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Prep Standard - Chemical Standard Summary

Order ID : Q2901

Test : PCB Group1

Prepbatch ID : PB169322,

Sequence ID/Qc Batch ID: PO082025,

Standard ID :

EP2610,EP2627,EP2632,PP2414,PP2416,PP24329,PP24330,PP24381,PP24663,PP24799,PP24805,PP24806,PP24807,PP24808,PP24809,PP24810,PP24811,PP24812,PP24814,PP24815,PP24816,PP24817,PP24818,PP24819,PP24820,PP24821,PP24822,PP24823,PP24824,PP24825,PP24826,PP24827,PP24828,PP24829,PP24830,PP24831,PP24832,PP24833,PP24834,PP24835,PP24836,PP24837,PP24838,PP24839,PP24840,PP24841,PP24842,PP24843,PP24844,PP24845,PP24846,PP24847,PP24848,PP24849,PP24850,PP24851,PP24852,PP24853,PP24854,PP24855,PP24856,PP24857,PP24858,PP24859,PP24860,PP24861,PP24862,

Chemical ID :

E3804,E3875,E3944,E3949,E3950,E3951,E3955,E3962,E3963,M6157,P 11522,P11592,P12700,P12703,P12951,P12952,P12957,P13356,P13373,P13375,P13590,P13592,P13695,P13697,P13706,P13786,P13789,P13833,P13879,P13881,P13885,P2258,P2287,W3112,W3177,W3234,

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Extractions STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
314	1.1 H2SO4 SOLN	EP2610	05/07/2025	11/07/2025	RUPESHKUMAR SHAH	Extraction_SCALE_2 (EX-SC-2)	None	Riteshkumar Patel 05/07/2025

FROM 1000.00000ml of M6157 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
230	1:1ACETONE/HEXANE	EP2627	07/15/2025	01/15/2026	RUPESHKUMAR SHAH	None	None	Riteshkumar Patel 07/15/2025

FROM 4000.00000ml of E3949 + 4000.00000ml of E3950 = Final Quantity: 8000.000 ml

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Extractions STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3923	Baked Sodium Sulfate	EP2632	08/11/2025	01/28/2026	RUPESHKUMAR SHAH	Extraction_SCALE_2 (EX-SC-2)	None	Riteshkumar Patel 08/11/2025

FROM 4000.00000gram of E3875 = Final Quantity: 4000.000 gram

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1534	Pesticides Intermediate 5ppm	PP2414	07/26/2009	07/26/2011				Yogesh Patel 07/24/2025

FROM 0.02500ml of P2258 + 0.12500ml of P2287 = Final Quantity: 10.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1536	Pesticides calibration level-5	PP2416	07/26/2010	07/26/2011				Yogesh Patel 07/24/2025

FROM 0.37500ml of PP2414 = Final Quantity: 25.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
84	Pest/PCB Surrogate Stock 20 PPM	PP24329	03/18/2025	08/22/2025	Yogesh Patel	None	None	Abdul Mirza 04/03/2025

FROM 1.00000ml of P13356 + 9.00000ml of W3177 = Final Quantity: 10.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
202	AR1660 1000/100 ppb working solution 1st source	PP24330	03/18/2025	08/22/2025	Yogesh Patel	None	None	Abdul Mirza 04/03/2025

FROM 0.10000ml of P13697 + 99.40000ml of W3177 + 0.50000ml of PP24329 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1893	AR1254 1000 PPB Working Sol. 2nd Source	PP24381	03/18/2025	08/22/2025	Yogesh Patel	None	None	Abdul Mirza 04/03/2025

FROM 1.00000ml of P12957 + 98.50000ml of W3177 + 0.50000ml of PP24329 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
465	200 PPB Pest/PCB Surrogate Spike	PP24663	06/24/2025	12/24/2025	Abdul Mirza	None	None	Yogesh Patel 07/21/2025

FROM 1.00000ml of P13786 + 999.00000ml of E3944 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3857	5000 PPB PCB SPIKE SOLUTION 2ND SOURCE	PP24799	08/12/2025	02/12/2026	Abdul Mirza	None	None	Yogesh Patel 08/19/2025

FROM 0.50000ml of P12951 + 99.50000ml of E3955 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
84	Pest/PCB Surrogate Stock 20 PPM	PP24805	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P13789 + 9.00000ml of E3962 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
213	AR1221 1000 PPB WORKING SOLUTION	PP24806	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.10000ml of P13375 + 99.40000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
214	AR1232 1000 PPB WORKING SOLUTION	PP24807	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.10000ml of P13879 + 99.40000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
215	AR1242 1000 PPB WORKING STD	PP24808	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.10000ml of P13706 + 99.40000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
216	AR1248 1000 PPB WORKING STD	PP24809	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.10000ml of P13695 + 99.40000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
217	AR1254 1000 PPB WORKING STD	PP24810	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.10000ml of P11592 + 99.40000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1529	AR1262 1000 PPB Working Solution	PP24811	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.10000ml of P13881 + 99.40000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1532	AR1268 1000 PPB Working Solution	PP24812	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.10000ml of P13885 + 99.40000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
404	AR1660 100 PPM Stock Solution 2nd Source	PP24814	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P12952 + 9.00000ml of E3804 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
405	AR1660 1000/100 PPB ICV STD	PP24815	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 98.50000ml of E3962 + 0.50000ml of PP24805 + 1.00000ml of PP24814 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3789	AR1221 1000 PPB WORKING SOL.2ND SOURCE(AGILENT)	PP24816	08/18/2025	09/18/2025	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P13373 + 98.50000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1887	AR1232 1000 PPB Working Sol. 2nd Source	PP24817	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P12700 + 98.50000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1889	AR1242 1000 PPB Working Sol. 2nd Source	PP24818	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P13590 + 98.50000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1890	AR1248 1000 PPB Working Sol. 2nd Source	PP24819	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P13592 + 98.50000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2193	AR1254 100 PPM STOCK SOLUTION	PP24820	08/18/2025	02/15/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P13833 + 9.00000ml of E3963 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3757	AR1262 1000 PPB Working Solution second source	PP24821	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P12703 + 98.50000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3817	AR1268 1000 ppb Working Soln. 2nd source	PP24822	08/18/2025	09/18/2025	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 1.00000ml of P11522 + 98.50000ml of E3962 + 0.50000ml of PP24805 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
203	AR1660 750 PPB STD	PP24823	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.25000ml of W3234 + 0.75000ml of PP24330 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
204	AR1660 500 PPB STD	PP24824	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24330 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
205	AR1660 250 PPB STD	PP24825	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.75000ml of W3234 + 0.25000ml of PP24330 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
206	AR1660 50 PPB STD	PP24826	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.90000ml of W3234 + 0.10000ml of PP24824 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1079	AR1221 750 PPB STD	PP24827	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.25000ml of W3234 + 0.75000ml of PP24806 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
222	AR1221 500 PPB STD	PP24828	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24806 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1080	AR1221 250 PPB STD	PP24829	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.75000ml of W3234 + 0.25000ml of PP24806 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1081	AR1221 50 PPB STD	PP24830	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.90000ml of W3234 + 0.10000ml of PP24828 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1063	AR1232 750 PPB STD	PP24831	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.25000ml of W3234 + 0.75000ml of PP24807 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
223	AR1232 500 PPB STD	PP24832	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24807 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1064	AR1232 250 PPB STD	PP24833	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.75000ml of W3234 + 0.25000ml of PP24807 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1065	AR1232 50 PPB STD	PP24834	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.90000ml of W3234 + 0.10000ml of PP24832 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1067	AR1242 750 PPB STD	PP24835	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.25000ml of W3234 + 0.75000ml of PP24808 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
224	AR1242 500 PPB STD	PP24836	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24808 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1068	AR1242 250 PPB STD	PP24837	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.75000ml of W3234 + 0.25000ml of PP24808 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1069	AR1242 50 PPB STD	PP24838	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.90000ml of W3234 + 0.10000ml of PP24836 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1075	AR1248 750 PPB STD	PP24839	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.25000ml of W3234 + 0.75000ml of PP24809 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
225	AR1248 500 PPB STD	PP24840	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24809 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1076	AR1248 250 PPB STD	PP24841	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.75000ml of W3234 + 0.25000ml of PP24809 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1077	AR1248 50 PPB STD	PP24842	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.90000ml of W3234 + 0.10000ml of PP24840 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1071	AR1254 750 PPB STD	PP24843	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.25000ml of W3234 + 0.75000ml of PP24810 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
226	AR1254 500 PPB STD	PP24844	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24810 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1072	AR1254 250 PPB STD	PP24845	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.75000ml of W3234 + 0.25000ml of PP24810 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1073	AR1254 50 PPB STD	PP24846	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.90000ml of W3234 + 0.10000ml of PP24844 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3753	AR1262 750 PPB STD	PP24847	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.25000ml of W3234 + 0.75000ml of PP24811 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1530	AR1262 500 PPB STD	PP24848	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24811 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3754	AR1262 250 PPB STD	PP24849	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.75000ml of W3234 + 0.25000ml of PP24811 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3755	AR1262 50 PPB STD	PP24850	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.90000ml of W3234 + 0.10000ml of PP24848 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3820	AR1268 750 PPB STD	PP24851	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.25000ml of W3234 + 0.75000ml of PP24812 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1533	AR1268 500 PPB STD	PP24852	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24812 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3821	AR1268 250 PPB STD	PP24853	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.75000ml of W3234 + 0.25000ml of PP24812 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3822	AR1268 50 PPB STD	PP24854	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.90000ml of W3234 + 0.10000ml of PP24852 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
406	AR1660 500 PPB ICV	PP24855	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24815 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3790	AR1221 500 PPB ICV(AGILENT)	PP24856	08/18/2025	09/18/2025	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24816 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1888	AR1232 500 PPB ICV	PP24857	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24817 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1891	AR1242 500 PPB ICV	PP24858	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24818 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1892	AR1248 500 PPB ICV	PP24859	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24819 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1894	AR1254 500 PPB ICV	PP24860	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24381 = Final Quantity: 1.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3758	AR1262 500 PPB STD ICV	PP24861	08/18/2025	02/18/2026	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24821 = Final Quantity: 1.000 ml

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Pest/Pcb STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3823	AR1268 500 PPB STD ICV	PP24862	08/18/2025	09/18/2025	Yogesh Patel	None	None	Abdul Mirza 08/19/2025

FROM 0.50000ml of W3234 + 0.50000ml of PP24822 = Final Quantity: 1.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	9005-05 / Acetone Ultra (cs/4x4L)	24E0761004	02/18/2026	10/01/2024 / Rajesh	09/25/2024 / Rajesh	E3804

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	417203	01/28/2026	07/28/2025 / RUPESH	01/29/2025 / Rajesh	E3875

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)	24H1462005	05/24/2027	06/20/2025 / RUPESH	05/14/2025 / RUPESH	E3944

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)	24H2762008	04/18/2027	07/08/2025 / RITESHKUMAR	07/03/2025 / RUPESH	E3949

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)	25C0362005	04/30/2026	07/08/2025 / RITESHKUMAR	07/03/2025 / RUPESH	E3950

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)	25A2756718	12/31/2028	07/09/2025 / RUPESH	04/28/2020 / RUPESH	E3951

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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)	24H2762008	04/18/2027	07/16/2025 / RUPESH	07/16/2025 / RUPESH	E3955

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)	25C0362005	04/30/2026	08/05/2025 / RUPESH	07/30/2025 / RUPESH	E3962

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)	24H2762008	02/15/2026	08/15/2025 / RUPESH	08/07/2025 / RUPESH	E3963

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)	24i1262013	11/07/2025	05/07/2025 / RUPESH	02/18/2025 / Mohan	M6157

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-382-1 / Aroclor 1268	0006587800	09/18/2025	03/18/2025 / yogesh	02/21/2022 / Ankita	P11522

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	A0175403	02/18/2026	08/18/2025 / yogesh	03/18/2022 / Abdul	P11592

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards,Inc	91867 / Aroclor 1232 100 ug/mL	020823	02/18/2026	08/18/2025 / yogesh	08/07/2023 / Ankita	P12700

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards,Inc	x9166 / Aroclor 1262 100 ug/mL	060523	02/18/2026	08/18/2025 / yogesh	08/07/2023 / Ankita	P12703

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	20064 / Aroclor 1016/1260	022023	02/12/2026	08/12/2025 / Abdul	12/20/2023 / Yogesh	P12951

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	20064 / Aroclor 1016/1260	022023	02/18/2026	08/18/2025 / yogesh	12/20/2023 / Yogesh	P12952

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards, Inc.	/ Arochlor 1254	121823	04/03/2025	10/03/2024 / Ankita	12/20/2023 / Yogesh	P12957

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	A0206810	09/18/2025	03/18/2025 / yogesh	04/22/2024 / Abdul	P13356

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-292-1 / Aroclor 1221	0006783205	09/18/2025	03/18/2025 / yogesh	05/02/2024 / Ankita	P13373

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	A0207511	02/18/2026	08/18/2025 / yogesh	05/03/2024 / Abdul	P13375

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-312-1 / Aroclor 1242	0006665550	02/18/2026	08/18/2025 / yogesh	10/14/2024 / Ankita	P13590

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Agilent Technologies	PP-342-1 / Aroclor 1248	0006726317	02/18/2026	08/18/2025 / yogesh	10/14/2024 / Ankita	P13592

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	A0214733	02/18/2026	08/18/2025 / yogesh	10/17/2024 / yogesh	P13695

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	A0210629	09/18/2025	03/18/2025 / yogesh	10/17/2024 / yogesh	P13697

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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	A0210232	02/18/2026	08/18/2025 / yogesh	10/17/2024 / yogesh	P13706

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	A0214495	12/24/2025	06/24/2025 / Abdul	11/19/2024 / Ankita	P13786

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	A0214495	02/18/2026	08/18/2025 / yogesh	11/19/2024 / Ankita	P13789

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	a0217391	02/18/2026	08/18/2025 / yogesh	12/09/2024 / Ankita	P13833

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	A0219655	02/18/2026	08/18/2025 / yogesh	01/23/2025 / Ankita	P13879

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	A0217041	02/18/2026	08/18/2025 / yogesh	01/23/2025 / Ankita	P13881

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CHEMICAL RECEIPT LOG BOOK

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	A0217264	02/18/2026	08/18/2025 / yogesh	01/23/2025 / Ankita	P13885

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Absolute Standards,Inc	/ CLP pestiside surrogate standard	051209	05/12/2014	07/23/2010 / rpatel	07/29/2009 / rpatel	P2287

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	07/03/2029	07/03/2024 / Iwona	07/03/2024 / Iwona	W3112

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)	24G1962003	08/22/2025	02/03/2025 / jignesh	01/31/2025 / jignesh	W3177

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)	25C0362005	04/30/2026	07/28/2025 / jignesh	07/25/2025 / jignesh	W3234

Acetone
CMOS

avantor™ | J.T.Baker®

Material No.: 9005-05
Batch No.: 24E0761004
Manufactured Date: 2024-05-02
Retest Date: 2029-05-01
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	≥ 99.5 %	99.8 %
Color (APHA)	≤ 10	< 5
Residue after Evaporation	≤ 5 ppm	< 1 ppm
Titrable Acid (µeq/g)	≤ 0.3	0.1
Titrable Base (µeq/g)	≤ 0.5	0.1
Water (H_2O)	≤ 0.5 %	0.1 %
Solubility in H_2O	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	3.6 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 9/25/24

E 3804

Acetone
CMOS

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Material No.: 9005-05
Batch No.: 24E0761004

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	< 1.0 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	7.9 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater (Rion KS42AF)	≤ 100 par/ml	8 par/ml
Particle Count – 1.0 µm and greater (Rion KS42AF)	≤ 8 par/ml	2 par/ml

>>> Continued on page 3 >>>

Acetone
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Material No.: 9005-05
Batch No.: 24E0761004

Test	Specification	Result

For Microelectronic Use

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

Michelle Bales
Sr. Manager, Quality Assurance

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 :	Na_2SO_4
SPECIFICATION NUMBER:	6399	RELEASE DATE:	MAY/23/2024
LOT NUMBER :	417203		

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na_2SO_4)	Min. 99.0%	99.8 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.2
Insoluble matter	Max. 0.01%	0.001 %
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%	0.001 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.001 %
Extraction-concentration suitability	Passes test	Passes test
Appearance	Passes test	Passes test
Identification	Passes test	Passes test
Solubility and foreing 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%	96.2 %
Through US Standard No. 60 sieve	Max. 5%	3.5 %
Through US Standard No. 100 sieve	Max. 10%	0.1 %

COMMENTS

QC: PhC Irma Belmares

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

E 3875

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

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Material No.: 9254-03
Batch No.: 24H1462005
Manufactured Date: 2024-05-24
Expiration Date:2027-05-24
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected forwater)	>= 99.4 %	99.8 %
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	0.2
Titrable Base (µeq/g)	<= 0.6	<0.1
Water (H_2O)	<= 0.5 %	0.2 %
FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL)	<= 5	<1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	1

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

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E3944

JCroak

Jamie Croak
Director Quality Operations, Bioscience Production

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

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9254-03
Batch No.: 24H2762008
Manufactured Date: 2024-04-18
Expiration Date:2027-04-18
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected forwater)	>= 99.4 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.0 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	<= 0.3	0.2
Titrable Base (µeq/g)	<= 0.6	<0.1
Water (H_2O)	<= 0.5 %	<0.1 %
FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	1

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

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

Read on 7/2/25

E3949

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

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

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9262-03
Batch No.: 25C0362005
Manufactured Date: 2025-01-29
Expiration Date:2026-04-30
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 HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	6
ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL)	<= 5	5
Assay (Total Saturated C_6 Isomers) (byGC, corrected for water)	>= 99.5 %	100.0 %
Assay (as n-Hexane) (by GC, correctedfor water)	>= 95 %	100 %
Color (APHA)	<= 10	10
Residue after Evaporation	<= 1.0 ppm	0.1 ppm
Substances Darkened by H_2SO_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: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

3950

Read on 7/02/25

Jamie Croak
Director Quality Operations, Bioscience Production

VWR®
BDH® CHEMICALS

Certificate of Analysis

Material	BDH9274-2.5KG
Material Description	BDH SAND STDD OTTAWA W+I 2.5KG
Grade	NOT APPLICABLE
Batch	25A2756718
Reassay Date	12/31/2028
CAS Number	14808-60-7
Molecular Formula	SiO2
Molecular Mass	60.09
Date of Manufacture	12/05/2024
Storage	Room Temperature

Characteristics	Specifications	Measured Values
Appearance	Beige granules.	Beige granules.
Moisture	<= 0.1 %	0.1 %
Particle Size 30-40 mesh	>= 80 %	99 %
CUSTOMER PART # BDH9274-2.5KG		

Received on 7/9/25.

E3951

Internal ID #: 793

Signature	Additional Information
We certify that this batch conforms to the specifications listed above.	Analysis may have been rounded to significant digits in specification limits
This document has been electronically produced and is valid without a signature.	Product meets analytical specifications of the grades listed.
Leona Edwardson, Quality Control Sr. Manager - Solon VWR Chemicals, LLC. 28600 Fountain Parkway, Solon OH 44139 USA	

PO: PO2-2575 PRODUCT CODE: SHIP DATE: 6/20/25

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9254-03
Batch No.: 24H2762008
Manufactured Date: 2024-04-18
Expiration Date:2027-04-18
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected forwater)	>= 99.4 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.0 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	<= 0.3	0.2
Titrable Base (µeq/g)	<= 0.6	<0.1
Water (H_2O)	<= 0.5 %	<0.1 %
FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	1

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

Recieved on 7/16/25

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E 3955

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

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

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9262-03
Batch No.: 25C0362005
Manufactured Date: 2025-01-29
Expiration Date:2026-04-30
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 HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	6
ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL)	<= 5	5
Assay (Total Saturated C_6 Isomers) (byGC, corrected for water)	>= 99.5 %	100.0 %
Assay (as n-Hexane) (by GC, correctedfor water)	>= 95 %	100 %
Color (APHA)	<= 10	10
Residue after Evaporation	<= 1.0 ppm	0.1 ppm
Substances Darkened by H_2SO_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

Recieved on 7/30/25

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

E3962

JCroak

Jamie Croak
Director Quality Operations, Bioscience Production

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

PO: PO2-2575 PRODUCT CODE: SHIP DATE: 6/20/25

Acetone,
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9254-03
Batch No.: 24H2762008
Manufactured Date: 2024-04-18
Expiration Date:2027-04-18
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected forwater)	>= 99.4 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.0 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	<= 0.3	0.2
Titrable Base (µeq/g)	<= 0.6	<0.1
Water (H_2O)	<= 0.5 %	<0.1 %
FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	1

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

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

Recieved on 8/6/25

E 3963

J Croak
Jamie Croak
Director Quality Operations, Bioscience Production

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

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

avantor | J.T.Baker

M615 MB

Material No.: 9673-33
Batch No.: 24I1262013
Manufactured Date: 2024-08-07
Retest Date:2029-08-06
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS - Assay (H_2SO_4)	95.0 - 98.0 %	96.2 %
Appearance	Passes Test	Passes Test
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	<1 ppm
ACS - Substances Reducing Permanganate(as SO2)	<= 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	<5.0 ppb
Arsenic & 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	<1.0 ppb
Trace Impurities - Chromium (Cr)	<= 6.0 ppb	<1.0 ppb
Trace Impurities - Cobalt (Co)	<= 0.5 ppb	<0.3 ppb
Trace Impurities - Copper (Cu)	<= 1.0 ppb	<1.0 ppb
Trace Impurities - Gold (Au)	<= 10.0 ppb	<5.0 ppb
Heavy Metals (as Pb)	<= 500.0 ppb	<100.0 ppb
Trace Impurities - Iron (Fe)	<= 50.0 ppb	<1.0 ppb
Trace Impurities - Lead (Pb)	<= 0.5 ppb	<0.5 ppb
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	<1.0 ppb
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	<1.0 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	<10.0 ppb
Trace Impurities - Selenium (Se)	<= 50.0 ppb	7.2 ppb
Trace Impurities - Silicon (Si)	<= 100.0 ppb	12.8 ppb
Trace Impurities - Silver (Ag)	<= 1.0 ppb	<1.0 ppb

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

avantor™ | J.T.Baker

Material No.: 9673-33
Batch No.: 24I1262013

Test	Specification	Result
Trace Impurities - Sodium (Na)	<= 500.0 ppb	<5.0 ppb
Trace Impurities - Strontium (Sr)	<= 5.0 ppb	<1.0 ppb
Trace Impurities - Tin (Sn)	<= 5.0 ppb	1.1 ppb
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	<1.0 ppb

For Laboratory,Research,or Manufacturing Use

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

J Croak

Jamie Croak
Director Quality Operations, Bioscience Production

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

P11518 ↓ P11522 AJ 02/21/22

Agilent

Certificate of Analysis

Product Name: Aroclor 1268 Standard

Product Number: PP-382-1 **Lot Issue Date:** 09-Feb-2021

Lot Number: 0006587800 **Expiration Date:** 31-Mar-2029

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 1268	011100-14-4	RM00937	100.0 ± 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/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 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:

M Bourgeois

Monica Bourgeois
QMS Representative

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
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

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

ANAB ACCREDITED TESTING LABORATORY
ISO 17025 Cert No. AT-1937

250 Smith Street North Kingstown, Rhode Island 02852 www.agilent.com/quality

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
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. : 32011 **Lot No.:** A0175403

Description : Aroclor® 1254 Standard

Aroclor® 1254 Standard 1,000 µg/mL, Hexane, 1mL/ampul

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

Expiration Date : November 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 1254	1,000.7 µg/mL	+/- 5.9437 µg/mL	Gravimetric
	CAS # 11097-69-1 (Lot 124-191-B)		+/- 31.7284 µg/mL	Unstressed
	Purity ----%		+/- 41.4406 µg/mL	Stressed

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

P11588 ↓ P11592 | 5

AR 04/30/2022

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

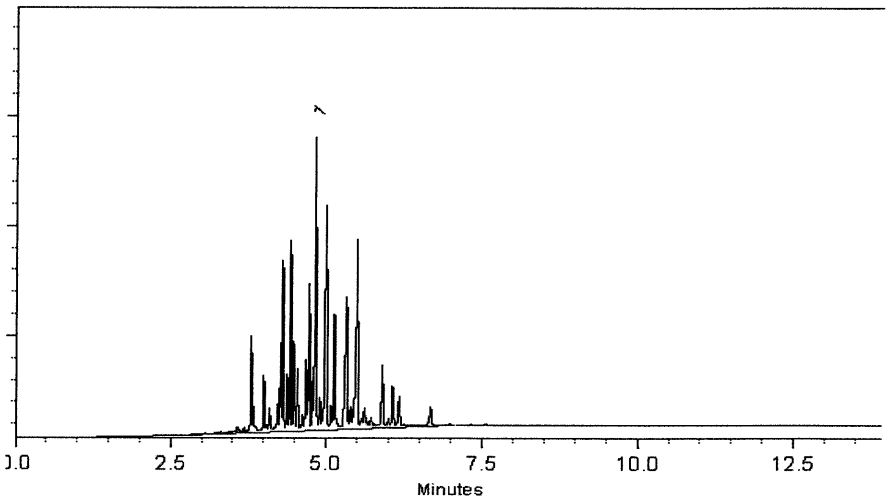
Carrier Gas:
helium-constant pressure 20 psi.

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.

Cathleen Soltis - Mix Technician

Date Mixed: 15-Aug-2021 **Balance:** 1128360905

Alexis Shelow - Operations Tech I

Date Passed: 17-Aug-2021

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

P11588 | (5)
1
P11592

AR
04/30/22

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

Certified Refere

CERTIFIED WEIGHT REPORT

Part Number:	91867
Lot Number:	020823
Description:	WP 037 - Aroclor 1232 PCB Technical Mixture
Expiration Date:	020833
Recommended Storage:	Ambient (20 °C)
Nominal Concentration (µg/mL):	100
NIST Test ID#:	6UTB

Solvent(
Aceton

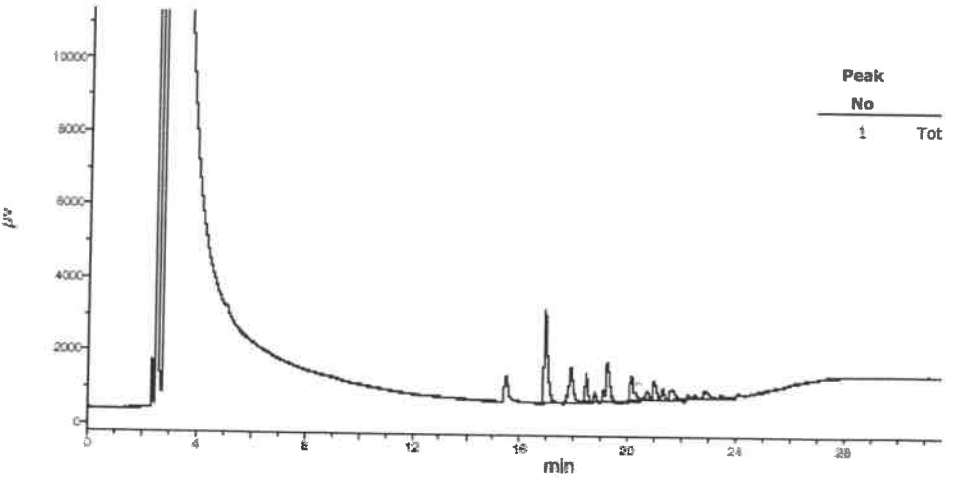
5E-05 Balance Uncertainty
0.057 Flask Uncertainty

Weight(s) shown below were combined and diluted to (mL): 100.0

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g
1. Aroclor 1232	17	45-6A	100	100	0.5	0.01000

- 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 Measure Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Comments
GC3-M1 Analysis by Melissa Stonier
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 = Edaq Channel 1
Standard injection =1.5µL, Range=3



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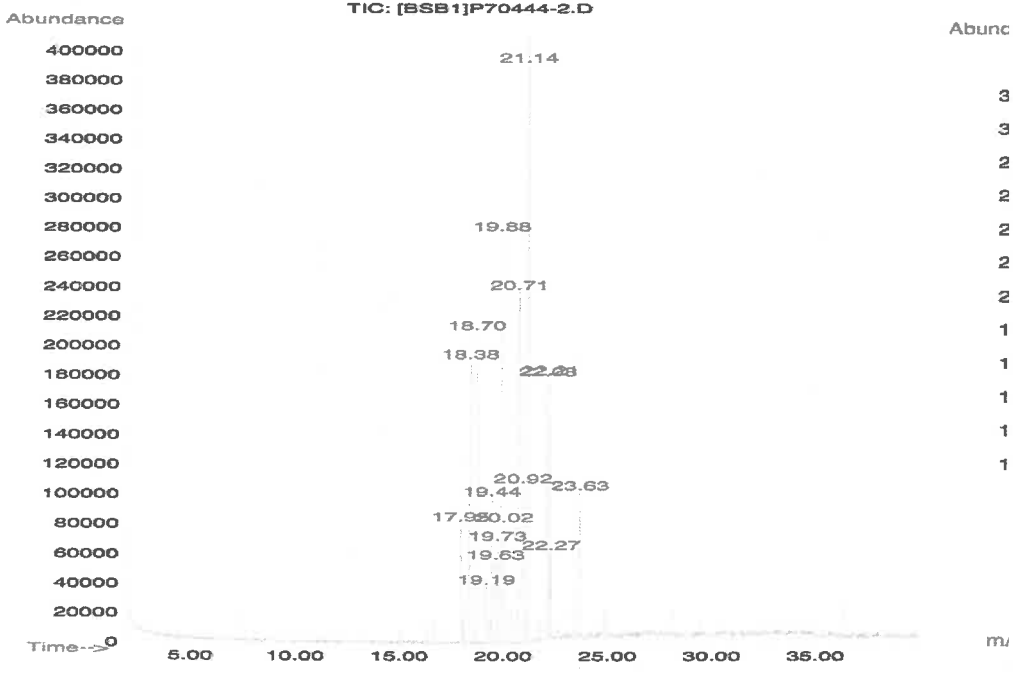
Certified Referen

CERTIFIED WEIGHT REPORT

Part Number:	X9166	**Solvent(s):**	
Lot Number:	060523	Methanol	E
Description:	Aroclor 1262 Appendix IX Compound		
Expiration Date:	060533		
Recommended Storage:	Ambient (20 °C)		
Nominal Concentration (µg/mL):	100		
NIST Test ID#:	6UTB	5E-05	Balance Uncertainty
Volume(s) shown below were combined and diluted to (mL):	20.0	0.002	Flask Uncertainty

Compound	Part Number	Lot Number	Dil. Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Co
1. Aroclor 1262	70444	080322	0.10	2.00	0.017	

Method GC7MSD-7.M: Column:(30m X 0.25mm ID X 0.25µm film thickn
min.), Rate = 8°C/min., Injector B= 200°C, Detector B = 290°C.



- The certified value is the concentration calculated from gravimetric and volumetric me
- Standards are prepared gravimetrically using balances that are calibrated with weight
- 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 appro
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

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800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT

Part Number:	20064
Lot Number:	022023
Description:	CLP PCB'S - Aroclor Mix
	Aroclors 1016 & 1260
Expiration Date:	022033
Recommended Storage:	Ambient (20 °C)
Nominal Concentration (µg/mL):	1000
NIST Test ID#:	6UTB

Solvent(s):	Lot#
Hexane	273615

5E-05 Balance Uncertainty

Weight(s) shown below were combined and diluted to (mL): 200.0 0.010 Flask Uncertainty

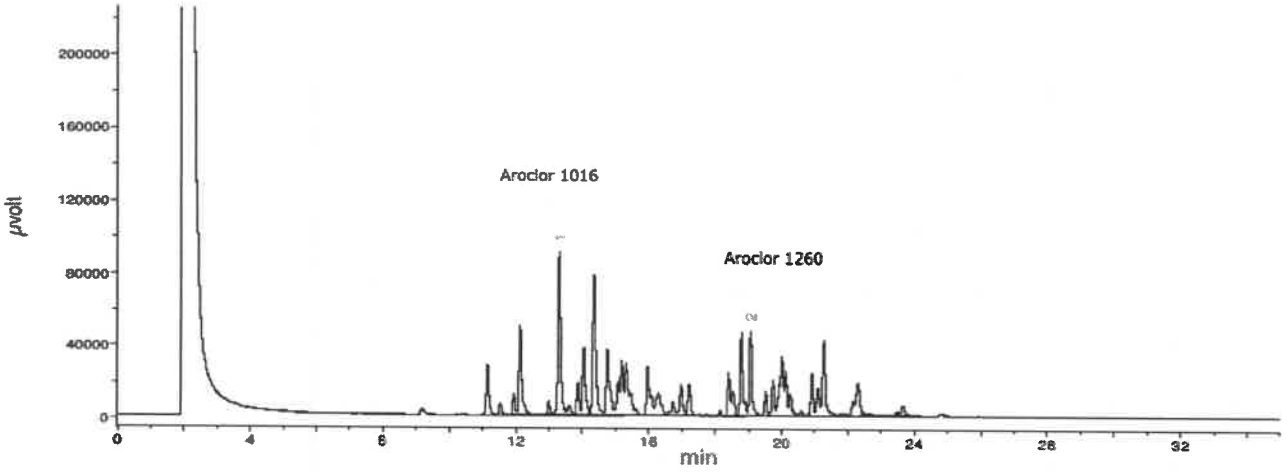
Formulated By:	Benson Chan	022023 DATE
Reviewed By:	Pedro L. Rentas	022023 DATE

P12946 ↓ P12955 — Y.P. 12/20/23

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Aroclor 1016	15	020491JC	1000	100	0.2	0.20004	0.20060	1002.8	4.0	12674-11-2	N/A	N/A
2. Aroclor 1260	21	020491JC	1000	100	0.2	0.20004	0.20081	1003.9	4.0	11096-82-5	0.5mg/m3	orl-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 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.
- 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 Stonier
Column ID SPB-608 30 meter X 0.53mm X5µm film thickness
Flow rates: Helium (carrier) = 5mL/min, Helium (make-up) = 25mL/min
Hydogen (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 = Edaq Channel 1
Standard injection =1.5µL, Range=3



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Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT

Part Number:	20064
Lot Number:	022023
Description:	CLP PCB'S - Aroclor Mix
	Aroclors 1016 & 1260
Expiration Date:	022033
Recommended Storage:	Ambient (20 °C)
Nominal Concentration (µg/mL):	1000
NIST Test ID#:	6UTB

Solvent(s):	Lot#
Hexane	273615

5E-05 Balance Uncertainty

Weight(s) shown below were combined and diluted to (mL): 200.0 0.010 Flask Uncertainty

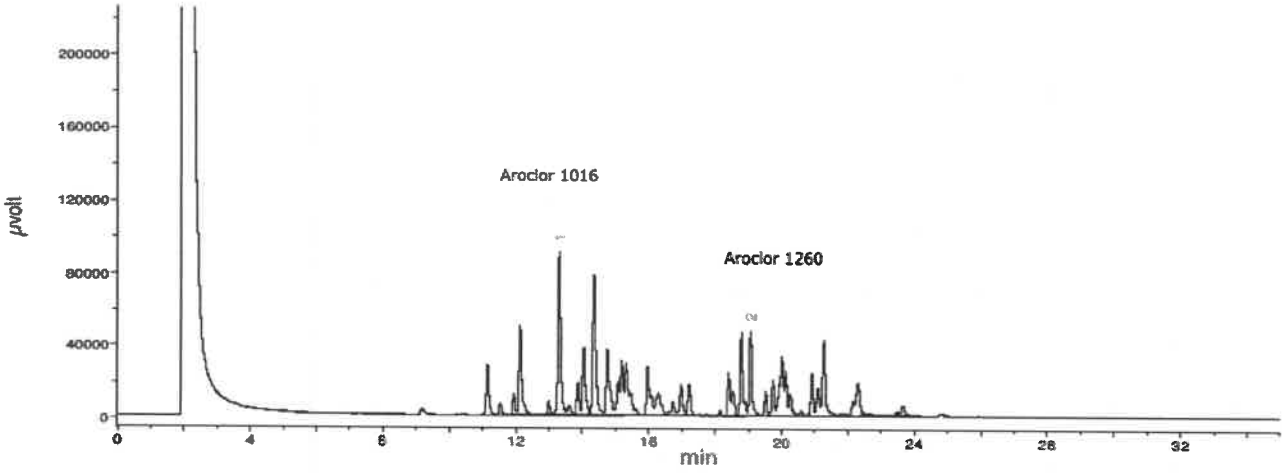
Formulated By:	Benson Chan	022023 DATE
Reviewed By:	Pedro L. Rentas	022023 DATE

P12946 ↓ P12955 — Y.P. 12/20/23

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Aroclor 1016	15	020491JC	1000	100	0.2	0.20004	0.20060	1002.8	4.0	12674-11-2	N/A	N/A
2. Aroclor 1260	21	020491JC	1000	100	0.2	0.20004	0.20081	1003.9	4.0	11096-82-5	0.5mg/m3	orl-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 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.
- 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 Stonier
Column ID SPB-608 30 meter X 0.53mm X5µm film thickness
Flow rates: Helium (carrier) = 5mL/min, Helium (make-up) = 25mL/min
Hydogen (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 = Edaq Channel 1
Standard injection =1.5µL, Range=3



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www.absolutestandards.com

Certified Reference Material CRM

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

CERTIFIED WEIGHT REPORT

Part Number:	99139	**Solvent(s):**	**Lot#**	
Lot Number:	121823	Iso-octane	82227	
Description:	Aroclor 1254			
Expiration Date:	121833			
Recommended Storage:	Ambient (20 °C)			
Nominal Concentration (µg/mL):	100			
NIST Test ID#:	6UTB	5E-05	Balance Uncertainty	
Volume(s) shown below were combined and diluted to (mL):		20.0	0.003	Flask Uncertainty

		121823
Formulated By:	Anthony Mahoney	DATE
		121823
Reviewed By:	Pedro L. Rentas	DATE

P12956 & P12957 Y.P. 12/20/23

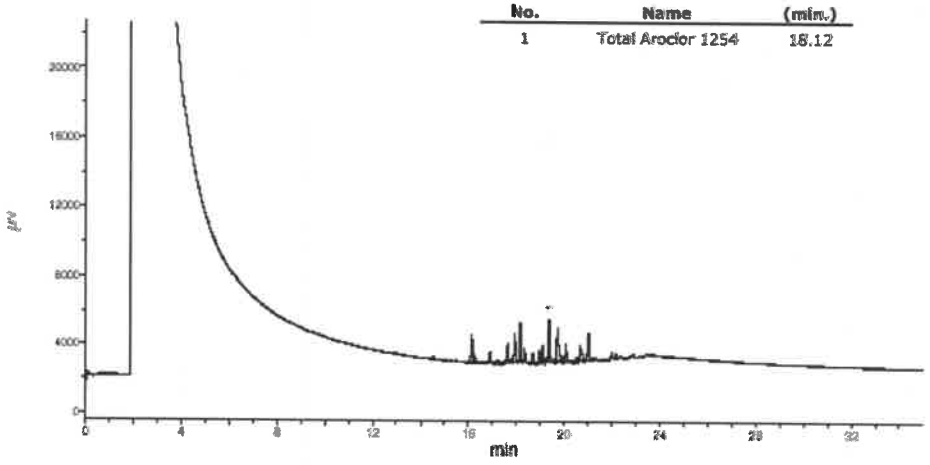
Note: Aroclor 1254 is a mix of isomers.

Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc.(µg/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Aroclor 1254	79100	121823	0.10	2.00	0.017	1003.3	100.1	1.8	11097-69-1	0.5mg/m3 (skin)	orl-rat 1295mg/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 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.
- 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 Stonier
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 = Edaq Channel 1
Standard injection =1.5µL, Range=3

Peak No.	Name	FID RT (min.)
1	Total Aroclor 1254	18.12



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Fax: 1-814-353-1309

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ACCREDITED 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.

P13348 ↓ P13357 (10)

04/25/2024

Catalog No. : 32000 **Lot No.:** A0206810

Description : Pesticide Surrogate Mix

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

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

Expiration Date : April 30, 2030 **Storage:** 10°C or colder

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

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2,4,5,6-Tetrachloro-m-xylene	877-09-8	RP220407	99%	200.3 µg/mL	+/- 11.1143
2	Decachlorobiphenyl (BZ# 209)	2051-24-3	30638	99%	200.6 µg/mL	+/- 11.1298

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

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

Tech Tips:

Decachlorobiphenyl has poor solubility in most organic solvents. The maximum concentration that can be prepared in acetone, hexane, or isooctane is 200µg/mL. Temperature will affect the solubility as well. Storing solutions at reduced temperatures will cause decachlorobiphenyl to precipitate.

Products containing decachlorobiphenyl must be sonicated for a minimum of 10 minutes prior to opening the ampul. Because each ultrasonic bath operates at a different energy level, 10 minutes is a guideline only. Longer sonication time will not affect product quality.

These precautions apply to working solutions prepared in your laboratory as well. The amount of compound that precipitates depends on concentration AND temperature. If you store your standards at a temperature lower than 4°C (even dilute solutions), allow extra sonication time.

Quality Confirmation Test

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

Carrier Gas:
hellum-constant pressure 20 psi.

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

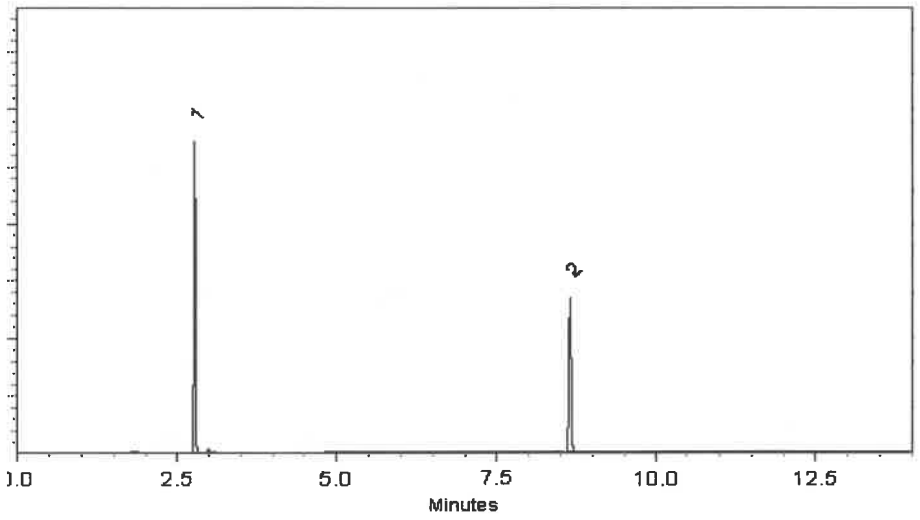
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
10 ml/min.

Inj. Vol
1µl



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

Laith Clemente - Operations Technician I

Date Mixed: 22-Jan-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 24-Jan-2024

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

P13348 (10)

↓

P13357

04/25/2025

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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.:** A0207511

Description : Aroclor® 1221 Standard

Aroclor® 1221 Standard 1,000 µg/mL, Hexane, 1mL/ampul

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

Expiration Date : May 31, 2030 **Storage:** 25°C nominal

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

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Aroclor 1221	11104-28-2	13192500	----%	1,002.7 µg/mL	+/- 55.6424

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

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

P 13374 (2)
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P 13375
1

05/6/2024

Quality Confirmation Test

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.)

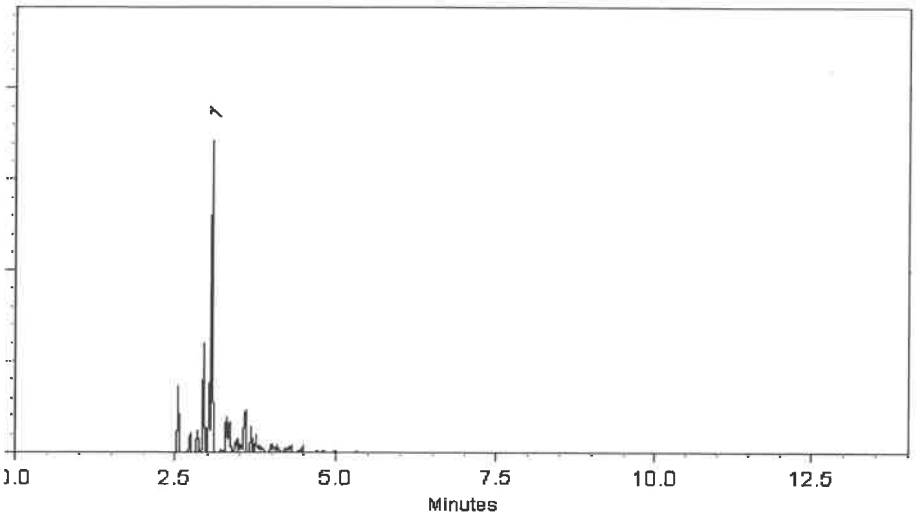
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
10 ml/min.

Inj. Vol
1µl



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

Laith Clemente - Operations Technician I **Date Mixed:** 06-Feb-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC **Date Passed:** 08-Feb-2024

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

P13374 ②
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P13375

05/6/2024

ISO 17034

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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

	CERTIFIED VALUES				
Component Name	Concentration		Expanded Uncertainty	CAS#	Analyte Lot
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.

P13589
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P13590

AJ
10/14/24

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

Agilent
Trusted Answers

ISO 17034

Reference Material Certificate

Product Information Sheet

Product Name: Aroclor 1248 Standard
Product Number: PP-342-1
Storage Conditions: Store at Room Temperature (15° to 30°C).

Lot Number: 0006726317
Lot Issue Date: 27-Jan-2023
Expiration Date: 28-Feb-2031

Component Name	Concentration		Uncertainty	CAS#	Analyte Lot
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 (RM) 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. Purity values are taken from approved vendor raw material certificates.

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 (RM) 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 (RM) 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 (RM) 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.

P13591
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P13592

AJ
10/14/2024

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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

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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. : 32010 **Lot No.:** A0214733

Description : Aroclor® 1248 Standard

Aroclor® 1248 Standard 1,000µg/mL, Hexane, 1mL/ampul

P13695
P13696
Y.P.
10/17/24

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

Expiration Date : November 30, 2030 **Storage:** 25°C nominal

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

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Aroclor 1248	12672-29-6	15242800	----%	1,005.0 µg/mL	+/- 55.7700

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

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

Quality Confirmation Test

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.)

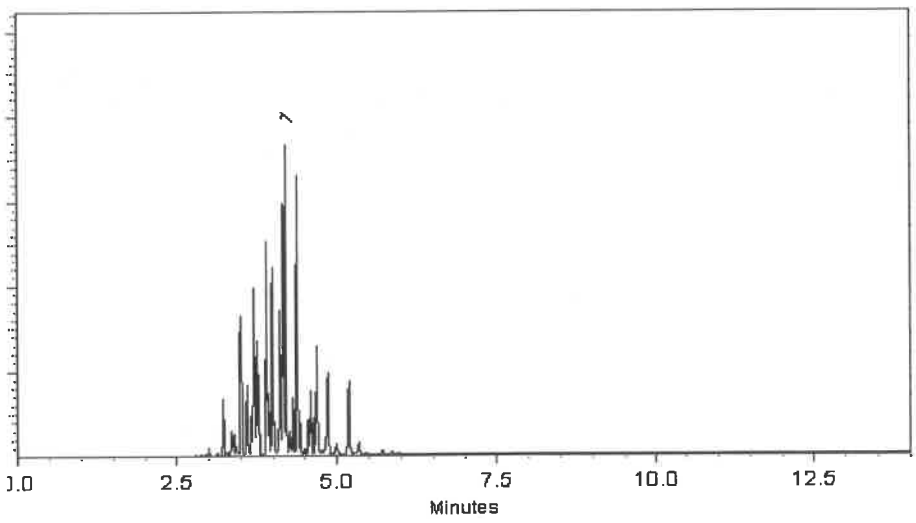
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
10 ml/min.

Inj. Vol
0.2µl



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.

Rebecca Gingerich - Operations Tech II

Date Mixed: 02-Aug-2024 **Balance Serial #** C322230531

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 13-Aug-2024

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

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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ACCREDITED 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. : 32039 **Lot No.:** A0210629

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 : July 31, 2030 **Storage:** 25°C nominal

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

P13697 ↓ P13701 } Y.P. 10/19/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Aroclor 1016	12674-11-2	07	----%	1,005.3 µg/mL	+/- 55.7809
2	Aroclor 1260	11096-82-5	1320657	----%	1,000.0 µg/mL	+/- 55.4850

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

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

Quality Confirmation Test

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.)

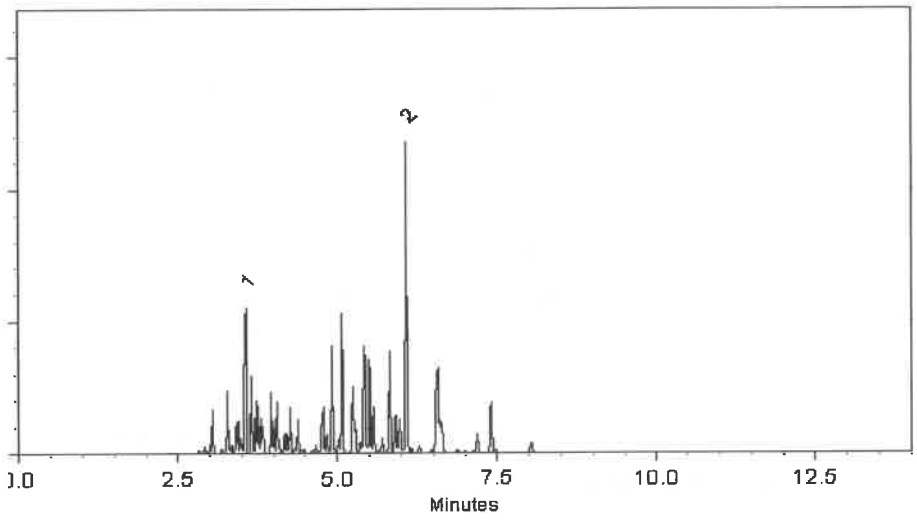
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
10 ml/min.

Inj. Vol
0.2µl



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.

Laith Clemente - Operations Technician I

Date Mixed: 22-Apr-2024 **Balance Serial #** B442140311

Dillan Murphy - Operations Technician I

Date Passed: 24-Apr-2024

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

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

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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. : 32009 **Lot No.:** A0210232

Description : Aroclor® 1242 Standard

Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul

P13706
P13707
Y.P. 10/17/24

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

Expiration Date : July 31, 2030 **Storage:** 25°C nominal

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

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Aroclor 1242	53469-21-9	01141	----%	1,000.7 µg/mL	+/- 55.5295

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

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

Quality Confirmation Test

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.)

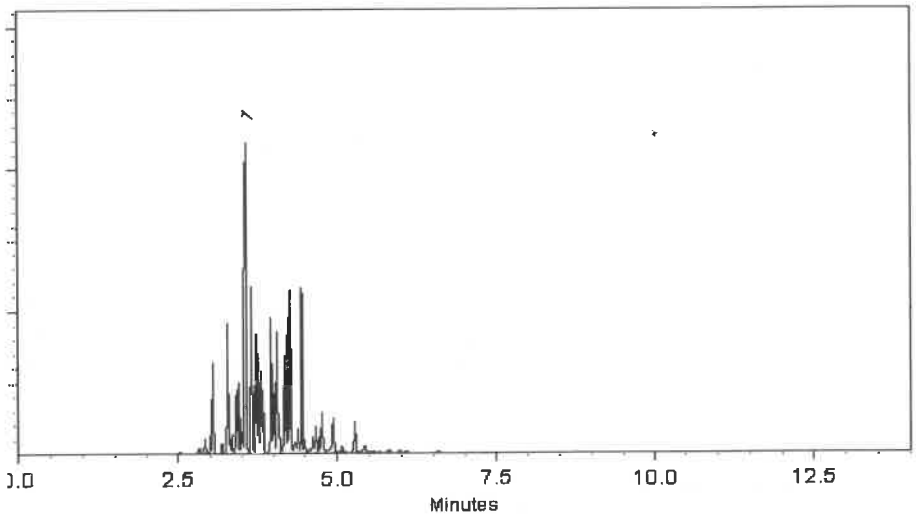
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
10 ml/min.

Inj. Vol
0.2µl



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.

Amanda Miller - Operations Tech III - ARM QC

Date Mixed: 11-Apr-2024 **Balance Serial #** B442140311

Christie Mills - Operations Lead Tech - ARM QC

Date Passed: 17-Apr-2024

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

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

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

RESTEK

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CERTIFIED REFERENCE MATERIAL

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chromatographic plus

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Reference Material Producer
Certificate #3222.01

ACCREDITED
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.:** A0214495

Description : Pesticide Surrogate Mix

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

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

Expiration Date : October 31, 2030 **Storage:** 10°C or colder

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

P19785
↓
P19789
AJ
11/19/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2,4,5,6-Tetrachloro-m-xylene	877-09-8	RP220407	99%	200.2 µg/mL	+/- 11.1087
2	Decachlorobiphenyl (BZ# 209)	2051-24-3	30679	99%	201.4 µg/mL	+/- 11.1753

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

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

Tech Tips:

Decachlorobiphenyl has poor solubility in most organic solvents. The maximum concentration that can be prepared in acetone, hexane, or isooctane is 200µg/mL. Temperature will affect the solubility as well. Storing solutions at reduced temperatures will cause decachlorobiphenyl to precipitate.

Products containing decachlorobiphenyl must be sonicated for a minimum of 10 minutes prior to opening the ampul. Because each ultrasonic bath operates at a different energy level, 10 minutes is a guideline only. Longer sonication time will not affect product quality.

These precautions apply to working solutions prepared in your laboratory as well. The amount of compound that precipitates depends on concentration AND temperature. If you store your standards at a temperature lower than 4°C (even dilute solutions), allow extra sonication time.

Quality Confirmation Test

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.)

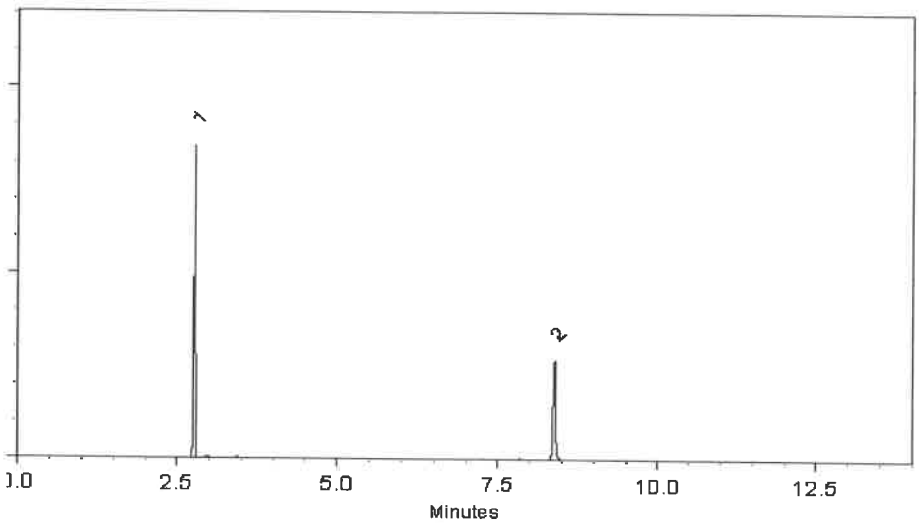
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
10 ml/min.

Inj. Vol
1µl



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

Aaron Enyart - Operations Tech I

Date Mixed: 29-Jul-2024 **Balance Serial #** B345965662

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 01-Aug-2024

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. : 32000 **Lot No.:** A0214495

Description : Pesticide Surrogate Mix

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

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

Expiration Date : October 31, 2030 **Storage:** 10°C or colder

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

P19785
↓
P19789
AJ
11/19/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2,4,5,6-Tetrachloro-m-xylene	877-09-8	RP220407	99%	200.2 µg/mL	+/- 11.1087
2	Decachlorobiphenyl (BZ# 209)	2051-24-3	30679	99%	201.4 µg/mL	+/- 11.1753

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

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

Tech Tips:

Decachlorobiphenyl has poor solubility in most organic solvents. The maximum concentration that can be prepared in acetone, hexane, or isooctane is 200µg/mL. Temperature will affect the solubility as well. Storing solutions at reduced temperatures will cause decachlorobiphenyl to precipitate.

Products containing decachlorobiphenyl must be sonicated for a minimum of 10 minutes prior to opening the ampul. Because each ultrasonic bath operates at a different energy level, 10 minutes is a guideline only. Longer sonication time will not affect product quality.

These precautions apply to working solutions prepared in your laboratory as well. The amount of compound that precipitates depends on concentration AND temperature. If you store your standards at a temperature lower than 4°C (even dilute solutions), allow extra sonication time.

Quality Confirmation Test

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.)

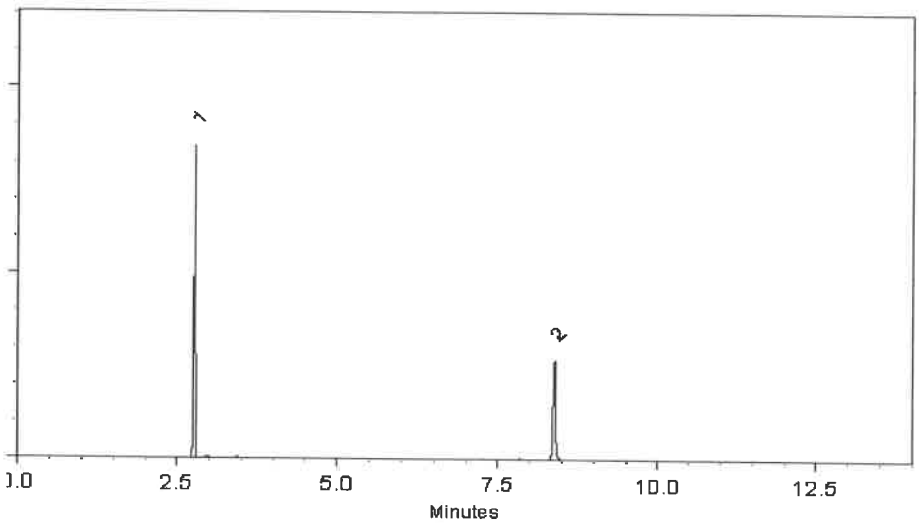
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
10 ml/min.

Inj. Vol
1µl



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

Aaron Enyart - Operations Tech I

Date Mixed: 29-Jul-2024 **Balance Serial #** B345965662

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 01-Aug-2024

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.:** A0217391

Description : Aroclor® 1254 Standard

Aroclor® 1254 Standard 1,000 µg/mL, Hexane, 1mL/ampul

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

Expiration Date : January 31, 2031 **Storage:** 25°C nominal

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

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Aroclor 1254	11097-69-1	124-191-B	----%	1,004.7 µg/mL	+/- 55.7515

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

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

P13830
↓
P13832
↓
P13834

AJ
12/09/24

Quality Confirmation Test

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.)

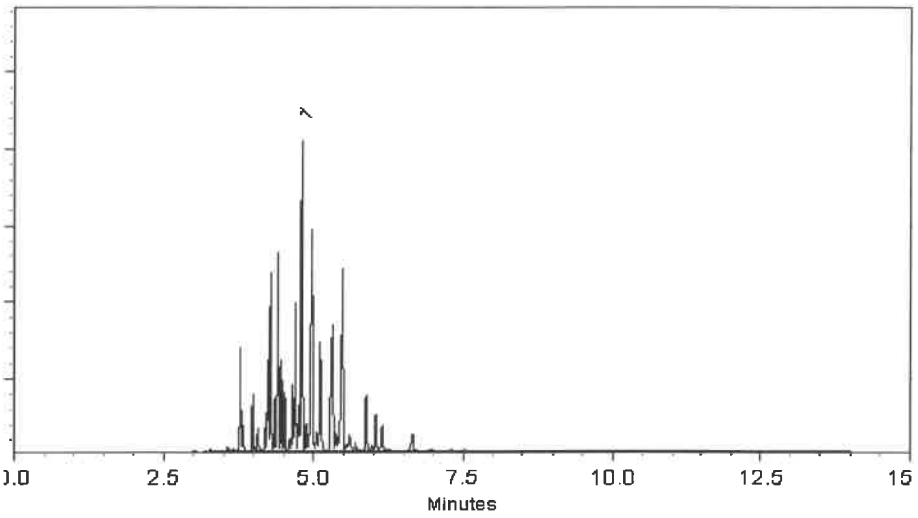
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
300 ml/min.

Inj. Vol
1µl



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

Michael Maye - Operations Tech I

Date Mixed: 02-Oct-2024 **Balance Serial #** C322230531

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 07-Oct-2024

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. : 32008 **Lot No.:** A0219655

Description : Aroclor® 1232 Standard

Aroclor® 1232 Standard 1,000 µg/mL, Hexane, 1mL/ampul

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

Expiration Date : March 31, 2031 **Storage:** 25°C nominal

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

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Aroclor 1232	11141-16-5	15665-01	----%	1,007.0 µg/mL	+/- 55.8810

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

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

P13878
↓
P13880

AJ
01/28/25

Quality Confirmation Test

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.)

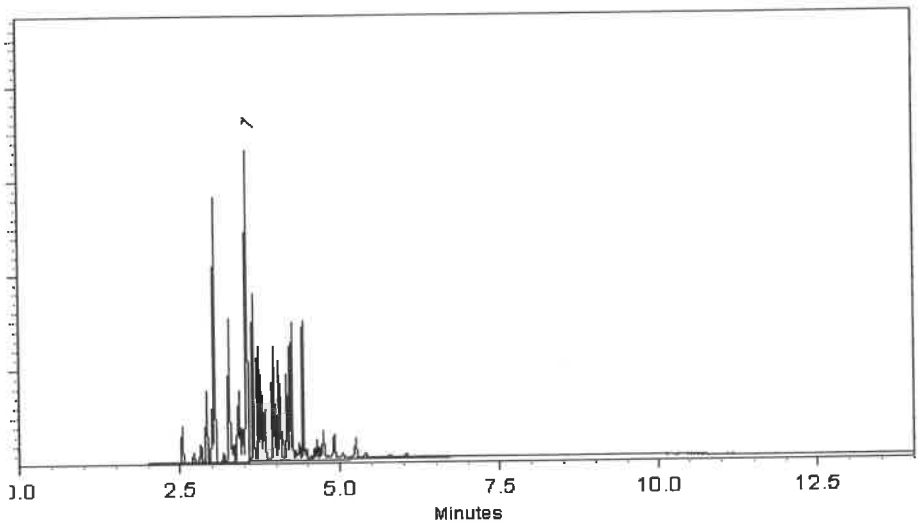
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
10 ml/min.

Inj. Vol
1µl



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

Michael Maye - Operations Tech I

Date Mixed: 02-Dec-2024 **Balance Serial #** C322230531

Brittany Federinko - Operations Tech I

Date Passed: 05-Dec-2024

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. : 32409 **Lot No.:** A0217041

Description : Aroclor® 1262 Standard

Aroclor® 1262 Standard 1,000 µg/mL, 1mL/ampul, Hexane

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

Expiration Date : December 31, 2030 **Storage:** 25°C nominal

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

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Aroclor 1262	37324-23-5	10849100	----%	1,000.0 µg/mL	+/- 55.4925

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

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

P13881

AJ
01/28/25

Quality Confirmation Test

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.)

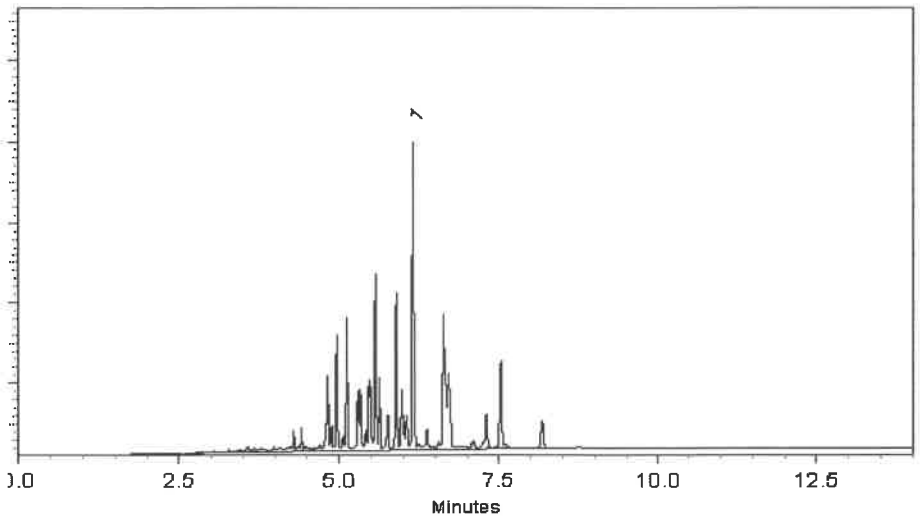
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
300 ml/min.

Inj. Vol
0.2µl



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.

Rebecca Gingerich - Operations Tech II

Date Mixed: 25-Sep-2024 **Balance Serial #** C322230531

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 30-Sep-2024

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

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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. : 32410 **Lot No.:** A0217264

Description : Aroclor® 1268 Standard

Aroclor® 1268 Standard 1,000 µg/mL, 1mL/ampul, Hexane

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

Expiration Date : January 31, 2031 **Storage:** 25°C nominal

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

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Aroclor 1268	11100-14-4	12353400	----%	1,009.8 µg/mL	+/- 56.0364

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

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

P13884
↓
P13886

AJ
01/28/25

Quality Confirmation Test

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.)

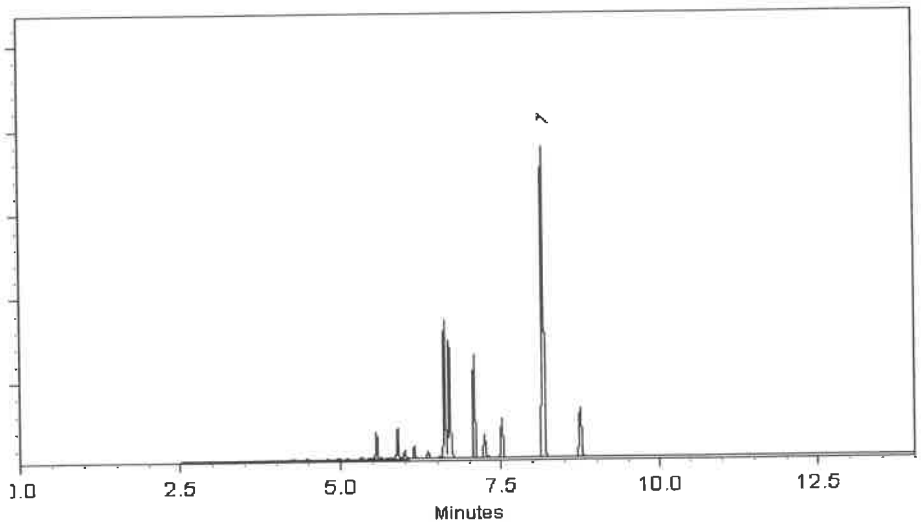
Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
ECD

Split Vent:
Split ratio 500:1

Inj. Vol
0.2µl



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.

Stacey Wanner - Operations Technician I

Date Mixed: 01-Oct-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 02-Oct-2024

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

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker®

W3147

W3147 update. 02/03/2025 JP

Material No.: 9262-03
Batch No.: 24G1962003
Manufactured Date: 2024-05-23
Expiration Date: 2025-08-22
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	3
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 %	98 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.1 ppm
Substances Darkened by H_2SO_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

JCroak

Jamie Croak
Director Quality Operations, Bioscience Production

n-Hexane 95%
ULTRA RESI-ANALYZED
For Organic Residue Analysis

avantor™ | J.T.Baker

W3234 JB
Update: 07/28/2025

Material No.: 9262-03
Batch No.: 25C0362005
Manufactured Date: 2025-01-29
Expiration Date:2026-04-30
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 HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	6
ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL)	<= 5	5
Assay (Total Saturated C_6 Isomers) (byGC, corrected for water)	>= 99.5 %	100.0 %
Assay (as n-Hexane) (by GC, correctedfor water)	>= 95 %	100 %
Color (APHA)	<= 10	10
Residue after Evaporation	<= 1.0 ppm	0.1 ppm
Substances Darkened by H_2SO_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: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

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