



Prep Standard - Chemical Standard Summary

Order ID : O2213

Test : PCB

Prepbatch ID : PB151952,

Sequence ID/Qc Batch ID: PR040823,

Standard ID :

EP2316,EP2319,EP2321,PP21417,PP21419,PP21420,PP21421,PP21422,PP21423,PP21424,PP21425,PP21426,PP21427,PP21428,PP21429,PP21430,PP21431,PP21432,PP21433,PP21434,PP21435,PP21436,PP21437,PP21438,PP21439,PP21440,PP21441,PP21442,PP21443,PP21444,PP21445,PP21446,PP21447,PP21448,PP21449,PP21450,PP21451,PP21452,PP21453,PP21454,PP21455,PP21456,PP21457,PP21458,PP21459,PP21460,PP21461,PP21462,PP21463,PP21464,PP21465,PP21466,PP21467,PP21468,PP21469,PP21470,PP21471,PP21472,PP21473,PP21474,PP21475,PP21599/600,PP21601/602,PP21603/604,PP21605/606,PP21820,

Chemical ID :

E2865,E3412,E3453,E3454,E3481,E3484,E3487,E3490,M5211,P10092,P10101,P10154,P10479,P10490,P10494,P10496,P10787,P10789,P11048,P11053,P11367,P11493,P11503,P11508,P11515,P11583,P11593,

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Extractions STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
314	1.1 H2SO4 SOLN	EP2316	03/29/2023	09/29/2023	Rajesh Parikh	None	None	RUPESHKUMAR SHAH 03/29/2023

FROM 1000.00000ml of M5211 = Final Quantity: 2000.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
230	1:1ACETONE/HEXANE	EP2319	03/30/2023	09/22/2023	Rajesh Parikh	None	None	RUPESHKUMAR SHAH 03/30/2023

FROM 8000.00000ml of E3484 + 8000.00000ml of E3487 = Final Quantity: 8000.000 ml

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Extractions STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3923	Baked Sodium Sulfate	EP2321	03/31/2023	09/30/2023	RUPESHKUMAR SHAH	None	None	Rajesh Parikh
								03/31/2023

FROM 1.00000gram of E3412 = Final Quantity: 4000.000 gram

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
84	Pest/PCB Surrogate Stock 20 PPM	PP21417	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
								01/16/2023

FROM 1.00000ml of P10787 + 9.00000ml of E3453 = Final Quantity: 10.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
404	AR1660 100 PPM Stock Solution 2nd Source	PP21419	01/16/2023	07/10/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 1.00000ml of P11367 + 9.00000ml of E3454 = Final Quantity: 10.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
202	AR1660 1000/100 ppb working solution 1st source	PP21420	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.10000ml of P10479 + 99.40000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
203	AR1660 750 PPB STD	PP21421	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.25000ml of E3453 + 0.75000ml of PP21420 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
204	AR1660 500 PPB STD	PP21422	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21420 = Final Quantity: 1.000 ml

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205	AR1660 250 PPB STD	PP21423	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.75000ml of E3453 + 0.25000ml of PP21420 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
206	AR1660 50 PPB STD	PP21424	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.90000ml of E3453 + 0.10000ml of PP21422 = Final Quantity: 1.000 ml

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213	AR1221 1000 PPB WORKING SOLUTION	PP21425	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.10000ml of P10490 + 99.40000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1079	AR1221 750 PPB STD	PP21426	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.25000ml of E3453 + 0.75000ml of PP21425 = Final Quantity: 1.000 ml

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222	AR1221 500 PPB STD	PP21427	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21425 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1080	AR1221 250 PPB STD	PP21428	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.75000ml of E3453 + 0.25000ml of PP21425 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1081	AR1221 50 PPB STD	PP21429	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.90000ml of E3453 + 0.10000ml of PP21427 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
214	AR1232 1000 PPB WORKING SOLUTION	PP21430	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.10000ml of P11583 + 99.40000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1063	AR1232 750 PPB STD	PP21431	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.25000ml of E3453 + 0.75000ml of PP21430 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
223	AR1232 500 PPB STD	PP21432	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21430 = Final Quantity: 1.000 ml

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1064	AR1232 250 PPB STD	PP21433	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.75000ml of E3453 + 0.25000ml of PP21430 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1065	AR1232 50 PPB STD	PP21434	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.90000ml of E3453 + 0.10000ml of PP21432 = Final Quantity: 1.000 ml

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215	AR1242 1000 PPB WORKING STD	PP21435	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.10000ml of P11048 + 99.40000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1067	AR1242 750 PPB STD	PP21436	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.25000ml of E3453 + 0.75000ml of PP21435 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
224	AR1242 500 PPB STD	PP21437	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21435 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1068	AR1242 250 PPB STD	PP21438	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.75000ml of E3453 + 0.25000ml of PP21435 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

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1069	AR1242 50 PPB STD	PP21439	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.90000ml of E3453 + 0.10000ml of PP21437 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
216	AR1248 1000 PPB WORKING STD	PP21440	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.10000ml of P11053 + 99.40000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1075	AR1248 750 PPB STD	PP21441	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.25000ml of E3453 + 0.75000ml of PP21440 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
225	AR1248 500 PPB STD	PP21442	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21440 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

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1076	AR1248 250 PPB STD	PP21443	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.75000ml of E3453 + 0.25000ml of PP21440 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1077	AR1248 50 PPB STD	PP21444	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.90000ml of E3453 + 0.10000ml of PP21442 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

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217	AR1254 1000 PPB WORKING STD	PP21445	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.10000ml of P10494 + 99.40000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1071	AR1254 750 PPB STD	PP21446	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.25000ml of E3453 + 0.75000ml of PP21445 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

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226	AR1254 500 PPB STD	PP21447	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21445 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1072	AR1254 250 PPB STD	PP21448	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.75000ml of E3453 + 0.25000ml of PP21445 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

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1073	AR1254 50 PPB STD	PP21449	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.90000ml of E3453 + 0.10000ml of PP21447 = Final Quantity: 1.000 ml

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1529	AR1262 1000 PPB Working Solution	PP21450	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.10000ml of P10496 + 99.40000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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3753	AR1262 750 PPB STD	PP21451	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.25000ml of E3453 + 0.75000ml of PP21450 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1530	AR1262 500 PPB STD	PP21452	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21450 = Final Quantity: 1.000 ml

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3754	AR1262 250 PPB STD	PP21453	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.75000ml of E3453 + 0.25000ml of PP21450 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3755	AR1262 50 PPB STD	PP21454	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.90000ml of E3453 + 0.10000ml of PP21452 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1532	AR1268 1000 PPB Working Solution	PP21455	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.10000ml of P11593 + 99.40000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3820	AR1268 750 PPB STD	PP21456	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.25000ml of E3453 + 0.75000ml of PP21455 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1533	AR1268 500 PPB STD	PP21457	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21455 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3821	AR1268 250 PPB STD	PP21458	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.75000ml of E3453 + 0.25000ml of PP21455 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3822	AR1268 50 PPB STD	PP21459	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.90000ml of E3453 + 0.10000ml of PP21457 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
405	AR1660 1000/100 PPB ICV STD	PP21460	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 98.50000ml of E3453 + 0.50000ml of PP21417 + 1.00000ml of PP21419 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
406	AR1660 500 PPB ICV	PP21461	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21460 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3789	AR1221 1000 PPB WORKING SOL.2ND SOURCE(AGILENT)	PP21462	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 1.00000ml of P11493 + 98.50000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3790	AR1221 500 PPB ICV(AGILENT)	PP21463	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21462 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1887	AR1232 1000 PPB Working Sol. 2nd Source	PP21464	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 1.00000ml of P10101 + 98.50000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1888	AR1232 500 PPB ICV	PP21465	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21464 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1889	AR1242 1000 PPB Working Sol. 2nd Source	PP21466	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 1.00000ml of P11503 + 98.50000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1891	AR1242 500 PPB ICV	PP21467	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
								01/16/2023

FROM 0.50000ml of E3453 + 0.50000ml of PP21466 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1890	AR1248 1000 PPB Working Sol. 2nd Source	PP21468	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
								01/16/2023

FROM 1.00000ml of P11508 + 98.50000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1892	AR1248 500 PPB ICV	PP21469	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21468 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1893	AR1254 1000 PPB Working Sol. 2nd Source	PP21470	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 1.00000ml of P11515 + 98.50000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1894	AR1254 500 PPB ICV	PP21471	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21470 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3757	AR1262 1000 PPB Working Solution second source	PP21472	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 1.00000ml of P10154 + 98.50000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3758	AR1262 500 PPB STD ICV	PP21473	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21472 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3817	AR1268 1000 ppb Working Soln. 2nd source	PP21474	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 1.00000ml of P10092 + 98.50000ml of E3453 + 0.50000ml of PP21417 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3823	AR1268 500 PPB STD ICV	PP21475	01/16/2023	07/03/2023	Ankita Jodhani	None	None	Yogesh Patel
01/16/2023								

FROM 0.50000ml of E3453 + 0.50000ml of PP21474 = Final Quantity: 1.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
465	200 PPB Pest/PCB Surrogate Spike	PP21820	03/15/2023	09/15/2023	Abdul Mirza	None	None	Ankita Jodhani
03/15/2023								

FROM 1.00000ml of P10789 + 999.00000ml of E3481 = Final Quantity: 1000.000 ml

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3382-05 / Sand, Purified (cs/4x2.5kg)	0000243821	12/31/2024	04/30/2020 / RAJESH	04/28/2020 / RAJESH	E2865

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	10/23/2023	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)	22G0362002	07/03/2023	01/03/2023 / Rajesh	01/03/2023 / Rajesh	E3453

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	9005-05 / Acetone Ultra (cs/4x4L)	22J2461015	07/10/2023	01/10/2023 / Rajesh	01/03/2023 / Rajesh	E3454

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	11/08/2023	03/08/2023 / Rajesh	03/08/2023 / Rajesh	E3481

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)	23A2662017	09/22/2023	03/22/2023 / Rajesh	03/15/2023 / Rajesh	E3484

CHEMICAL RECEIPT LOG BOOK

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	09/27/2023	03/27/2023 / Rajesh	03/22/2023 / Rajesh	E3487

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)	23A2662017	10/06/2023	04/06/2023 / Rajesh	03/29/2023 / Rajesh	E3490

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	22D0862014	01/20/2025	08/22/2022 /	04/26/2022 / mohan	M5211

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-382-1 / Aroclor 1268	0006478417	07/16/2023	01/16/2023 / Ankita	12/03/2020 / Abdul	P10092

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-302-1 / Aroclor 1232	CF-2197A	07/16/2023	01/16/2023 / Ankita	12/03/2020 / Abdul	P10101

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-372-1 / Aroclor 1262	0006499800	07/16/2023	01/16/2023 / Ankita	01/12/2021 / Abdul	P10154

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32039 / PCB Mix, Aroclor 1016/1260, 1000ug/mL, hexane, 1mL/ampul	A0163157	07/13/2023	01/13/2023 / Ankita	03/19/2021 / Abdul	P10479

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32007 / PCB Mix, Aroclor 1221, 1000ug/mL, Hexane, 1mL/ampul	A0159630	07/13/2023	01/13/2023 / Ankita	03/19/2021 / Abdul	P10490

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32011 / PCB Mix, Aroclor 1254, 1000ug/mL, Hexane, 1mL/ampul	A0160220	07/13/2023	01/13/2023 / Ankita	03/19/2021 / Abdul	P10494

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32409 / PCB Stock Solution, Aroclor 1262 Std, 1mL, Hexane	A0167722	07/13/2023	01/13/2023 / Ankita	03/19/2021 / Ankita	P10496

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	A0172332	07/16/2023	01/16/2023 / Ankita	06/17/2021 / dhaval	P10787

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	A0172332	09/15/2023	03/15/2023 / Abdul	06/17/2021 / dhaval	P10789

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32009 / PCB Mix, Aroclor 1242, 1000ug/mL, Hexane, 1mL/ampul	A0167551	07/13/2023	01/13/2023 / Ankita	09/03/2021 / Abdul	P11048

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32010 / PCB Mix, Aroclor 1248, 1000ug/mL, Hexane, 1mL/ampul	A0162497	07/13/2023	01/13/2023 / Ankita	09/03/2021 / Abdul	P11053

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	20064 / Aroclor 1016/1260	033121	07/16/2023	01/16/2023 / Ankita	02/03/2022 / yogesh	P11367

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-292-1 / Aroclor 1221	0006535333	07/16/2023	01/16/2023 / Ankita	02/21/2022 / Ankita	P11493

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-312-1 / Aroclor 1242	0006665550	07/16/2023	01/16/2023 / Ankita	02/21/2022 / Ankita	P11503

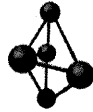
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-342-1 / Aroclor 1248	0006626997	07/16/2023	01/16/2023 / Ankita	02/21/2022 / Ankita	P11508

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-352-1 / Aroclor 1254	CS-2321	07/16/2023	01/16/2023 / Ankita	02/21/2022 / Ankita	P11515

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32008 / PCB Mix, Aroclor 1232, 1000ug/mL, Hexane, 1mL/ampul	A0173309	07/13/2023	01/13/2023 / Ankita	03/18/2022 / Abdul	P11583

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	32410 / PCB Stock Solution, Aroclor 1268 Std, 1mL, Hexane	A0181782	07/13/2023	01/13/2023 / Ankita	03/18/2022 / Abdul	P11593



Certified Reference Material CRM



CERTIFIED WEIGHT REPORT

Part Number:
Lot Number:
Description:

20064
033121
CLP PCBs - Aroclor Mix
Aroclors 1016 & 1260
033131
Ambient (20 °C)
1000
6UTB

Expiration Date:
Recommended Storage:
Nominal Concentration (µg/mL):
NIST Test ID#:

Solvent(s):
Hexane

Lot#
233256

Formulated By:	Prashant Chauhan	033121	DATE
Reviewed By:	Pedro L. Rentas	033121	DATE

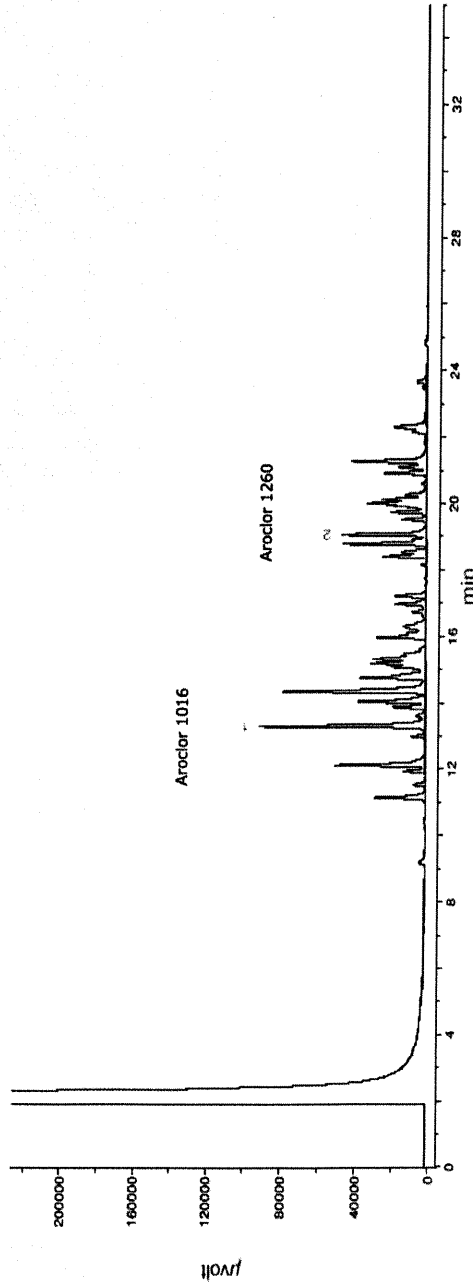
Weight(s) shown below were combined and diluted to (mL):
200.1
5E-05 Balance Uncertainty
0.058 Flask Uncertainty

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Expanded Uncertainty (+/-) (µg/mL)	Actual Weight(g)	Actual Conc (µg/mL)	SDS Information	
								(Solvent Safety Info. On Attached pg.)	
1. Aroclor 1016	15	020491JC	1000	100	0.2	0.20007	1000.9	12674-11-2	N/A
2. Aroclor 1260	21	020491JC	1000	100	0.2	0.20035	1001.4	11096-82-5	0.5mg/m3 ot-rat 1315mg/kg

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Comments

GC3-M1 Analysis by Melissa Stortier
Column ID SPB-608 30 meter X 0.53mm X5µm film thickness
Flow rates: Helium (carrier) = 5mL/min, Helium (make-up) = 25mL/min
Hydrogen (make-up) = 30mL/min, Air (make-up) = 350mL/min
Oven Profile: Temp 1 = 150 °C (Time 1 = 4 min), Temp 2 = 290 °C (Time 2 = 13.5 min)
Rate = 8 °C/min, Total run time = 35 min
Injector temp. = 200 °C, FID Temp. = 300 °C, FID Signal = Etdaq Channel 1
Standard injection = 1.5µL, Range=3



P 11364

P 11373

Y.P.
02/03/22



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

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.

DD
06/17/2021

Catalog No.: 32000 Lot No.: A0172332
Description: Pesticide Surrogate Mix
Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul
Container Size: 2 mL Pkg Amt: > 1 mL
Expiration Date: August 31, 2027 Storage: 10°C or colder
Handling: Contains PCBs - sonicate prior to use. Ship: Ambient

P10783
To - (10)
P10792

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	2,4,5,6-Tetrachloro-m-xylene CAS # 877-09-8 (Lot 0052481) Purity 98%	200.7 µg/mL	+/- 1.1840 µg/mL Gravimetric +/- 6.3622 µg/mL Unstressed +/- 8.3106 µg/mL Stressed
2	Decachlorobiphenyl (BZ# 209) CAS # 2051-24-3 (Lot 30679) Purity 99%	200.2 µg/mL	+/- 1.1810 µg/mL Gravimetric +/- 6.3463 µg/mL Unstressed +/- 8.2897 µg/mL 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:

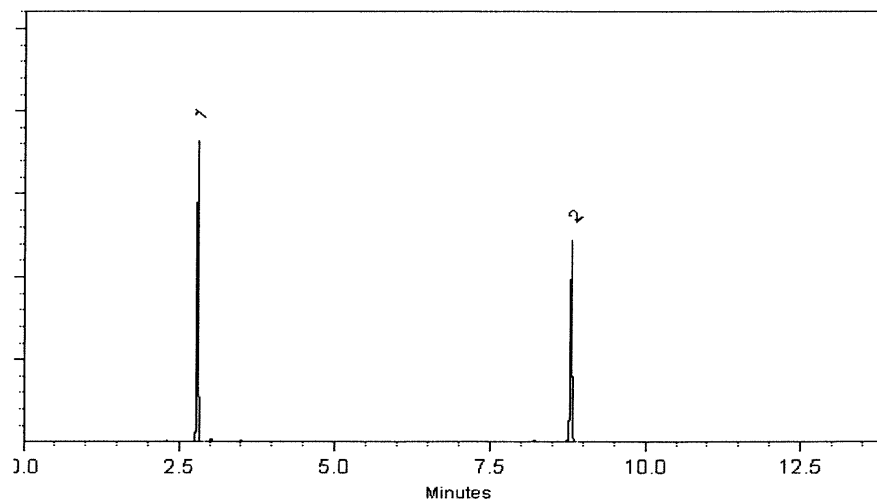
250°C

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.

Sam Moodler
Sam Moodler - Operations Tech I

Date Mixed: 12-May-2021

Balance: B707717271

Alexis Shelow
Alexis Shelow - Operations Tech I

Date Passed: 14-May-2021

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



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

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.

DD
06/17/2021

Catalog No. : 32000 **Lot No.:** A0172332

Description : Pesticide Surrogate Mix
Pesticide Surrogate Mix 200 µg/mL, Acetone, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2027 **Storage:** 10°C or colder

Handling: Contains PCBs - sonicate prior to use. **Ship:** Ambient

P10783
To - (10)
P10792

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	2,4,5,6-Tetrachloro-m-xylene CAS # 877-09-8 (Lot 0052481) Purity 98%	200.7 µg/mL	+/- 1.1840 µg/mL Gravimetric +/- 6.3622 µg/mL Unstressed +/- 8.3106 µg/mL Stressed
2	Decachlorobiphenyl (BZ# 209) CAS # 2051-24-3 (Lot 30679) Purity 99%	200.2 µg/mL	+/- 1.1810 µg/mL Gravimetric +/- 6.3463 µg/mL Unstressed +/- 8.2897 µg/mL 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:

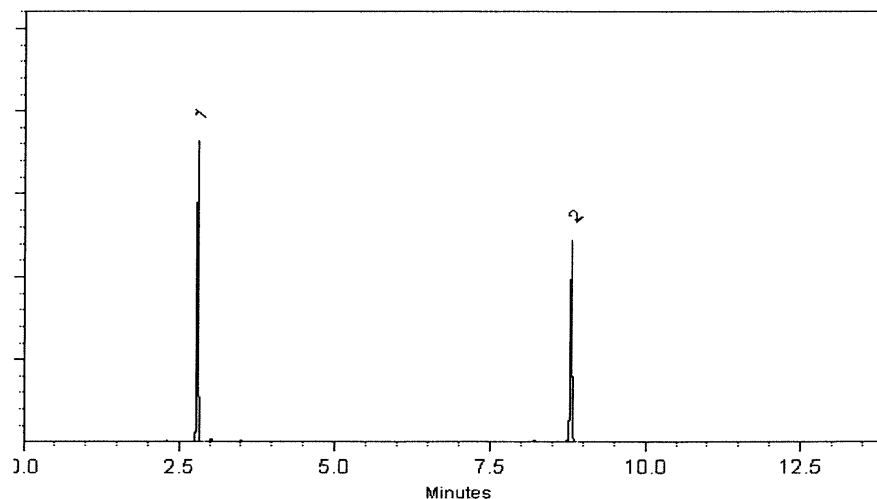
250°C

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.

Sam Moodler
Sam Moodler - Operations Tech I

Date Mixed: 12-May-2021

Balance: B707717271

Alexis Shelow
Alexis Shelow - Operations Tech I

Date Passed: 14-May-2021

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

Sand
Purified
Washed and Ignited



Material No.: 3382-05
Batch No.: 0000243821
Manufactured Date: 2018/04/09
Retest Date: 2025/04/07
Revision No: 1

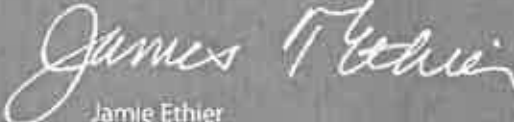
Certificate of Analysis

Test	Specification	Result
Substances Soluble in HCl	$\leq 0.16\%$	0.01

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

E 2865


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700



**PRODUCTOS
QUIMICOS
MONTERREY, S.A. DE C.V.**



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

CERTIFICATE OF ANALYSIS

PRODUCT : SODIUM SULFATE CRYSTALS ANHYDROUS
QUALITY : ACS (CODE RMB3375) **FORMULA :** Na₂SO₄
SPECIFICATION NUMBER : 6399 **RELEASE DATE:** OCT/28/2021
LOT NUMBER : 139404

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na ₂ SO ₄)	Min. 99.0%	99.8 %
pH of a 5% solution at 25°C	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%	0.002 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.002 %
Extraction-concentration suitability	Passes test	Passes test
Appearance	Passes test	Passes test
Identification	Passes test	Passes test
Solubility and foreign matter	Passes test	Passes test
Retained on US Standard No. 10 sieve	Max. 1%	0.2 %
Retained on US Standard No. 60 sieve	Min. 94%	97.6 %
Through US Standard No. 60 sieve	Max. 5%	2.1 %
Through US Standard No. 100 sieve	Max. 10%	0.2 %
COMMENTS		
 QC: PhC Irma Belmares		

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

E 3412

Recd. by RP on 10/13/22

RE-02-01, Ed. 3

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



Material No.: 9262-03
Batch No.: 22G0362002
Manufactured Date: 2022-06-17
Expiration Date: 2023-09-16
Revision No.: 0

Certificate of Analysis

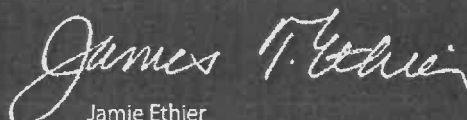
Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	2
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	2
ECD-Sensitive Impurities (as Ethylene Dibromide) - Single Impurity Peak (ng/mL)	≤ 5	2
Assay (Total Saturated C ₆ Isomers) (by GC, corrected for water)	≥ 99.5 %	99.5 %
Assay (as n-Hexane) (by GC, corrected for water)	≥ 95 %	97 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.1 ppm
Substances Darkened by H ₂ SO ₄	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

Recd. by RP on 01/03/23

E 3453


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Page 1 of 1

Acetone
CMOS



Material No.: 9005-05
Batch No.: 22J2461015
Manufactured Date: 2022-10-20
Retest Date: 2027-10-19
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	≥ 99.5 %	99.7 %
Color (APHA)	≤ 10	< 5
Residue after Evaporation	≤ 5 ppm	< 1 ppm
Titration Acid (μeq/g)	≤ 0.3	0.1
Titration Base (μeq/g)	≤ 0.5	0.1
Water (H ₂ O)	≤ 0.5 %	0.2 %
Solubility in H ₂ O	Passes Test	Passes Test
Chloride (Cl)	≤ 0.2 ppm	< 0.2 ppm
Phosphate (PO ₄)	≤ 0.05 ppm	< 0.05 ppm
Trace Impurities - Aluminum (Al)	≤ 50.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 5.0 ppb
Trace Impurities - Barium (Ba)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Calcium (Ca)	≤ 25.0 ppb	3.4 ppb
Trace Impurities - Chromium (Cr)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Trace Impurities - Iron (Fe)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb

>>> Continued on page 2 >>>

Recd. by RP on 01/03/23

E 3454

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Acetone
CMOS



Material No.: 9005-05
Batch No.: 22J2461015

Test	Specification	Result
Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Nickel (Ni)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities - Potassium (K)	≤ 10.0 ppb	< 10.0 ppb
Trace Impurities - Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities - Silver (Ag)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Sodium (Na)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Strontium (Sr)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Tantalum (Ta)	≤ 50.0 ppb	< 5.0 ppb
Trace Impurities - Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Zinc (Zn)	≤ 20.0 ppb	1.8 ppb
Trace Impurities - Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count - 0.5 μ m and greater (Rion KS42AF)	≤ 100 par/ml	15 par/ml
Particle Count - 1.0 μ m and greater (Rion KS42AF)	≤ 8 par/ml	4 par/ml

>>> Continued on page 3 >>>

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700



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

Certificate of Analysis

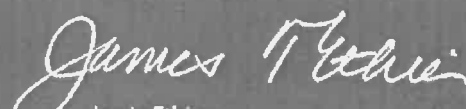
Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (μeq/g)	≤ 0.3	0.1
Titration Base (μeq/g)	≤ 0.6	< 0.1
Water (H ₂ O)	≤ 0.5 %	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 RP on 3/8/23

E 3481


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Page 1 of 1

Material No.: 9262-03
Batch No.: 23A2662017
Manufactured Date: 2023-01-10
Expiration Date: 2024-04-10
Revision No.: 0

Certificate of Analysis

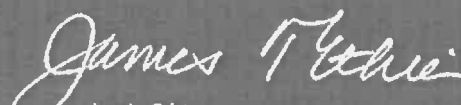
Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	< 1
ECD-Sensitive Impurities (as Ethylene Dibromide) - Single Impurity Peak (ng/mL)	≤ 5	< 1
Assay (Total Saturated C ₆ Isomers) (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	0.1 ppm
Substances Darkened by H ₂ SO ₄	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

Recd. by RP on 3/15/23

E 3484


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

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Page 1 of 1

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

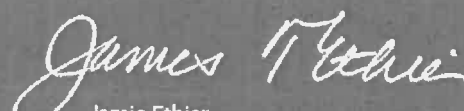
Test	Specification	Result
Assay ((CH ₃) ₂ CO) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.2 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (μeq/g)	≤ 0.3	0.1
Titration Base (μeq/g)	≤ 0.6	< 0.1
Water (H ₂ O)	≤ 0.5 %	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 RP ON 3/22/23

E 3487


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Page 1 of 1

Material No.: 9262-03
Batch No.: 23A2662017
Manufactured Date: 2023-01-10
Expiration Date: 2024-04-10
Revision No.: 0

Certificate of Analysis

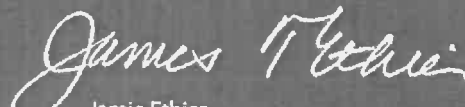
Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	< 1
ECD-Sensitive Impurities (as Ethylene Dibromide) - Single Impurity Peak (ng/mL)	≤ 5	< 1
Assay (Total Saturated C ₆ Isomers) (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	0.1 ppm
Substances Darkened by H ₂ SO ₄	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

Recd. by RP on 3/29/23

E 3480


Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700

Avantor Performance Materials, LLC

100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone 610.386.1700

Page 1 of 1

Sulfuric Acid

BAKER INSTRA-ANALYZED® Reagent

For Trace Metal Analysis

Low Selenium

avantor™



Material No.: 9673-33

Batch No.: 22D0862014

Manufactured Date: 2022-02-23

Retest Date: 2027-02-22

Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H ₂ SO ₄)	95.0 – 98.0 %	96.5 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO ₂)	≤ 2 ppm	< 2 ppm
Ammonium (NH ₄)	≤ 1 ppm	< 1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO ₃)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO ₄)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	1.7 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	< 0.2 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	2.0 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.6 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	12.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	4.4 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

Sulfuric Acid
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis
Low Selenium

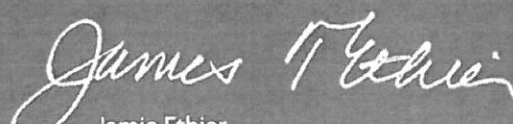


Material No.: 9673-33
Batch No.: 22D0862014

Test	Specification	Result
Trace Impurities – Sodium (Na)	≤ 500.0 ppb	6.2 ppb
Trace Impurities – Strontium (Sr)	≤ 5.0 ppb	< 0.2 ppb
Trace Impurities – Tin (Sn)	≤ 5.0 ppb	< 0.8 ppb
Trace Impurities – Zinc (Zn)	≤ 5.0 ppb	0.6 ppb

For Laboratory, Research, or Manufacturing Use

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


Jamie Ethier
Vice President Global Quality



Certificate of Analysis ISO 17034

Aroclor 1268 Standard

Product Number: PP-382-1

Page: 1 of 1

Lot Number: 0006478417

Lot Issue Date: 24-Jul-2019

Expiration Date: 31-Aug-2027

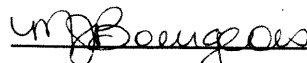
This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1268	011100-14-4	RM00937	100.3 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.


Monica Bourgeois
QMS Representative

P10088
↓
P10092
AR
12/03/20



ISO 17034 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
registered ISO 9001 Quality Management System



ISO 17025 Cert No.
AT-1937



Certificate of Analysis ISO 17034

Aroclor 1232 Standard

Product Number: PP-302-1

Page: 1 of 1

Lot Number: CF-2197A

Lot Issue Date: 05-Jul-2016

Expiration Date: 31-Aug-2023

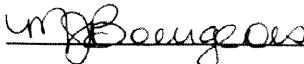
This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1232	011141-16-5	NT01717	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.


Monica Bourgeois
QMS Representative

P10098
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P10102
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AR
12/03/20



ISO 17034 Cert No.
AR-1936

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registered ISO 9001 Quality Management System



ISO17025 Cert No.
AT-1937



Certificate of Analysis ISO 17034

Aroclor 1262 Standard

Product Number: PP-372-1

Page: 1 of 1

Lot Number: 0006499800

Lot Issue Date: 04-Nov-2019

Expiration Date: 30-Nov-2023

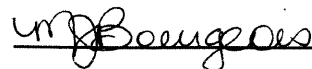
This ISO 17034 Reference Material (RM) was manufactured and verified in accordance with Agilent Technologies ISO 9001 registered quality system. A review of the gravimetric preparation data by our ISO 17025 accredited laboratory serves to verify the concentration of each analyte. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1262	037324-23-5	RM14263	100.0 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

Agilent uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.


Monica Bourgeois
QMS Representative

P10151
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P10155

AR
01/12/2021



ISO 17034 Cert No.
AR-1936

Produced in accordance with TUV USA Inc 56 100 18560026
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ISO 17025 Cert No.
AT-1937



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

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.

Catalog No. : 32039 **Lot No.:** A0163157

Description : Aroclor® 1016/1260 Mix
Aroclor® 1016/1260 Mix 1,000 µg/mL, Hexane, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2026 **Storage:** 25°C nominal

Handling: This product contains PCBs. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Aroclor 1016 CAS # 12674-11-2 (Lot 04) Purity ----%	1,007.0 µg/mL	+/- 5.8683 µg/mL Gravimetric +/- 31.9082 µg/mL Unstressed +/- 41.6868 µg/mL Stressed
2	Aroclor 1260 CAS # 11096-82-5 (Lot 07) Purity ----%	1,008.0 µg/mL	+/- 5.8741 µg/mL Gravimetric +/- 31.9399 µg/mL Unstressed +/- 41.7282 µg/mL Stressed

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

P 10476

P 10480

AR
02/19/21

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:

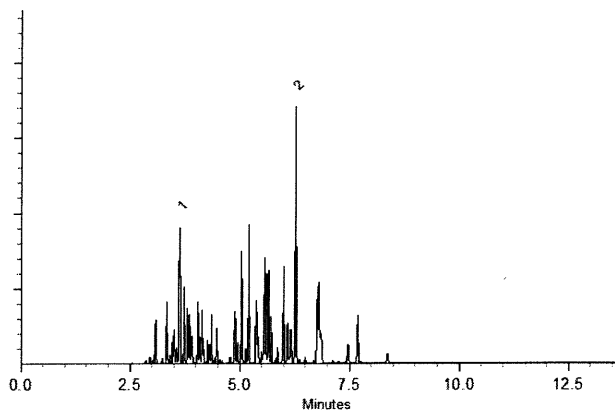
250°C

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.

Tom Suckar - Mix Technician

Date Mixed: 03-Aug-2020

Balance: B442140311

Justine Albertson - Operations Tech-ARM QC

Date Passed: 05-Aug-2020

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



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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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

Catalog No. : 32007 **Lot No.:** A0159630
Description : Aroclor® 1221 Standard
Aroclor® 1221 Standard 1,000 µg/mL, Hexane, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : July 31, 2026 **Storage:** 25°C nominal
Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Aroclor 1221 CAS # 11104-28-2 (Lot 8041300) Purity ----%	1,000.7 µg/mL	+/- 5.9437 µg/mL Gravimetric +/- 31.7284 µg/mL Unstressed +/- 41.4406 µg/mL Stressed

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

P-10486
↓
P-10490
AR
03/19/21

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:

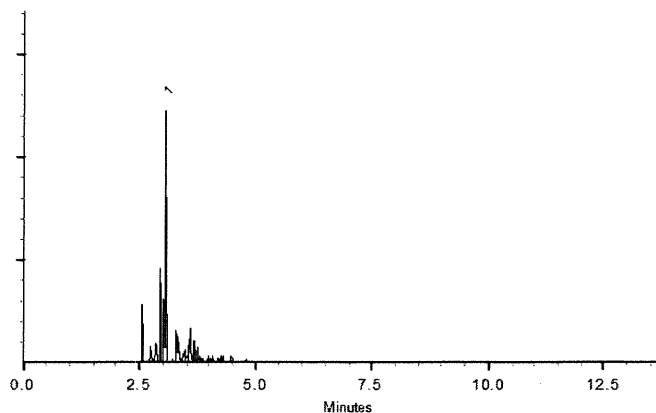
250°C

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.

Russ Bookhamer - Operations Technician I

Date Mixed: 06-Apr-2020

Balance: 1128360905

Justine Albertson - Operations Tech-ARM QC

Date Passed: 08-Apr-2020

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



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FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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

Catalog No. : 32011 **Lot No.:** A0160220
Description : Aroclor® 1254 Standard
Aroclor® 1254 Standard 1,000 µg/mL, Hexane, 1mL/ampul
Container Size : 2 mL **Pkg Amt:** > 1 mL
Expiration Date : July 31, 2026 **Storage:** 25°C nominal
Handling: This product contains PCBs.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Aroclor 1254	1,005.0 µg/mL	+/- 5.9694 µg/mL Gravimetric
	CAS # 11097-69-1 (Lot 124-191-B)		+/- 31.8658 µg/mL Unstressed
	Purity ----%		+/- 41.6201 µg/mL Stressed

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

P10491
↓
P10495
AR
03/19/21

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:

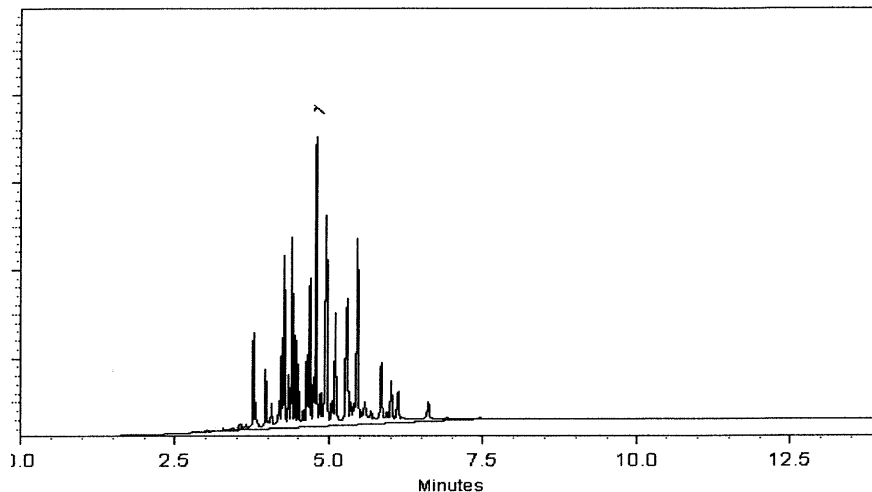
250°C

Det. Temp:

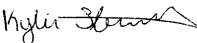
300°C

Det. Type:

ECD

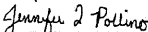


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Kyle Struble - Operations Technician I

Date Mixed: 22-Apr-2020

Balance: 1128360905


Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 28-Apr-2020

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



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Fax: (814)353-1309

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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.

Catalog No. : 32409 Lot No.: A0167722
Description : Aroclor® 1262 Standard
Aroclor® 1262 Standard 1,000 µg/mL, 1mL/ampul, Hexane
Container Size : 2 mL Pkg Amt: > 1 mL
Expiration Date : April 30, 2027 Storage: 25°C nominal
Handling: This product contains PCBs. Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Aroclor 1262	1,004.0 µg/mL	+/- 5.9635 µg/mL Gravimetric
	CAS # 37324-23-5 (Lot 10849100)		+/- 31.8340 µg/mL Unstressed
	Purity ----%		+/- 41.5787 µg/mL Stressed

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

P10496
↓
P10500

AJ
09/19/21

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:

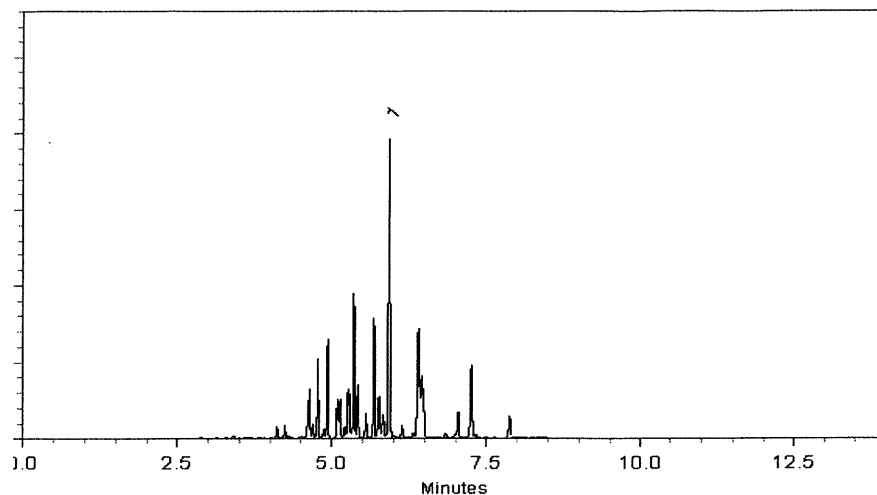
250°C

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.

Sam Moodler
Sam Moodler - Operations Tech I

Date Mixed: 03-Jan-2021

Balance: B707717271

Marlene Cowan
Marlene Cowan - Operations Tech I

Date Passed: 05-Jan-2021

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



CERTIFIED REFERENCE MATERIAL

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

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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.

Catalog No. : 32009 Lot No.: A0167551
Description : Aroclor® 1242 Standard
Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul
Container Size : 2 mL Pkg Amt: > 1 mL
Expiration Date : March 31, 2027 Storage: 25°C nominal
Handling: This product contains PCBs. Ship: Ambient

P11046
To
P11050
AR
09/9/2021

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Aroclor 1242	1,006.0 µg/mL	+/- 5.9753 µg/mL Gravimetric
	CAS # 53469-21-9 (Lot 01141-A)		+/- 31.8975 µg/mL Unstressed
	Purity ----%		+/- 41.6615 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:

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

Inj. Temp:

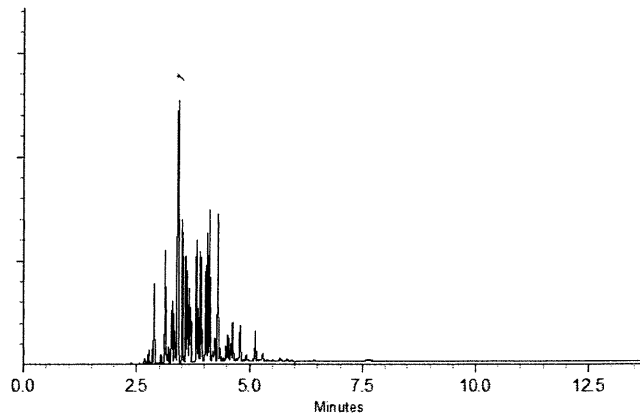
250°C

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.

Tom Suckar - Mix Technician

Date Mixed: 28-Dec-2020

Balance: B707717271

Justine Albertson - Operations Tech-ARM QC

Date Passed: 30-Dec-2020

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

P11046
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P11050

AR
09/9/2021



CERTIFIED REFERENCE MATERIAL

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Fax: (814)353-1309

www.restek.com

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.

Catalog No.: 32010 Lot No.: A0162497
Description: Aroclor® 1248 Standard
Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul
Container Size: 2 mL Pkg Amt: > 1 mL
Expiration Date: October 31, 2026 Storage: 25°C nominal
Handling: This product contains PCBs.

P11051
TO
P11055
AR
09/19/2021

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Aroclor 1248	1,006.0 µg/mL	+/- 5.9753 µg/mL Gravimetric
	CAS # 12672-29-6 (Lot 9303900)		+/- 31.8975 µg/mL Unstressed
	Purity ----%		+/- 41.6615 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:

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

Inj. Temp:

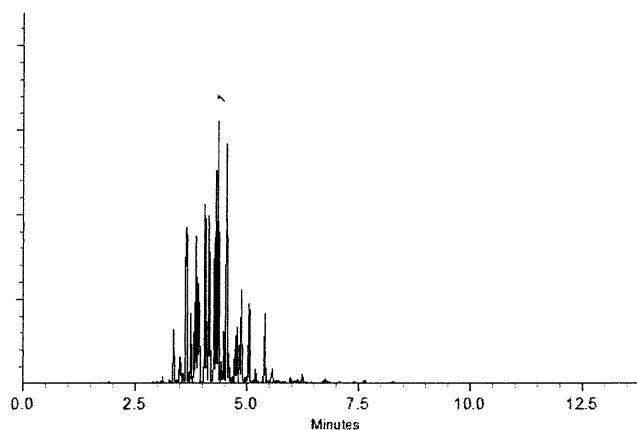
250°C

Det. Temp:

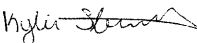
300°C

Det. Type:

ECD

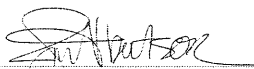


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.


Kyle Struble - Operations Technician I

Date Mixed: 13-Jul-2020

Balance: 1128360905


Justine Alberson - Operations Tech-ARM QC

Date Passed: 16-Jul-2020

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

P11051
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P11055
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AR
9/7/2021



Certificate of Analysis

P11493
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P11494

AJ
02/21/22

Product Name: Aroclor 1221 Standard

Product Number: PP-292-1

Lot Issue Date: 28-Apr-2020

Lot Number: 0006535333

Expiration Date: 31-May-2024

Description:

This analytical reference material (RM) was manufactured and verified in accordance with an ISO 9001 registered quality system, and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	Concentration ± Uncertainty
Aroclor 1221	011104-28-2	RM04278	100.2 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage Conditions: Store at Room Temperature (15° to 30°C).

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This RM was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:

This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Hazards:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this RM.

Expiration of Certification:

The certification of this RM is valid until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:


Monica Bourgeois
QMS Representative



ISO 17034 Cert No.
AR-1936

RM was produced in accordance with TUV USA Inc registered ISO 9001 Quality Management System. Cert # 56 100 18560026

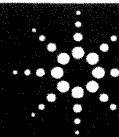
Page: 1 of 1

www.agilent.com/quality/
CSD-QA-015.1



ISO 17025 Cert
No. AT-1937

ISO 17034



Agilent

Trusted Answers

Reference Material Certificate

Product Name: Aroclor 1242 Standard

Lot Number: 0006665550

Product Number: PP-312-1

Lot Issue Date: 08-Feb-2022

Storage Conditions: Store at Room Temperature (15° to 30°C).

Expiration Date: 31-Jan-2027

Component Name	CERTIFIED VALUES			CAS#	Analyte Lot
	Concentration	Expanded Uncertainty			
Aroclor 1242	100.4	± 0.5 µg/mL		053469-21-9	NT01020

Matrix: isooctane (2,2,4-trimethylpentane)

Description:

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:

This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:

The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

P11503
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P11507A7
02/21/22

Page: 1 of 2

CSD-QA-015.1

ISO 17034



Agilent

Trusted Answers

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative



ISO 17034 Cert
No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015
Quality Management System. Cert# 951215321

Page: 2 of 2

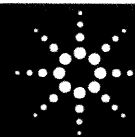
www.agilent.com/quality/

CSD-QA-015.1



ISO 17025
Cert No. AT-

ISO 17034



Agilent

Trusted Answers

Reference Material Certificate

Product Name: Aroclor 1248 Standard

Lot Number: 0006626997

Product Number: PP-342-1

Lot Issue Date: 17-Aug-2021

Storage Conditions: Store at Room Temperature (15° to 30°C).

Expiration Date: 30-Sep-2025

Component Name	CERTIFIED VALUES		CAS#	Analyte Lot
	Concentration	Expanded Uncertainty		
Aroclor 1248	100.3	± 0.5 µg/mL	012672-29-6	NT01582

Matrix: isooctane (2,2,4-trimethylpentane)

Description:

This document is prepared in accordance with ISO 17034 and Guide 31. This analytical reference material standard was manufactured and verified in accordance with an ISO 9001 registered quality system and analyte concentrations were verified by an ISO 17025 accredited laboratory. The concentration and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed above.

Traceability:

The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z540.3, ISO 9001, ISO 17025, and ISO 17034. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 1088.

Homogeneity:

This analytical reference standard was unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening the container and should be processed without delay for the certified values to be valid within the stated uncertainties.

Safety:

Refer to the Safety Data Sheet on www.agilent.com for information regarding this analytical reference material.

Intended Use:

This analytical reference standard is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods, and continuing calibration verification.

Expiration of Certification:

The certification of this analytical reference standard is valid until the expiration date specified above, provided the material is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the material is damaged, contaminated, or otherwise modified.

P11508

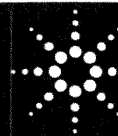
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P11512

AJ

2/21/22

ISO 17034



Agilent

Trusted Answers

Maintenance of Certification:

If substantive changes are noted that affect the certification before the expiration of this certificate, Agilent will notify the purchaser.

Sample lot approver:

Monica Bourgeois
QMS Representative



ISO 17034 Cert
No. AR-1936

RM was produced in accordance with the TUV/SUD registered ISO 9001:2015
Quality Management System. Cert# 951215321

Page: 2 of 2

www.agilent.com/quality/

CSD-QA-015.1



ISO 17025 Cert
No. AT-1937



Certificate of Analysis

Aroclor 1254 Solution

Product Number: PP-352

Page: 1 of 1

Lot Number: CS-2321

Lot Issue Date: 04-May-2018

Expiration Date: 31-May-2026

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
Aroclor 1254	011097-69-1	RM00922	100.4 ± 0.5 µg/mL

Matrix: isooctane (2,2,4-trimethylpentane)

Storage: Store at Room Temperature (15° to 30°C).

P11513
↓
P11517
AJ
02/21/22

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCCL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.



ISO 9001
Registered
TUV USA, Inc.

John Russo
President

Monica Bourgeois
Director of QA/RA



CERTIFIED REFERENCE MATERIAL

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

www.restek.com

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.

Catalog No. : 32008 Lot No.: A0173309
Description : Aroclor® 1232 Standard
Aroclor® 1232 Standard 1,000 µg/mL, Hexane, 1mL/ampul
Container Size : 2 mL Pkg Amt: > 1 mL
Expiration Date : September 30, 2027 Storage: 25°C nominal
Handling: This product contains PCBs. Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Aroclor 1232 CAS # 11141-16-5 Purity ----%	1,001.0 µg/mL (Lot 15665-01)	+/- 5.9456 µg/mL Gravimetric +/- 31.7389 µg/mL Unstressed +/- 41.4544 µg/mL Stressed

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

P11583
↓
P11587 / (S)

AR
04/30/22

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

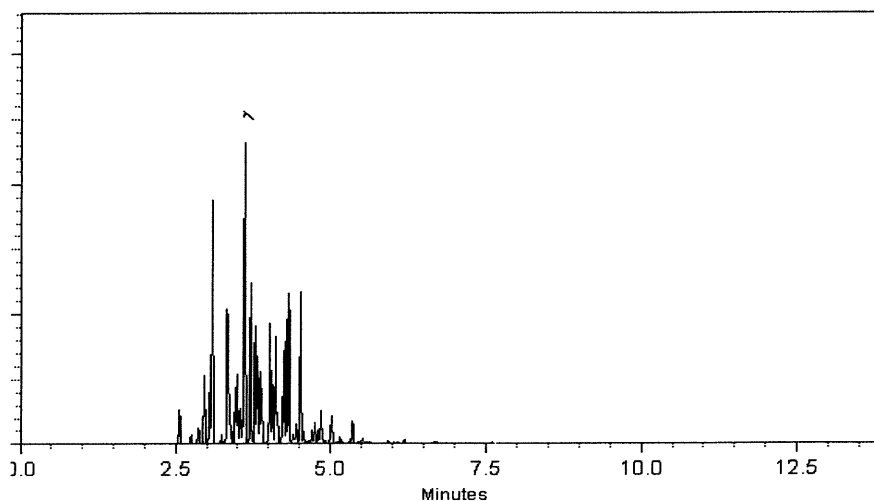
Carrier Gas:
helium-constant pressure 20 psi.

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.

Sam Moodler
Sam Moodler - Operations Tech I

Date Mixed: 13-Jun-2021 **Balance:** B442140311

Alexis Shelow
Alexis Shelow - Operations Tech I

Date Passed: 16-Jun-2021

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

P11583
↓
P11587 (5)

AR
04/30/22



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Bellefonte, PA 16823-8812
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Certificate of Analysis



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Catalog No. : 32410 Lot No.: A0181782
Description : Aroclor® 1268 Standard
Aroclor® 1268 Standard 1,000 µg/mL, 1mL/ampul, Hexane
Container Size : 2 mL Pkg Amt: > 1 mL
Expiration Date : May 31, 2028 Storage: 25°C nominal
Handling: This product contains PCBs. Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	Aroclor 1268 CAS # 11100-14-4 Purity ----%	1,001.4 µg/mL (Lot 10947000)	+/- 5.9480 µg/mL Gravimetric +/- 31.7516 µg/mL Unstressed +/- 41.4710 µg/mL Stressed

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

P 11593
↓
P 11597
⑤

UAR
04/30/2022

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:

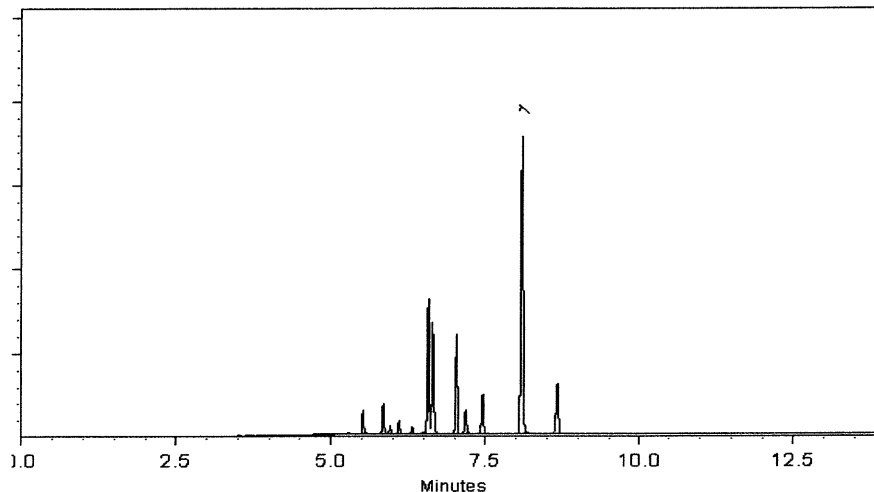
250°C

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.

Penelope S. Riglin
Penelope Riglin - Operations Tech I

Date Mixed: 14-Feb-2022

Balance: 1128360905

Clara Windle
Clara Windle - Operations Technician I

Date Passed: 17-Feb-2022

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

P 11593 / (5)
↓
P 11597
[Signature]
04/30/2022