12642100)	1.0	µg/mL	+/- +/- +/-	0.0610 0.0762 0.0900	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
4		319-85-7 99%	(Lot BCCC6425)	1.0	µg/mL	+/- +/- +/-	0.0610 0.0762 0.0900	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
5		72-20-8 99%	(Lot 13000500)	5.1	µg/mL	+/- +/- +/-	0.3045 0.3805 0.4496	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
6		50-29-3 99%	(Lot 210916JLM)	10.1	µg/mL	+/- +/- +/-	0.6090 0.7609 0.8992	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
7		hlor 72-43-5 98%	(Lot 12555700)	25.2	µg/mL	+/- +/- +/-	1.5221 1.9018 2.2475	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

8	Decachl	orobiphenyl (BZ# 2	09)	2.0	µg/mL	+/-	0.1221	µg/mL	Gravimetric
	CAS #	2051-24-3	(Lot 30679)			+/-	0.1524	μg/mL	Unstressed
	Purity	99%				+/-	0.1800	μg/mL	Stressed

Solvent: Hexane CAS # 110-54-3 Purity 99%

Column: 30m x .25mm x .2um Rtx-CLP II (cat.# 11323)

Carrier Gas: helium-constant pressure 20 psi.

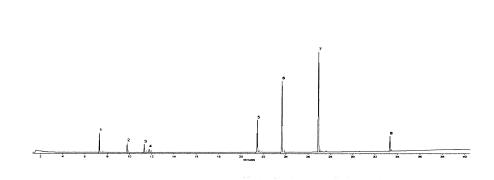
Temp. Program:

150°C to 300°C @ 4°C/min. (hold 5 min.)

Inj. Temp: 200°C

Det. Temp: 300°C

Det. Type: ECD



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.

Balance: 1128360905

Bitter Filmbr

Brittany Federinko - Operations Tech I

John Lidgett

John Lidgett - AD Chemist

Date Passed: 24-Mar-2022

22-Mar-2022

Date Mixed:

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 <u>www.restek.com/Contact-Us</u> for use recommendations if your shipment was in-transit for more than 7 days at nonstandard 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.

RES		CERTIFIED REFERENCE MATE	RIAL	ACCREDITED ISO 17834 Accredited Reference Material Producer Certificate #3222.01
Tel: (800 Fax: (814	A 16823-8812)356-1688)353-1309 stek.com	Certificate of Analysis	BC-MRA	ACCREDITED ISO/EC 17025 Accredited Testing Laboratory
		FOR LABORATORY USE ONLY-READ SDS PRIOR TO This Reference Material is intended for Laboratory Use Only as a the qualitative and/or quantitative determination of the analyte(s) I	standard for	Certificate #3222.02
Catalog No. :	32074	Lot No.: <u>A0183168</u>		
Description :	Pesticide Pe	formance Eval Mix w/Surrogate		
	Performance Hexane, 1mL	Evaluation Std. 3/90 SOW w/surrogates 1-25µg/mL, ./ampul		
Container Size :	2 mL	Pkg Amt: > 1 mL		

Storage:

Ship:

10°C or colder

Ambient

CERTIFIED VALUES

Elution Order		Compound	(weight/vol		· ·	Expanded (95% C.L.;	Uncertainty K=2)	an a
1	2,4,5,6-Tetrachloro-m- CAS # 877-09-8 Purity 98%	-xylene (Lot 0052481)	2.0 µ	ıg/mL	+/- +/- +/-	0.1220 0.1523 0.1799	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2	alpha-BHC CAS # 319-84-6 Purity 99%	(Lot 12469000)	1.0 µ	ıg/mL	+/- +/- +/-	0.0610 0.0762 0.0900	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
3	gamma-BHC (Lindane CAS # 58-89-9 Purity 99%	e) (Lot 12642100)	1.0 µ	ıg/mL	+/- +/- +/-	0.0610 0.0762 0.0900	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
4	beta-BHC CAS # 319-85-7 Purity 99%	(Lot BCCC6425)	1.0 µ	ıg/mL	+/- +/- +/-	0.0610 0.0762 0.0900	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
5	Endrin CAS # 72-20-8 Purity 99%	(Lot 13000500)	5.1 µ	ıg/mL	+/- +/- +/-	0.3045 0.3805 0.4496	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
6	4,4'-DDT CAS# 50-29-3 Purity 99%	(Lot 210916JLM)	10.1 µ	0	+/- +/- +/-	0.6090 0.7609 0.8992	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
7	Methoxychlor CAS # 72-43-5 Purity 98%	(Lot 12555700)	25.2 μ	0	+/- +/- +/-	1.5221 1.9018 2.2475	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

Expiration Date :

Handling:

March 31, 2026

<u>use.</u>

Contains PCBs - sonicate prior to

8	Decachl	orobiphenyl (BZ# 20)9)	2.0 μg/mL	+/-	0.1221	µg/mL	Gravimetric
	CAS #	2051-24-3	(Lot 30679)		+/-	0.1524	μg/mL	Unstressed
	Purity	99%			+/-	0.1800	µg/mL	Stressed

Solvent: Hexane CAS# 110-54-3

Purity 99%

Column: 30m x .25mm x .2um Rtx-CLP II (cat.# 11323)

Carrier Gas: helium-constant pressure 20 psi.

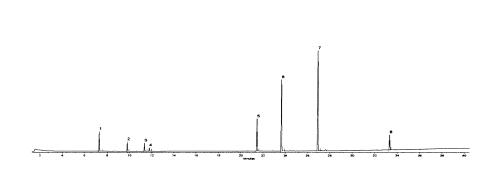
Temp. Program:

150°C to 300°C @ 4°C/min. (hold 5 min.)

Inj. Temp: 200°C

Det. Temp: 300°C

Det. Type: ECD



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.

ر المعرفة الم

22-Mar-2022

Balance: 1128360905

John Lidgett

John Lidgett - AD Chemist

Date Passed: 24-Mar-2022

Date Mixed:

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 nonstandard 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.



CERTIFIED REFERENCE MATERIAL

Certificate of Analysis



24

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.

	the quantati			· • · · · ·	AT.
Catalog No. :	32005	Lot No.:	A0177326	P11811	06/17/22
Description :	Toxaphene Standard				
	Toxaphene Standard 1000 μg/	/mL, Hexane, 1mL/ampu	I	P11810)
Container Size :	2 mL	Pkg Amt:	> 1 mL	P1.	
Expiration Date :	January 31, 2026	Storage:	10°C or colder		
		Ship:	Ambient		

CERTIFIED VALUES

Elution Order	Co	pmpound	Grav. Conc. (weight/volume)		Expanded (95% C.L.;	Uncertainty K=2)	
1	Toxaphene CAS# 8001-35-2 Purity%	(Lot 1051817)	1,004.7 μg/mL	+/- +/- +/-	5.9674 31.8552 41.6063	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
Solvent:	Hexane						

Hexane CAS# 110-54-3 Purity 99%

Column: 30m x .25mm x .2um Rtx-CLP II (cat.# 11323)

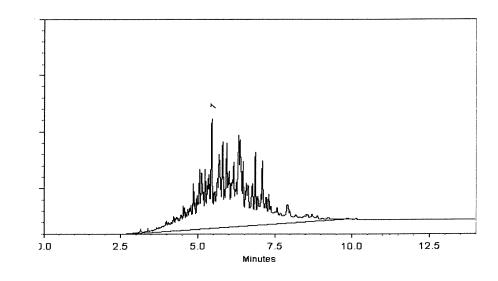
Carrier Gas: helium-constant pressure 20 psi.

Temp. Program: 200°C to 300°C @ 25°C/min. (hold 10 min.)

Inj. Temp: ^{250°C}

Det. Temp: 300°C

Det. Type: ECD



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.

Soumue Moodler Sam Moodler - Operations Tech I

Marlina mian Marlina Cowan - Operations Tech I

Date Passed: 14-Oct-2021

11-Oct-2021

Balance: B442140311

Date Mixed:

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 nonstandard 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

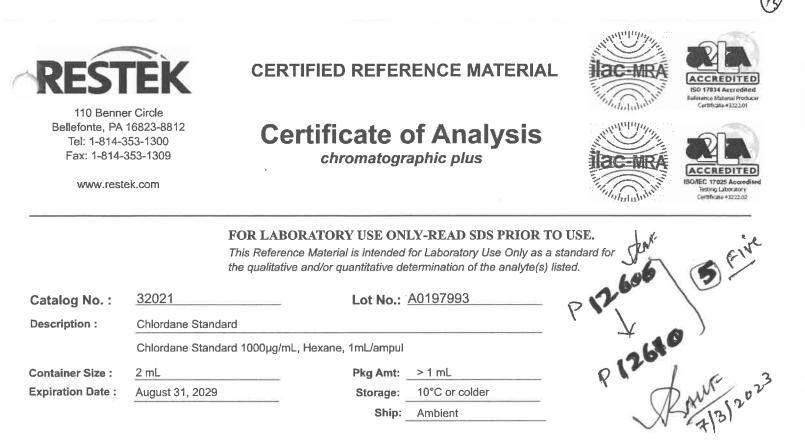
- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at <u>www.restek.com/Contact-Us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

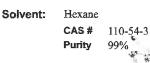
Handling Notes:

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.



CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Con c. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Chlordane	57-74-9	978545	%	1,005.0 µg/mL	+/- 55.7700
	10% trans-Chlordane; 9% cis-Chlordane; 81% other					
	isomers					



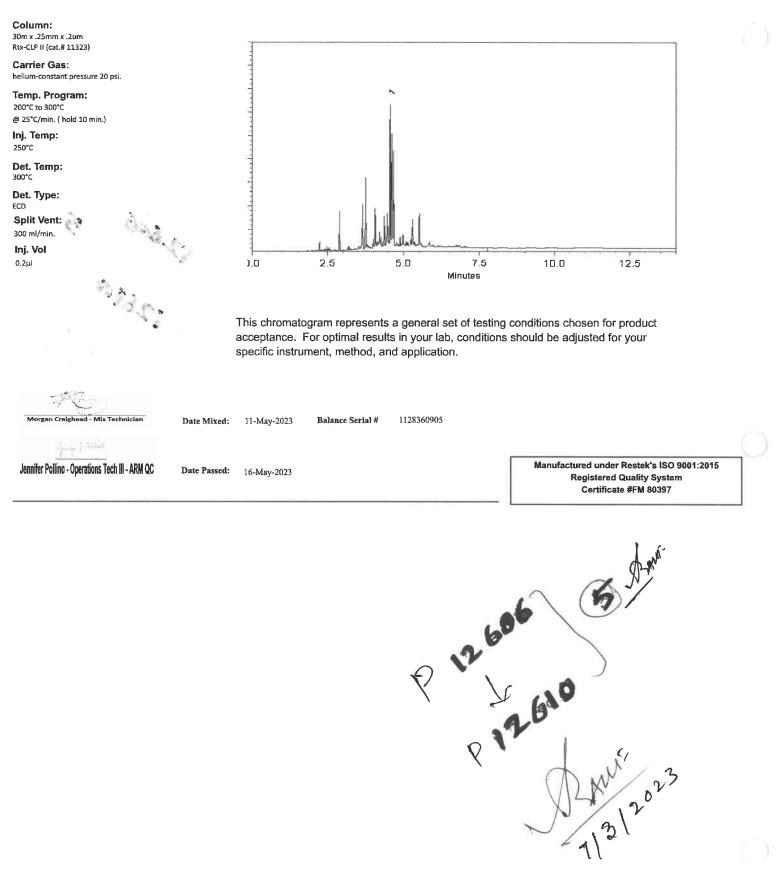
* Expanded Uncertainty displayed in same units as Grav. Conc.

Tech Tips: CAS #57-74-9 nomenclature is based on EPA method 8081B.

Solo V



Quality Confirmation Test





Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com				Ce	Certified Reference Material CRM	rence Mat	erial CRM			Ŷ	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
CERTIFIED WEIGHT REPORT											
Part Number:		19161							4		
Lot Number:		012819							0		
Description:		CLP Pesticic	ies & PCB's	Resolut	CLP Pesticides & PCB's Resolution Check Standard	ndard			two	A BAR	012819
		9 components	nts		Solvent(s):	Lot#		Formulated By:	By:	Eli Aliaga	DATE
Expiration Date:		012824			Hexane	209712	(50%)		1	2	
Recommended Storage:		Refrigerate (4 °C)	(4 °C)		Toluene	28508	(50%)		J	the second	
Nominal Concentration (ug/mL):		Varied							french	pento	012819
NIST Test ID#:		2684186		5E-05	Balance Uncertainty			Reviewed By:	y:	Pedro L. Rentas	DATE
Volume(s) shown below were combined and diluted to (mL):	and diluter	d to (mL):	100.0	0.057	Flask Uncertainty						
								Expanded		SDS Information	
	Part	Lot	Dil.	Initial	Uncertainty	Initial	Final	Uncertainty	(Solvent)	(Solvent Safety Info. On Attached pg.)	ched pg.)
Compound	Number	Number	Factor	Vol. (mL)	Pipette (mL)	Conc.(ug/mL)	Conc.(ug/ml.) Conc.(ug/ml.)	(+/-) µg/mL	CAS#	OSHA PEL (TWA)	LD50
1. trans-Chlordane	19361	012819	0.010	1.00	0.004	102.0	1.0	0.01	5103-74-2	0.5mg/m3 (skin)	ori-rat 500mg/kg
2. Endosulfan I	19361	012819	0.010	1.00	0.004	102.0	1.0	0.01	959-98-8	0.1mg/m3 (skin)	ori-rat 18mg/kg
3. 4,4'-DDE	19361	012819	0.010	1.00	0.004	202.0	2.0	0.03	72-55-9	N/A	orl-rat 880mg/kg
4. Dieldrin	19361	012819	0.010	1.00	0.004	202.5	2.0	0.02	60-57-1	0.25mg/m3 (skin)	ori-rat 38300ug/kg
5. Endosulfan sulfate	19361	012819	0.010	1.00	0.004	204.7	2.0	.0.03	1031-07-8	N/A	orl-rat 18mg/kg
6. Endrin ketone	19361	012819	0.010	1.00	0.004	203.0	2.0	0.02	53494-70-5	N/A	N/A
7. 4,4'-Methoxychlor	19361	012819	0.010	1.00	0.004	1001.0	10.0	0.09	72-43-5	10mg/m3	orl-rat 6000mg/kg
8. 2,4,5,6-Tetrachloro-m-xylene	19361	012819	0.010	1.00	0.004	203.0	2.0	0.02	877-09-8	N/A	N/A
Decachlorobiphenyl (209)	19361	012819	0010	1.00	0.004	202.0	2.0	0.02	2051-24-3	N/A	N/A

P12651 AJ

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 state, unless otherwise stated.
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., "Cudelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Part # 19161 Lot # 012819

1 of 2

Printed: 7/6/2023, 4:30:06 PM

Absolute Standards, Inc. 800-368-1131 www.absolutestandards.com	*	Certified Reference Material CRM		ĕ	ANAB ISO 17034 Accredited AR-1539 Certificate Number https://Absolutestandards.com
Run 14, "P19161 L012819 [Varied in H:T(1:1)]"	819 IVaried in H:T(1:	-1))"			
Run Length: 35.00 min, 2	1000 points at 10 point	its/second.	Name	ECD RT (min)	
Created: Fri, Feb 15, 2019 at 8.03/45 PM. Sampled: Sequence "021319-GC2M1" Method "GC2-M1"	9 at 8:03:45 PM. 1319-GC2M1" Method	"1M-CO2"	Tetrachioro-m-xylene	8.26	
Analyzed using Method "GC2-M1".	GC2-M1 [°] , Insulua		gamma-Chiordane Endosultan 1	15.87	
			p,p'-00E	16.91	
Comments	antina JAIneense		Dieldrin Fodoeu%an culohato	17.09	
Column ID SPB-608 (30	meter X 0.53mm X 0.5	wm film thickness)	Methoxychlor	13.33	
Flow rates: Total flow = 6	0mUmin., Helium (car ml /min Helium /Durn	rrier) = 5mL/min., ort anode) = 1ml min	Endrin ketome Decachtorobiphenyl	21.28	
Oven Profile: Temp. 1 =	150°C (Time 1 = 4 min	Oven Profile: Temp, $1 = 50^{\circ}$ C (Time 1 = 4 min.), Temp 2 = 290°C (Time 2 = 13.5 min.),			
Injector temp. = 250°C, ECD Temp. = 300°C. Standard injection = 0.5µL, Range=5	CD Temp. = 300°C. L, Range=5				
100000-					
80000-					
µ∨ ‱.		9 9 9			
40000					
		3			
0 4	∞- -	12 18 min 20 24	28 - 28 - 28 - 28 - 28 - 28 - 28 - 28 -	11	

Inc.	
ards,	s.com
Standar	tandard
	solutes
Absolute 300-368-1131	www.absolutestandards.com





$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Let it rection the function of the function o	L 8					
SC On 11/1/19 Formulated By: Pashant Channan 10/14/1 P 0053 Reviewed By: Pedro Pashant Channan 56:06 Raker Uncertainty Reviewed By: Pedro Pashant Channan 0008 Ray Uncertainty Viewed By: Pedro Pashant Channan 0008 Ray Uncertainty Viewed By: Pedro Pashant Channan 0008 Ray Uncertainty Viewed By: Pedro Pashant Channan 0003 Ray Uncertainty Viewed By: Pedro Pashant Channan 0003 Ray Uncertainty Viewed By: Pedro Pashant Channan 001 Ling Actual Locket Bis Na 101 Ling Actual Loss (sc) Loss (sc) Delector B = 101 Ling 2 0.20011 0.20011 Loss (sc) Loss (sc) 101 Ray Incertainty Less (sc) Loss (sc) Loss (sc) Loss (sc) 101 Ling Ling Loss (sc) Loss (sc) Loss (sc) Loss (sc) 101 Ling Ling Loss (sc) Loss (sc) Loss (sc) Loss (sc) 102 Ling Ling Ling Loss (sc) Loss (sc) Loss (sc) 102 Ling Ling	SC OA I/1/1/1 SE-G ables tructures FE-GS balance tructures Reviewed By: Prestent Cheuntan Provide SDS Information Provide SOS Information Provide	Part Number: Lot Number: Description:	<u>72072</u> <u>112018</u> n-Tetracosane-d50			2669	All la
Purity Uncertainty Expanded SOS Information 0(w) Purity Vargetic Actual Actual Line (Solvent Safety Info. On Attached pg.) 0(w) 0(w) Vargetic Actual Actual Line (Solvent Safety Info. On Attached pg.) 0(w) 0(w) 0(w) 0(w) 0(w) 0(w) 0(w) 0(m) 0(m) 1000.2 4.2 1601.0 250°C, Delector B = Marcen. 0.20 0.20011 0.200°C (9min), Flate = 10°C/min, injector B= 250°C, Delector B = No Marcen. 1000.2 4.2 1600.2 4.2 1600.2 2.0°C (9min), Flate = 10°C/min, injector B= 250°C, Delector B = Marcen. 1000.2 4.2 1600.2 4.2 1600.2 4.2 1600.2 Marcen. 1000.2 4.2 1600.2 4.2 1600.2 4.2 1600.2 1600.2 Marcen. 1000.2 1000.2 4.2 1611.6 2.0°C (9min), Flate = 10°C/min, inite 1600.2 1600.2 1600.2 1600.2 1600.2 1600.2 1600.2 1600.2 1600.2 1600.2 1600.2	Prify (w) Uncertainly (w) Tapet (w) Actual (w) Comparison (w) Comparison (w) <t< th=""><th>Expiration Date: Recommended Storage: Nominal Concentration (μg/mL): NIST Test ID#: Weight(s) shown below were combined and dilut</th><th>112028 Ambient (20 °C) 1000 2684186 ted to (mL):</th><th>SG ON 11/1 SG ON 11/</th><th>) (1/19 553 eartainty</th><th>Formulated By:</th><th></th></t<>	Expiration Date: Recommended Storage: Nominal Concentration (μg/mL): NIST Test ID#: Weight(s) shown below were combined and dilut	112028 Ambient (20 °C) 1000 2684186 ted to (mL):	SG ON 11/1 SG ON 11/) (1/19 553 eartainty	Formulated By:	
98 0.2 0.20411 0.20415 100.2 4.2 16416-32.3 NA NA Marren. Warren. 200411 0.204 0.20411 0.20	B 0.2 0.20411 0.20415 1000.2 4.2 16416-32-3 M Marren. Warren. Marren. <		Lot Number		Target Weight(g)	Expanded Actual Uncertainty Conc (un/ml.) (4/-1 (un/ml.)	SDS Information Went Safety Info. On Attached pg.)
$\frac{1}{26}$	$ \frac{1}{12} $ $\frac{1}{12}$ $\frac{1}{12$	-Tetracosane-d50 2072 thod GC8MSD-3.M: Column:SPB-5 (30m X o°C, Split Ratio = 100:1, Scan Rate = 2. Ana	PR-17753/09216TC1 0.25mm ID X 0.25µ alysis performed by:	1000 98 0.2 m film thickness) Temp 1 = Candice Warren.	0.20411 0.21 : 50°C (1min.), Temp	0415 1000.2 4.2 16416 2 = 300°C (9min.), Rate = 10°C/min	1 11 11 11 11
0 10	10 10 10 10 10 10 10 10 10 10 10 10 10 10 11 11 12 11 13 11 14 11 15 11 15 11 16 10 17 11 18 11 19 10 10	Abordance	072		and the second se	072/072 (http://www.jhf.125.936). untry	
0 60 10	0 0	1000091 1000000		2236	Cooc+E		
60 60 <td< td=""><td>$\begin{array}{ c c c c c c c c c c c c c c c c c c c$</td><td>00000 v</td><td></td><td></td><td>320305</td><td></td><td></td></td<>	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	00000 v			320305		
10 to the the contraction of the the contraction of the the the the the the contraction of the	10 10 <td< td=""><td>0000021</td><td></td><td></td><td>30000 H</td><td></td><td></td></td<>	0000021			30000 H		
40 60 <td< td=""><td>40 60 <td< td=""><td>000011</td><td></td><td></td><td>240309 240309</td><td></td><td></td></td<></td></td<>	40 60 <td< td=""><td>000011</td><td></td><td></td><td>240309 240309</td><td></td><td></td></td<>	000011			240309 240309		
40 60 80 100 200 40 10 100 60 80 100 200 10 10 100 60 9 10 10 10 10 100 100 100 200 10 10 10 10 100 100 100 200 10	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1000000			- 20002 - 20002 - 20002		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	00006		**********	200003	2	
$\begin{array}{c ccccc} & & & & & & & & & & & & & & & & &$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	200000 2000000 2000000000		-	190000		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\frac{40}{60} \frac{60}{60} \frac{100}{60} \frac{200}{100} \frac{100}{100} \frac{100}{200} \frac{100}{20} $	00009			140000		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\frac{400 60}{60} \frac{20}{60} \frac{120}{100} \frac{120}{100} \frac{100}{100} \frac{100}{200} \frac{100}{20} \frac{100}{100} \frac{100}{20} \frac{100}{20} \frac{100}{20} \frac{100}{100} \frac{100}{20} \frac{100}{100} \frac{100}{20} \frac{100}{100} \frac{100}{20} \frac{100}$	00005		1-554-68-1-72-1	000021		
$\frac{40}{20} \frac{60}{20} \frac{1}{20} \frac{1}{120} \frac{1}{$	$\frac{400}{600} \frac{600}{100} \frac{1200}{1200} \frac{400}{160} \frac{600}{160} \frac{200}{200} \frac{200}{200} \frac{1}{100} \frac{1}{100$			221.02 51 croor	00000 C		
400 6.00 8.00 100 12.00 18.00 20.00 1.0 ************************************	4.0 E.0 E.0 I.0 I.0 I.0 I.0 I.0 I.0 I.0 I.0 I.0 I	00000		cti and course,	5000		
400 6.00 8.00 1000 1200 1400 16.00 18.00 20.00 20.	400 600 800 100 1200 1400 1600 1800 2000 2200 723 90 100 120 100	100002			60093 4	- 	
The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated. • The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.	 The certified value is the concentration calculated from gravimetric and volumetric measurements unless of her vise vise vise vise vise vise vise vise	4.00 6.00 8.00 8.00 10.00	1			346 5.1 1 154 3-1/2	
			(PERC)		ł	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	242 274 239 307 323 313 245 250 230 350 320 446 350 364
	• Standards are certifed (+/-) 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.	• The certified • Standards at	d value is the concentratio tre prepared gravimetrica	n calculated from gravimetric and v ly using balances that are calibrate	volumetric measurements u d with weights traceoble to	nless otherwise stated.	

Printed: 10/31/2019, 11:22:08 AM

1 of 2

Lot # 112018 Part # 72072

Absolute Standards, Inc. www.absolutestandards.com 800-368-1131





ISO 17034 Accredited Scopes: http://AbsoluteStandards.com

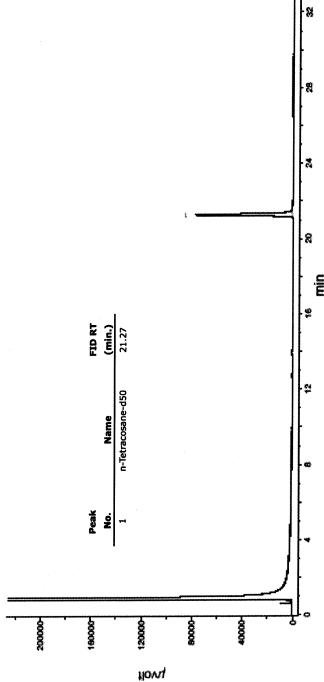
Run 40, "P72072 L112018 [1000µg/mL in MeCl2]"

Sampled: Sequence "112018-GC4M1", Method "GC4-M1" Analyzed using Method "GC4-M1". Run Length: 35.00 min, 20999 points at 10 points/second. Created: Thu, Nov 22, 2018 at 7:23:18 AM.

Comments

Flow rates; Total Flow = 300 m/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL, Air (detector) =360 mL GC4-M1 Analysis by Melissa Stonier Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5um Film Thickness

Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes. Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDaq Channel 1. Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 ut., Range = 3



2 of 2

Hexanes (95% n-hexane) BAKER RESI-ANALYZED® Reagent





Marantor Meriz 2023 Certificate of Analysis

Material No.: 9262-03 Batch No.: 23C2462011 Manufactured Date: 2023-03-10 Expiration Date: 2024-06-08 **Revision No.: 0**

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
ECD–Sensitive Impurities (as Ethylene Dibromide) – Single Impurity Peak (ng/mL)	≤ 5	< 1
Assay (Total Saturated C₀ Isomers) (by GC, corrected for water)	≥ 99.5 %	99.7 % [.]
Assay (as n-Hexane) (by GC, corrected for water)	≥ 95 %	97 %
Color (APHA)	≲ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Darkened by H2SO4	Passes Test	Passes Test
Water (by KF, coulometric)	≤ 0.05 %	< 0.01 %
	-	3 0:01 70

For Laboratory,Research,or Manufacturing Use MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: USA Packaging Site: Phillipsburg Mfg Ctr & DC

ames Techie

Jamie Ethier Vice President Global Quality