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Prep Standard - Chemical Standard Summary

Order ID : Q1730

Test : SVOCMS Group3

Prepbatch ID : PB167474,

Sequence ID/Qc Batch ID: bp040825,BP040925,

Standard ID :
EP2591,EP2597,EP2865,SP6685,SP6686,SP6721,SP6722,SP6723,SP6724,SP6725,SP6726,SP6727,SP6728,SP6729,SP6752,SP6754,SP6757,

Chemical ID :
10ul/1000ul sample,E3551,E3828,E3874,E3876,E3878,E3902,E3904,S10104,S10397,S10584,S11074,S11087,S11143,S11161,S11487,S11495,S11650,S11785,S11786,S11787,S11788,S12114,S12142,S12189,S12190,S12191,S12192,S12193,S12194,S12195,S12208,S12209,S12210,S12211,S12212,S12213,S12214,S12215,S12216,S12270,S12276,S12327,S12469,S12478,S12479,S12480,S12481,S12482,S12483,S12484,S12485,S12486,S12517,S12525,S12526,S12527,S12528,S12529,S12530,S12531,S12532,S12533,S12577,S12649,S12658,S12791,S12966,S12967,S12968,S12969,S12970,S12971,S12972,S12973,S12974,

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Extractions STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2017	1:1 ACETONE/METHYLENE CHLORIDE	EP2591	02/26/2025	08/14/2025	RUPESHKUMAR SHAH	None	None	Riteshkumar Patel 02/26/2025

FROM 8000.00000ml of E3876 + 8000.00000ml of E3878 = Final Quantity: 16000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3923	Baked Sodium Sulfate	EP2597	03/28/2025	07/01/2025	Rajesh Parikh	Extraction_SCALE_2 (EX-SC-2)	None	Evelyn Huang 03/28/2025

FROM 4000.00000gram of E3551 = Final Quantity: 4000.000 gram

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
18	Second Source Calibration Stock Standard, 100 PPM, (8270/625/CLP)	SP6685	11/15/2024	04/10/2025	Jagrut Upadhyay	None	None	Yogesh Patel 12/27/2024

FROM 0.04000ml of S12189 + 0.08000ml of S12208 + 0.10000ml of S11074 + 0.20000ml of S12142 + 0.20000ml of S12469 + 0.20000ml of S12517 + 1.18000ml of E3828 = Final Quantity: 2.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
416	40 ng BNA ICV, 40 PPM	SP6686	11/15/2024	04/10/2025	Jagrut Upadhyay	None	None	Yogesh Patel 12/27/2024

FROM 0.01000ml of S12327 + 0.60000ml of E3828 + 0.40000ml of SP6685 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3764	8270/625 Stock solution 100 ng	SP6721	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.26700ml of S10104 + 0.40000ml of S11495 + 0.50000ml of S12114 + 1.00000ml of S11087 + 1.00000ml of S11161 + 1.00000ml of S12270 + 1.00000ml of S12276 + 1.00000ml of S12791 + 3.83300ml of E3874 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
413	80 ng BNA ICC, 80 PPM	SP6722	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.01000ml of S12649 + 0.20000ml of E3874 + 0.80000ml of SP6721 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
412	60 ng BNA ICC, 60 PPM	SP6723	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.01000ml of S12649 + 0.40000ml of E3874 + 0.60000ml of SP6721 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
411	50 ng BNA ICC, 50 PPM	SP6724	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.01000ml of S12649 + 0.50000ml of E3874 + 0.50000ml of SP6721 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
410	40 ng BNA ICC, 40 PPM	SP6725	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.01000ml of S12649 + 0.60000ml of E3874 + 0.40000ml of SP6721 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3678	20 ng BNA ICC, 20 PPM	SP6726	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.01000ml of S12649 + 0.80000ml of E3874 + 0.20000ml of SP6721 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
408	10 ng BNA ICC, 10 PPM	SP6727	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.01000ml of S12649 + 0.90000ml of E3874 + 0.10000ml of SP6721 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
407	5 ng BNA ICC, 5 PPM	SP6728	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.01000ml of S12649 + 0.95000ml of E3874 + 0.05000ml of SP6721 = Final Quantity: 1.010 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
175	2.5 ng BNA ICC, 2.5 PPM	SP6729	01/30/2025	05/12/2025	Jagrut Upadhyay	None	None	Shreena Patel 02/07/2025

FROM 0.01000ml of S12649 + 0.50000ml of E3874 + 0.50000ml of SP6728 = Final Quantity: 1.010 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
171	8270/625 Spike Solution, 50/100 PPM	SP6752	03/10/2025	05/31/2025	Rahul Chavli	None	None	Jagrut Upadhyay 04/03/2025

FROM 0.10000ml of S12478 + 0.30000ml of S12525 + 0.40000ml of S10397 + 0.40000ml of S10584 + 0.40000ml of S11143 + 0.40000ml of S11487 + 0.40000ml of S11650 + 0.40000ml of S12533 + 0.40000ml of S12974 + 0.60000ml of S12486 + 0.80000ml of S12966 + 1.10000ml of S11788 + 1.20000ml of S11785 + 1.20000ml of S12483 + 1.20000ml of S12526 + 1.20000ml of S12967 + 1.20000ml of S12968 + 1.20000ml of S12970 + 1.20000ml of S12972 + 1.30000ml of S11786 + 1.30000ml of S12481 + 1.30000ml of S12482 + 1.30000ml of S12484 + 1.30000ml of S12528 + 1.30000ml of S12529 + 1.30000ml of S12531 + 1.30000ml of S12969 + 1.30000ml of S12973 + 1.40000ml of S11787 + 1.40000ml of S12479 + 1.40000ml of S12480 + 1.40000ml of S12485 + 1.40000ml of S12527 + 1.40000ml of S12530 + 1.40000ml of S12532 + 1.40000ml of S12971 + 163.00000ml of E3876 = Final Quantity: 200.000 ml

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SVOC STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
19	8270/CLP Surrogate Solution, 100 PPM BN/150 PPM ACID	SP6754	03/18/2025	09/18/2025	Rahul Chavli	None	None	Jagrut Upadhyay 04/03/2025

FROM 1930.00000ml of E3902 + 2.60000ml of S12216 + 2.70000ml of S12195 + 5.20000ml of S12210 + 5.30000ml of S12192 + 5.30000ml of S12194 + 5.30000ml of S12209 + 5.30000ml of S12211 + 5.30000ml of S12212 + 5.30000ml of S12213 + 5.40000ml of S12190 + 5.40000ml of S12214 + 5.60000ml of S12191 + 5.60000ml of S12215 + 5.70000ml of S12193 = Final Quantity: 2000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3895	50 ug/ml DFTPP 8270E	SP6757	03/31/2025	09/30/2025	Rahul Chavli	None	None	Jagrut Upadhyay 04/01/2025

FROM 1.00000ml of S12577 + 19.00000ml of E3904 = Final Quantity: 20.000 ml

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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	313201	07/01/2025	01/03/2024 / Rajesh	07/20/2023 / Rajesh	E3551

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	24G0862003	05/09/2025	11/09/2024 / Rajesh	11/04/2024 / Rajesh	E3828

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	25A0262002	07/30/2025	01/30/2025 / Rajesh	01/20/2025 / Rajesh	E3874

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	08/25/2025	02/25/2025 /	02/12/2025 / Rajesh	E3876

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	24K1762005	08/14/2025	02/14/2025 / Rajesh	12/27/2024 / Rajesh	E3878

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	09/18/2025	03/18/2025 / RUPESH	02/12/2025 / RUPESH	E3902

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9644-A4 / Methylene Chloride,U-Resi, Cycle-Tainer (215L)	24K1762005	01/07/2026	03/13/2025 /	12/27/2024 / RUPESH	E3904

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-112090-04 / CLP Acid Surrogate Solution, 7500 mg/L, 1ml	440246	07/30/2025	01/30/2025 / anahy	12/09/2021 / Christian	S10104

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555871 / Custom Standard, 4-nitrophenol Std [CS 5238-4]	A0185300	05/31/2025	01/29/2025 / anahy	05/18/2022 / Christian	S10397

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555868 / Custom Standard, Benzidine Std [CS 5328-1]	A0186373	06/30/2025	01/29/2025 / anahy	07/05/2022 / Christian	S10584

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0187043	05/15/2025	11/15/2024 / Jagrut	02/06/2023 / Christian	S11074

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-010074-07 / 3,3'-Dichlorobenzidine Solution, 1,000 mg/L, 1 ml, (Maximum Expiration: 180 days)	406703	07/30/2025	01/30/2025 / anahy	02/07/2023 / Christian	S11087

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555869 / Custom Standard, hexachlorocyclopentadiene Std [CS 5328-2]	A0194702	07/29/2025	01/29/2025 / anahy	02/20/2023 / Christian	S11143

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-110817-01 / Custom 8270 Mix, 4-55, 1000 mg/L, 1 ml, (Maximum Expiration: 90 Days)	414125	06/21/2025	01/30/2025 / anahy	03/06/2023 / Christian	S11161

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555870 / Custom Standard, 2,4-dinitrophenol Std [CS 5328-3]	A0200549	08/31/2026	01/29/2025 / anahy	08/10/2023 / yogesh	S11487

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-110094-02 / CLP Base/Neutral Surrogate Solution, 5000 mg/L, 1ml	506889	05/12/2025	11/12/2024 / Jagrut	08/11/2023 / Yogesh	S11495

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555872 / Custom Standard, pentachlorophenol Std [CS 5328-5]	A0201728	07/29/2025	01/29/2025 / anahy	11/09/2023 / Yogesh	S11650

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	07/29/2025	01/29/2025 / anahy	11/21/2023 / Rahul	S11785

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	09/10/2025	03/10/2025 / anahy	11/21/2023 / Rahul	S11786

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	09/10/2025	03/10/2025 / anahy	11/21/2023 / Rahul	S11787

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31853 / 1,4-Dioxane, 2000 ug/ml , Solvent: Methylene Chloride	A0196453	09/10/2025	03/10/2025 / anahy	11/21/2023 / Rahul	S11788

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	z-010223-01 / 1,4-Dioxane Solution, 2,000mg/L, 1ml	454157	05/12/2025	11/12/2024 / Jagrut	03/08/2024 / Rahul	S12114

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0203726	04/30/2025	11/14/2024 / anahy	03/15/2024 / Rahul	S12142

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ ampul	A0206206	04/10/2025	10/10/2024 / anahy	03/15/2024 / Rahul	S12189

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ ampul	A0206206	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12190

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ ampul	A0206206	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12191

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ ampul	A0206206	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12192

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ ampul	A0206206	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12193

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ ampul	A0206206	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12194

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31087 / Acid Surrogate 10,000ug/ml,methanol,5ml/ ampul	A0206206	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12195

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	05/15/2025	11/15/2024 / Jagrut	03/15/2024 / Rahul	S12208

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12209

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12210

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12211

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12212

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12213

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Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12214

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12215

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31086 / Base Neutral Surrogate 5000ug/ml,CH2Cl2,5ml	A0206381	09/18/2025	03/18/2025 / anahy	03/15/2024 / Rahul	S12216

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	z-110381-01 / 8270 Calibration Solution, 76-1, 500 & 1,000 mg/L, 1ml	520963	07/30/2025	01/30/2025 / anahy	05/24/2024 / Rahul	S12270

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-010442-07 / Benzaldehyde Solution, 1000 mg/L, 1.3 ml, (Maximum Expiration: 90 Days)	495833	05/12/2025	11/12/2024 / Jagrut	05/24/2024 / Rahul	S12276

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0206540	05/12/2025	11/12/2024 / anahy	05/30/2024 / Rahul	S12327

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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	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	05/14/2025	11/14/2024 / anahy	07/23/2024 / RAHUL	S12469

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	07/29/2025	01/29/2025 / anahy	07/23/2024 / RAHUL	S12478

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12479

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12480

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12481

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12482

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Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12483

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12484

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12485

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555223 / Custom 8270 Plus Std #1 [2nd lot at $100 per ampul if requested - contact ARM with Request] [CS 4978-1]	A0214021	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12486

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	05/14/2025	11/14/2024 / anahy	07/23/2024 / RAHUL	S12517

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	07/29/2025	01/29/2025 / anahy	07/23/2024 / RAHUL	S12525

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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	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12526

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12527

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12528

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12529

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12530

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12531

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Fax : 908 789 8922

CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12532

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	555224 / Custom 8270 Plus Std #2 [2nd lot at $85 per ampul if requested - contact ARM with Request] [CS 4978-2]	A0214017	09/10/2025	03/10/2025 / anahy	07/23/2024 / RAHUL	S12533

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31615 / SV Mixture, GC/MS Tuning Mixture, CH2Cl2, 1mL,	A0212955	06/30/2027	03/31/2025 / Rahul	08/01/2024 / Rahul	S12577

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0212266	07/21/2025	01/21/2025 / anahy	09/20/2024 / anahy	S12649

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31206 / SV Mix, CLP method, Internal Std, 2000ug/mL, CH2Cl2, 1mL	A0212266	04/30/2030	04/07/2025 / anahy	09/20/2024 / anahy	S12658

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
CPI International	Z-110816-01 / Custom 8270 Mix, 4-79, 1000 mg/L, 1 mL, (Maximum Expiration: 180 Days)	414127	06/21/2025	01/30/2025 / anahy	05/24/2024 / Rahul	S12791

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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	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	07/29/2025	01/29/2025 / anahy	12/11/2024 / anahy	S12966

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	09/10/2025	03/10/2025 / anahy	12/11/2024 / anahy	S12967

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	09/10/2025	03/10/2025 / anahy	12/11/2024 / anahy	S12968

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	09/10/2025	03/10/2025 / anahy	12/11/2024 / anahy	S12969

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	09/10/2025	03/10/2025 / anahy	12/11/2024 / anahy	S12970

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	09/10/2025	03/10/2025 / anahy	12/11/2024 / anahy	S12971

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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	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	09/10/2025	03/10/2025 / anahy	12/11/2024 / anahy	S12972

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	09/10/2025	03/10/2025 / anahy	12/11/2024 / anahy	S12973

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Restek	31850 / 8270 SV Mix, 8270 Mega Mix 1mL, 1000ug/mL, CH2Cl2 [New Solvent 100% CH2Cl2]	A0219438	09/10/2025	03/10/2025 / anahy	12/11/2024 / anahy	S12974

CPI INTERNATIONAL

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Santa Rosa, CA 95403

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(800)878-7654 Toll Free
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Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-010074-07	406703	≤ -10 °C	Methylene Chloride	3/30/2025	3,3'-Dichlorobenzidine Solution, 1,000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
3,3'-dichlorobenzidine	91-94-1	99.5	74.3.26P	989 ± 7.53

Received on
02/07/23
by
CG

S11084
to
S11088

*Not a certified value

Certified By: _____
Jacob Mulloy
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricllly.

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Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-110817-01	414125	≤ -10 °C	Methylene Chloride	6/21/2025	Custom 8270 Mix, 4-55, 1000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
acetophenone	98-86-2	99.2	85.8.1P	998 ± 11.5
benzoic acid	65-85-0	100	123.7.1P	1010 ± 5.88
biphenyl	92-52-4	99.9	366.29.1P	999 ± 5.82
1,2,4,5-tetrachlorobenzene	95-94-3	99.7	53.7.2P	993 ± 5.79

Received on
02/07/23
by
CG
S11089
to
S11093

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: _____
Shane Overcash
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

CPI INTERNATIONAL

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Date Received: _____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-112090-04	440246	≤ -10 °C	Methylene Chloride	2/16/2026	CLP Acid Surrogate Solution, 7,500 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
2-chlorophenol-d_4	93951-73-6	99.3	248.12.7P	7487 ± 17.2
2-fluorophenol	367-12-4	99.8	10.7.3.3P	7513 ± 17.26
phenol-d6	13127-88-3	99.9	949.120.8P	7481 ± 17.19
2,4,6-tribromophenol	118-79-6	99.8	12.1.6P	7469 ± 17.17

Received on
02/25/21
by
CG

S9236
to
S9240

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: Erica Castiglione

Erica Castiglione
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

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Reference Material Producer
Certificate #3222.01

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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.

Received by CG on 05/19/22

S10393 to S10402

Catalog No. : 555871 **Lot No.:** A0185300

Description : Custom 4-Nitrophenol Standard

Custom 4-Nitrophenol Standard 25,000µg/mL, Methanol, 1mL/ampul

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

Expiration Date : May 31, 2025 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	4-Nitrophenol	25,060.0 µg/mL	+/- 231.9100 µg/mL	Gravimetric
	CAS # 100-02-7 (Lot MKCN1089)		+/- 753.2622 µg/mL	Unstressed
	Purity 99%		+/- 905.6020 µg/mL	Stressed

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

Katelyn McGinnis - Operations Tech I

Date Mixed: 16-May-2022 **Balance:** 1128342314

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

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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

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

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

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

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

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

Manufacturing Notes:

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

Handling Notes:

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

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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.

Received by
CG
on
07/05/22
S 10583
to
S 10592

Catalog No. : 555868 **Lot No.:** A0186373

Description : Custom Benzidine Standard

Custom Benzidine Standard 25,000µg/mL, Methanol, 1mL/ampul

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

Expiration Date : June 30, 2025 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzidine	25,200.0 µg/mL	+/- 233.2055 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 220511RSR)		+/- 351.6606 µg/mL	Unstressed
	Purity 99%		+/- 512.6054 µg/mL	Stressed

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

Tom Suckar - Mix Technician **Date Mixed:** 16-Jun-2022 **Balance:** 1122030677

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

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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

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

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

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

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

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

Manufacturing Notes:

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

Handling Notes:

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

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www.restek.com

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

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.

Received on 02/06/23 by CG

S11071 to S11075

Catalog No. : 31853 **Lot No.:** A0187043

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2027 **Storage:** 0°C or colder

Ship: Ambient

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dioxane	2,019.0 µg/mL	+/- 11.8486	µg/mL	Gravimetric
	CAS # 123-91-1 (Lot SHBN5929)		+/- 43.2570	µg/mL	Unstressed
	Purity 99%		+/- 44.5129	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

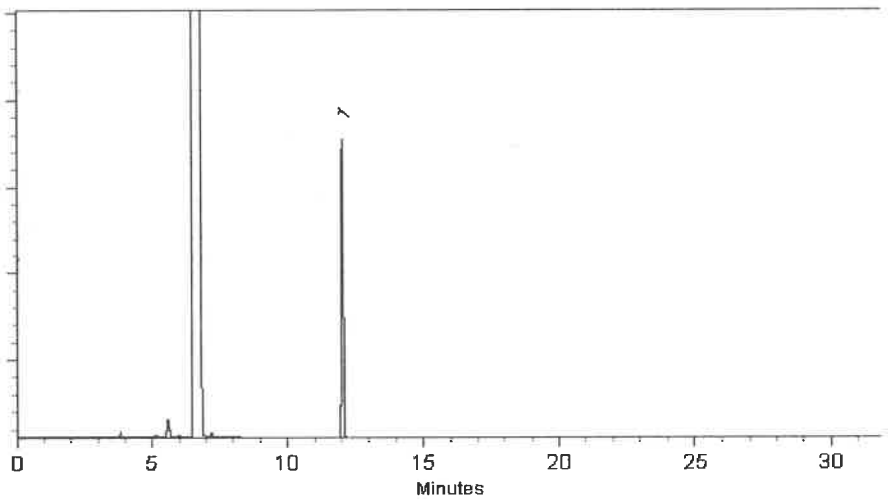
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



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.

Brittany Federinko - Operations Tech I

Date Mixed: 07-Jul-2022 **Balance:** 1128360905

Marlina Cowan – Operations Tech II ARM QC

Date Passed: 12-Jul-2022

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

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Bellefonte, PA 16823-8812
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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

Catalog No. : 555869 **Lot No.:** A0194702

Description : Custom Hexachlorocyclopentadiene Standard

Custom Hexachlorocyclopentadiene Standard 25,000µg/mL, Methanol, 1mL/ampul

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

Expiration Date : February 28, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)
1	Hexachlorocyclopentadiene	77-47-4	0012019	99%	25,008.0 µg/mL

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

Russ Bookhamer - Operations Technician I

Date Mixed: 15-Feb-2023 **Balance:** B442140311

Manufactured under Restek Registered Quality Certificate #FM

tified Reference Material Notes

:es:

n date valid for unopened ampul stored in compliance with the recommended conditions.

nty, concentration, and expiration of the CRM are based on the unopened product being stored according to the ended condition found in the storage field.

d/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, LC/MS, RI, and/or melting point.

nds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A n factor is used to calculate the amount of compound necessary to achieve the desired concentration of the mpound in solution.

isomeric compounds is reported as the sum of the isomers.

lues are rounded to the nearest whole number.

rtainty Value Notes:

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

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

erage factor of 2, which gives a level of confidence of approximately 95%.

ged amount is the minimum sample size for which uncertainty is valid. The ampuls are over-filled to ensure nimum packaged amount can be sufficiently transferred.

Notes:

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

:

the unopened product, when stored in compliance with the recommended conditions, is guaranteed through ion displayed on the product label and certificate. Contact Restek for additional opened product stability ı, with the knowledge/understanding that open product stability is subject to the specific handling and ntal conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with ards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom m. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, des complete instructions.

ssolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely

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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:	ABR/21/2023
LOT NUMBER :	313201		

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na_2SO_4)	Min. 99.0%	99.7 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.1
Insoluble matter	Max. 0.01%	0.005 %
Loss on ignition	Max. 0.5%	0.1 %
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (as N)	Max. 5 ppm	<5 ppm
Phosphate (PO_4)	Max. 0.001%	<0.001 %
Heavy metals (as Pb)	Max. 5 ppm	<5 ppm
Iron (Fe)	Max. 0.001%	<0.001 %
Calcium (Ca)	Max. 0.01%	0.002 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.003 %
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%	0.1 %
Retained on US Standard No. 60 sieve	Min. 94%	97.3 %
Through US Standard No. 60 sieve	Max. 5%	2.5 %
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.

RG-02-01, Ed. 3

Recd. by RB on 7/24/23 E3551

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

avantor™ | J.T.Baker

Material No.: 9266-A4
Batch No.: 24J0862003
Manufactured Date: 2024-09-12
Expiration Date:2025-12-12
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL)	<= 5	2
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	1
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	>= 99.8 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.2 ppm
Titrable Acid (µeq/g)	<= 0.3	<0.1
Chloride (Cl)	<= 10 ppm	<5 ppm
Water (by KF, coulometric)	<= 0.02 %	<0.01 %

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

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

E 3828

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

PO: PO2-1178.2 PRODUCT CODE: SHIP DATE: 1/20/2025

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

avantor | J.T.Baker

Material No.: 9266-A4
Batch No.: 25A0262002
Manufactured Date: 2024-11-21
Expiration Date:2026-02-20
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	4
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	>= 99.8 %	99.9 %
Color (APHA)	<= 10	10
Residue after Evaporation	<= 1.0 ppm	0.8 ppm
Titrable Acid (µeq/g)	<= 0.3	<0.1
Chloride (Cl)	<= 10 ppm	<5 ppm
Water (by KF, coulometric)	<= 0.02 %	<0.01 %

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

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

E 3874

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

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

avantor | J.T.Baker

Material No.: 9266-A4
Batch No.: 24K1762005
Manufactured Date: 2024-10-08
Expiration Date:2026-01-07
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	2
Assay (CH_2Cl_2) (by GC, exclusive of preservative, corrected for water)	>= 99.8 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.5 ppm
Titrable Acid (µeq/g)	<= 0.3	0.0
Chloride (Cl)	<= 10 ppm	<5 ppm
Water (by KF, coulometric)	<= 0.02 %	0.01 %

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

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

E 3878

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

PO: PO2-798 PRODUCT CODE: SHIP DATE: 12/9/2024

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

E 3902

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

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Testing Laboratory
Certificate #3222.02

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S11484 ↓ S11493 Y.P. 08/10/23

Catalog No. : 555870 **Lot No.:** A0200549

Description : Custom 2,4-Dinitrophenol Standard

Custom 2,4-Dinitrophenol Standard 25,000µg/mL, Methanol, 1mL/ampul

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

Expiration Date : August 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	25,008.0 µg/mL	+/- 777.3323

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

Tom Suckar - Mix Technician

Date Mixed: 02-Aug-2023 **Balance:** 1128342314

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.

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-110094-02	506889	≤ -10 °C	Methylene Chloride	7/25/2028	CLP Base/Neutral Surrogate Solution, 5,000 mg/L, 1 ml

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
1,2-dichlorobenzene-d_4	2199-69-1	99.7	247.29.3P	5035 ± 28.02
2-fluorobiphenyl	321-60-8	99.69	8.286.1.1P	4999 ± 103.66
nitrobenzene-d5	4165-60-0	99.67	7.9.3P	4988 ± 27.32
p-terphenyl-d14	1718-51-0	99.3	9.120.8P	5005 ± 27.85

511494 to 511498 } Y.P. 08/11/2023

*Not a certified value

Certified By: _____

Clint Tipton
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

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CERTIFIED REFERENCE MATERIAL

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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. : 555872 **Lot No.:** A0201728

Description : Custom Pentachlorophenol Standard

Custom Pentachlorophenol Standard 25,000µg/mL, Methanol, 1mL/ampul

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

Expiration Date : September 30, 2026 **Storage:** 10°C or colder

Ship: Ambient

511649 ↓ 511658 Y.P. 11/13/23

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pentachlorophenol	87-86-5	RP230530RSR	99%	25,000.0 µg/mL	+/- 777.0837

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

Josh McCloskey - Operations Technician I

Date Mixed: 05-Sep-2023 **Balance:** B251644995

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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Bellefonte, PA 16823-8812
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Fax: 1-814-353-1309

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

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. : 31853 **Lot No.:** A0196453

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : March 31, 2028 **Storage:** 0°C or colder

Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dioxane	123-91-1	SHBN3770	99%	2,013.0 µg/mL	+/- 25.0521

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

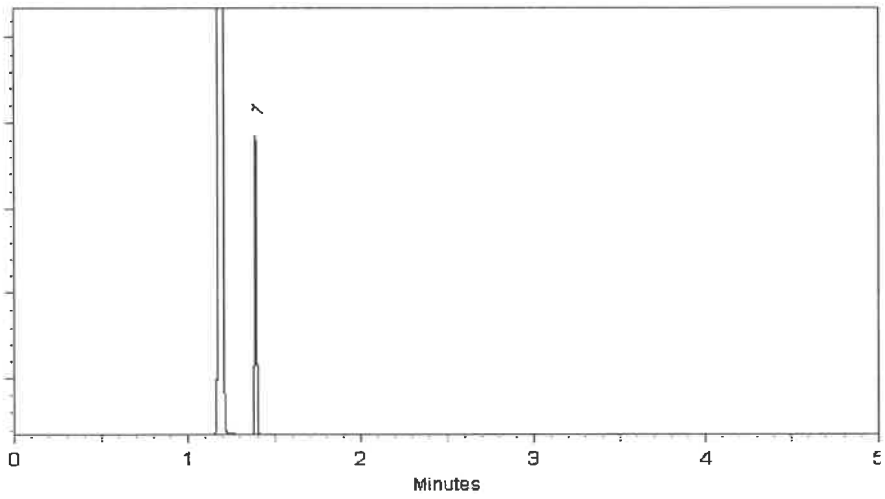
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 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.

Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

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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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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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. : 31853 **Lot No.:** A0196453

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : March 31, 2028 **Storage:** 0°C or colder

Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dioxane	123-91-1	SHBN3770	99%	2,013.0 µg/mL	+/- 25.0521

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

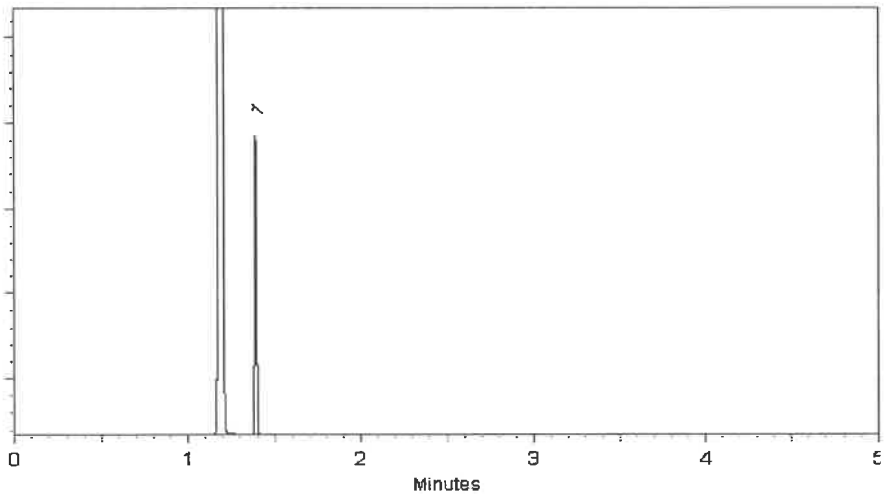
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 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.

Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

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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110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

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chromatographic plus

ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

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Catalog No. : 31853 **Lot No.:** A0196453

Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : March 31, 2028 **Storage:** 0°C or colder

Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dioxane	123-91-1	SHBN3770	99%	2,013.0 µg/mL	+/- 25.0521

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

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Rtx-5 (cat.#10223)

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Temp. Program:
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@ 9.6°C/min. (hold 2.86 min.)

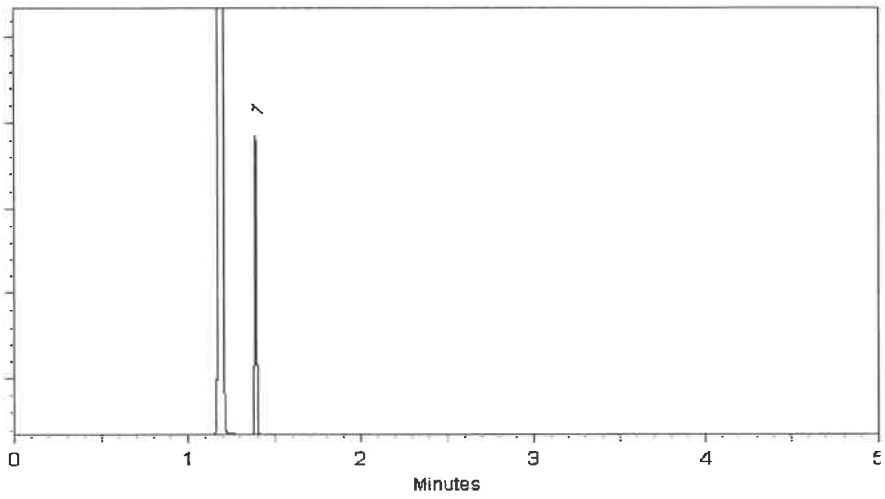
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



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Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

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

General Certified Reference Material Notes

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Manufacturing Notes:

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Description : 1,4-dioxane

1,4-Dioxane 2,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : March 31, 2028 **Storage:** 0°C or colder

Ship: Ambient

S11749 ↓ S11794 RC 11/30/23

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
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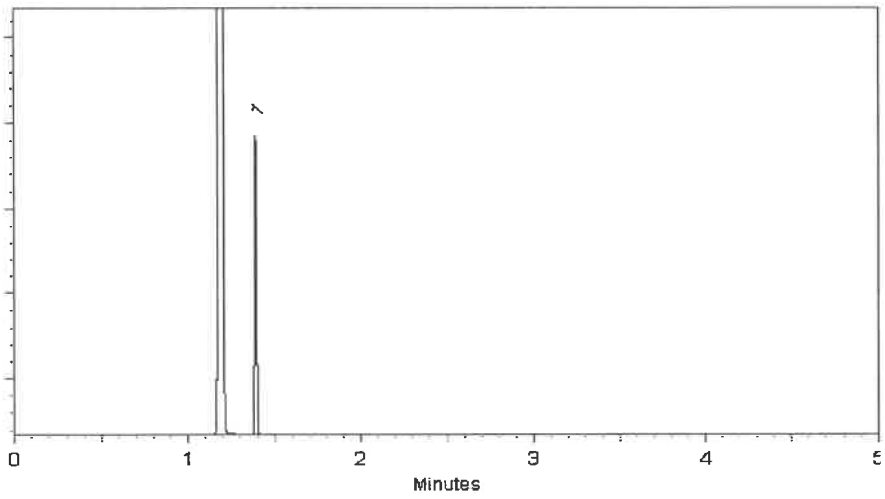
Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID

Split Vent:
100 ml/min.

Inj. Vol
1µl



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Sam Moodler - Operations Tech I

Date Mixed: 30-Mar-2023 **Balance Serial #** B707717271

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 31-Mar-2023

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

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CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-020223-01	454157	≤ -10 °C	P/T Methanol	6/10/2026	1,4-Dioxane Solution, 2000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
1,4-dioxane	123-91-1	100	223.1.3P	1997 ± 57.08

S12112 ↓ S12116 } RC/ 03/08/24

*Not a certified value

Certified By: Melissa Workoff

Melissa Workoff
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

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Catalog No. : 31850 **Lot No.:** A0203726

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

S12117 ↓ S12146 RC/ 03/18/24

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

Expiration Date : April 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,001.6 µg/mL	+/- 36.4412
2	N-Nitrosodimethylamine	62-75-9	230209JLM	99%	1,005.9 µg/mL	+/- 36.5968
3	Phenol	108-95-2	MKCK1120	99%	1,003.3 µg/mL	+/- 36.5038
4	Aniline	62-53-3	X22F726	99%	1,005.8 µg/mL	+/- 36.5928
5	Bis(2-chloroethyl)ether	111-44-4	SHBL6942	99%	1,008.1 µg/mL	+/- 36.6776
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,001.8 µg/mL	+/- 36.4492
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,002.3 µg/mL	+/- 36.4654
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,003.7 µg/mL	+/- 36.5159
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,008.7 µg/mL	+/- 36.6979
10	1,2-Dichlorobenzene	95-50-1	SHBN3835	99%	1,000.3 µg/mL	+/- 36.3926
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,003.5 µg/mL	+/- 36.5099
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,007.3 µg/mL	+/- 36.6493
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	504.3 µg/mL	+/- 18.3500
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.6 µg/mL	+/- 18.3237
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,008.3 µg/mL	+/- 36.6857
16	Hexachloroethane	67-72-1	QTORH	99%	1,007.5 µg/mL	+/- 36.6554
17	Nitrobenzene	98-95-3	10224044	99%	1,008.6 µg/mL	+/- 36.6938

18	Isophorone	78-59-1	MKCC9506	99%	1,005.9	µg/mL	+/- 36.5988
19	2-Nitrophenol	88-75-5	RP230710	99%	1,003.2	µg/mL	+/- 36.4998
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,003.8	µg/mL	+/- 36.5200
21	Bis(2-chloroethoxy)methane	111-91-1	13670200	99%	1,002.1	µg/mL	+/- 36.4573
22	2,4-Dichlorophenol	120-83-2	BCBZ6787	99%	1,003.7	µg/mL	+/- 36.5180
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,007.6	µg/mL	+/- 36.6574
24	Naphthalene	91-20-3	STBL1057	99%	1,008.3	µg/mL	+/- 36.6837
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,001.3	µg/mL	+/- 36.4290
26	Hexachlorobutadiene	87-68-3	RP230823RSR	98%	1,008.3	µg/mL	+/- 36.6829
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,003.1	µg/mL	+/- 36.4937
28	2-Methylnaphthalene	91-57-6	STBK0259	96%	1,001.9	µg/mL	+/- 36.4505
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	1,000.0	µg/mL	+/- 36.3838
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,008.5	µg/mL	+/- 36.6909
31	2,4,6-Trichlorophenol	88-06-2	STBJ5914	99%	1,004.4	µg/mL	+/- 36.5442
32	2,4,5-Trichlorophenol	95-95-4	FHN01	98%	1,001.9	µg/mL	+/- 36.4512
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,001.1	µg/mL	+/- 36.4230
34	2-Nitroaniline	88-74-4	RP230531	99%	1,002.9	µg/mL	+/- 36.4876
35	1,4-Dinitrobenzene	100-25-4	RP230816	99%	1,005.7	µg/mL	+/- 36.5887
36	Acenaphthylene	208-96-8	p06V	98%	1,009.5	µg/mL	+/- 36.7265
37	1,3-Dinitrobenzene	99-65-0	1-DXX-24-1	99%	1,004.4	µg/mL	+/- 36.5422
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,005.9	µg/mL	+/- 36.5968
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,003.2	µg/mL	+/- 36.4998
40	1,2-Dinitrobenzene	528-29-0	RP230428	99%	1,002.2	µg/mL	+/- 36.4634
41	Acenaphthene	83-32-9	MKCR7169	99%	1,009.3	µg/mL	+/- 36.7221
42	3-Nitroaniline	99-09-2	RP230822RSR	99%	1,003.9	µg/mL	+/- 36.5240
43	2,4-Dinitrophenol	51-28-5	DR230417RSR	99%	1,002.0	µg/mL	+/- 36.4553
44	Dibenzofuran	132-64-9	MKCD9952	99%	1,006.7	µg/mL	+/- 36.6251
45	2,4-Dinitrotoluene	121-14-2	MKAA0690V	99%	1,003.8	µg/mL	+/- 36.5220
46	4-Nitrophenol	100-02-7	RP230627	99%	1,002.3	µg/mL	+/- 36.4674
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-30126	99%	1,008.7	µg/mL	+/- 36.6979
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP230919	99%	1,006.3	µg/mL	+/- 36.6130
49	Fluorene	86-73-7	10241100	99%	1,008.3	µg/mL	+/- 36.6857
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,003.8	µg/mL	+/- 36.5220
51	Diethylphthalate	84-66-2	MKCD2547	99%	1,008.6	µg/mL	+/- 36.6958
52	4-Nitroaniline	100-01-6	RP230111	99%	1,001.1	µg/mL	+/- 36.4230
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	230718JLM	99%	1,002.0	µg/mL	+/- 36.4553

54	Diphenylamine	122-39-4	MKCH1042	99%	1,002.3	µg/mL	+/- 36.4674
55	Azobenzene	103-33-3	BCCK0887	99%	1,005.8	µg/mL	+/- 36.5928
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,003.0	µg/mL	+/- 36.4917
57	Hexachlorobenzene	118-74-1	14821700	99%	1,007.5	µg/mL	+/- 36.6554
58	Pentachlorophenol	87-86-5	RP230530RSR	99%	1,008.8	µg/mL	+/- 36.7019
59	Phenanthrene	85-01-8	MKCQ8876	99%	1,008.4	µg/mL	+/- 36.6877
60	Anthracene	120-12-7	MKCR0570	99%	1,009.0	µg/mL	+/- 36.7100
61	Carbazole	86-74-8	14351100	99%	1,000.9	µg/mL	+/- 36.4149
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,007.6	µg/mL	+/- 36.6595
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,009.6	µg/mL	+/- 36.7302
64	Pyrene	129-00-0	BCCG8479	98%	1,007.2	µg/mL	+/- 36.6453
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,002.1	µg/mL	+/- 36.4573
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.2	µg/mL	+/- 36.5705
67	Benz(a)anthracene	56-55-3	I220012022BAA	99%	1,002.2	µg/mL	+/- 36.4614
68	Chrysene	218-01-9	RP230601	99%	1,008.3	µg/mL	+/- 36.6837
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCQ3468	99%	1,001.8	µg/mL	+/- 36.4472
70	Di-n-octyl phthalate	117-84-0	14382700	99%	1,006.0	µg/mL	+/- 36.6008
71	Benzo(b)fluoranthene	205-99-2	012013B	99%	1,002.8	µg/mL	+/- 36.4836
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,003.0	µg/mL	+/- 36.4917
73	Benzo(a)pyrene	50-32-8	P54915-0703	99%	1,002.3	µg/mL	+/- 36.4674
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,009.4	µg/mL	+/- 36.7243
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,007.6	µg/mL	+/- 36.6595
76	Benzo(g,h,i)perylene	191-24-2	RP231003RSR	99%	1,002.9	µg/mL	+/- 36.4876

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

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Certificate #3222.02

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

Catalog No. : 31087 **Lot No.:** A0206206

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10, 000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2032 **Storage:** 10°C or colder

Ship: Ambient

S12187 ↓ S12206 } RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Fluorophenol	367-12-4	STBK1705	99%	10,005.3 µg/mL	+/- 302.5390
2	Phenol-d6	13127-88-3	PR-33287A	99%	10,005.5 µg/mL	+/- 302.5475
3	2,4,6-Tribromophenol	118-79-6	RP230831RSR	99%	10,006.6 µg/mL	+/- 302.5783

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

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

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

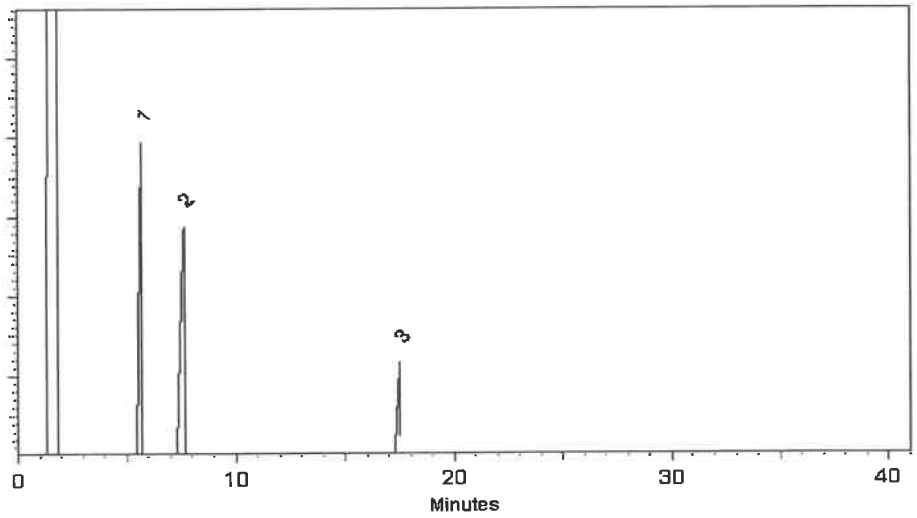
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 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.

Penelope Riglin - Operations Tech I

Date Mixed: 04-Jan-2024 **Balance Serial #** 1128360905

Christie Mills - Operations Lead Tech - ARM QC

Date Passed: 08-Jan-2024

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

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Certificate #3222.02

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

Catalog No. : 31087 **Lot No.:** A0206206

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10, 000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2032 **Storage:** 10°C or colder

Ship: Ambient

S12187 ↓ S12206 } RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Fluorophenol	367-12-4	STBK1705	99%	10,005.3 µg/mL	+/- 302.5390
2	Phenol-d6	13127-88-3	PR-33287A	99%	10,005.5 µg/mL	+/- 302.5475
3	2,4,6-Tribromophenol	118-79-6	RP230831RSR	99%	10,006.6 µg/mL	+/- 302.5783

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

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

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

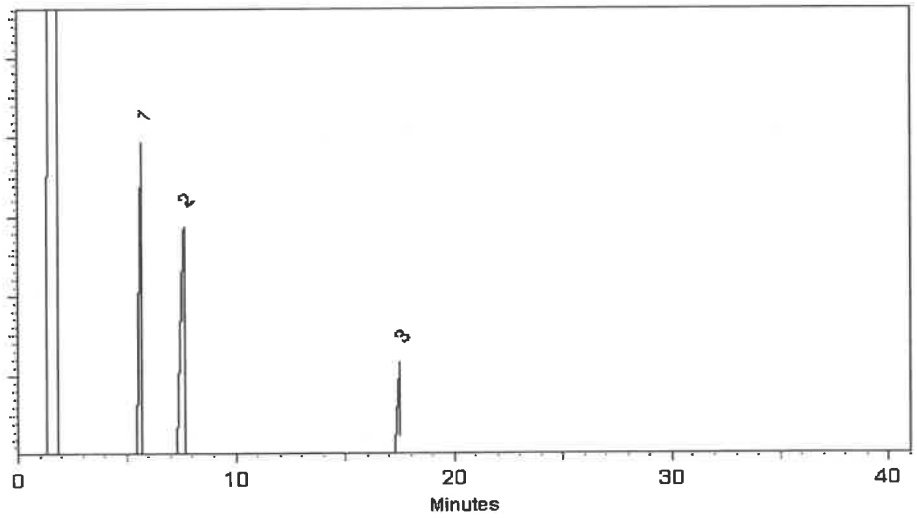
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl



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Penelope Riglin - Operations Tech I

Date Mixed: 04-Jan-2024 **Balance Serial #** 1128360905

Christie Mills - Operations Lead Tech - ARM QC

Date Passed: 08-Jan-2024

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

Catalog No. : 31087 **Lot No.:** A0206206

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10, 000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2032 **Storage:** 10°C or colder

Ship: Ambient

S12187 ↓ S12206 } RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Fluorophenol	367-12-4	STBK1705	99%	10,005.3 µg/mL	+/- 302.5390
2	Phenol-d6	13127-88-3	PR-33287A	99%	10,005.5 µg/mL	+/- 302.5475
3	2,4,6-Tribromophenol	118-79-6	RP230831RSR	99%	10,006.6 µg/mL	+/- 302.5783

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

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

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

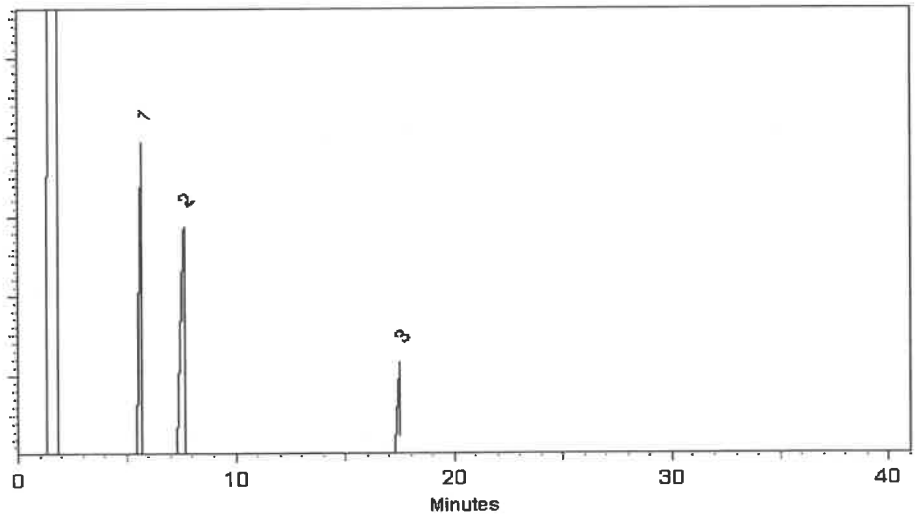
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl



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Penelope Riglin - Operations Tech I

Date Mixed: 04-Jan-2024 **Balance Serial #** 1128360905

Christie Mills - Operations Lead Tech - ARM QC

Date Passed: 08-Jan-2024

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

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Catalog No. : 31087 **Lot No.:** A0206206

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10, 000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2032 **Storage:** 10°C or colder

Ship: Ambient

S12187 ↓ S12206 } RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Fluorophenol	367-12-4	STBK1705	99%	10,005.3 µg/mL	+/- 302.5390
2	Phenol-d6	13127-88-3	PR-33287A	99%	10,005.5 µg/mL	+/- 302.5475
3	2,4,6-Tribromophenol	118-79-6	RP230831RSR	99%	10,006.6 µg/mL	+/- 302.5783

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

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

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
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Inj. Temp:
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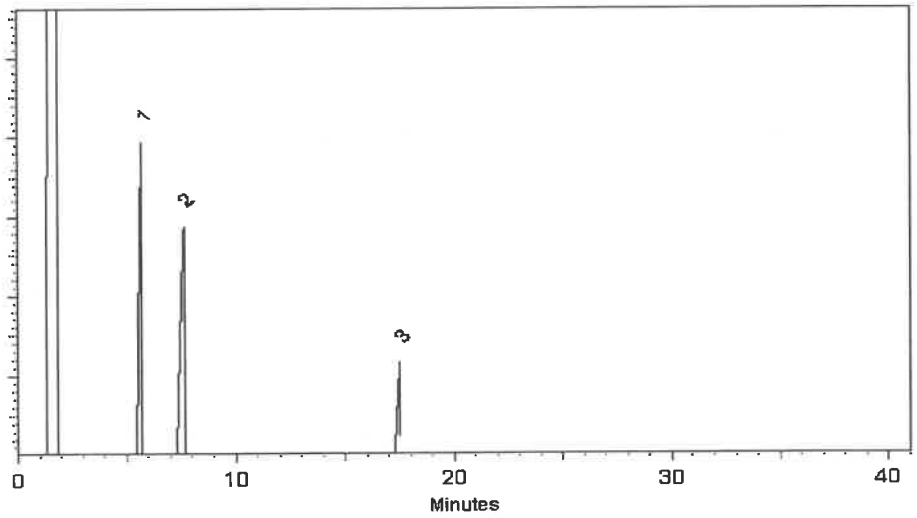
Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl



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Penelope Riglin - Operations Tech I

Date Mixed: 04-Jan-2024 **Balance Serial #** 1128360905

Christie Mills - Operations Lead Tech - ARM QC

Date Passed: 08-Jan-2024

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

Catalog No. : 31087 **Lot No.:** A0206206

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10, 000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2032 **Storage:** 10°C or colder

Ship: Ambient

S12187 ↓ S12206 } RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Fluorophenol	367-12-4	STBK1705	99%	10,005.3 µg/mL	+/- 302.5390
2	Phenol-d6	13127-88-3	PR-33287A	99%	10,005.5 µg/mL	+/- 302.5475
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* Expanded Uncertainty displayed in same units as Grav. Conc.

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

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
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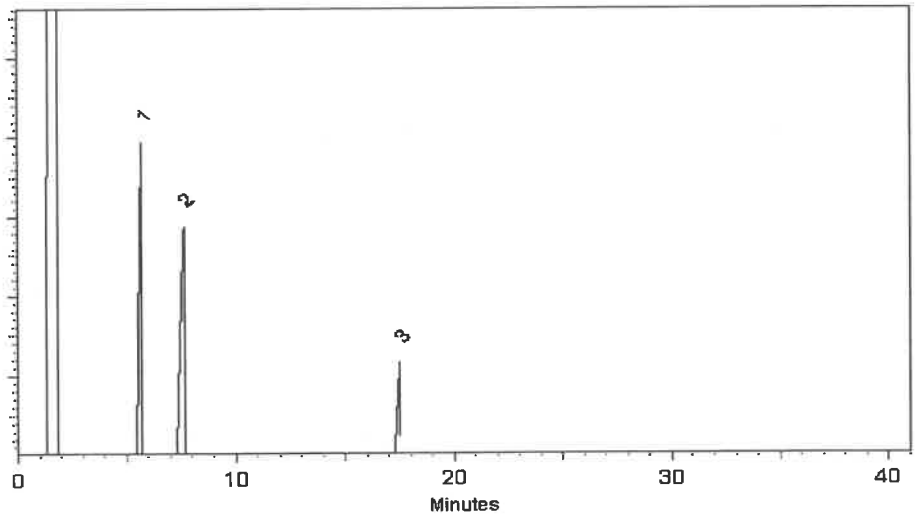
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl



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Penelope Riglin - Operations Tech I

Date Mixed: 04-Jan-2024 **Balance Serial #** 1128360905

Christie Mills - Operations Lead Tech - ARM QC

Date Passed: 08-Jan-2024

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

Catalog No. : 31087 **Lot No.:** A0206206

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10, 000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2032 **Storage:** 10°C or colder

Ship: Ambient

S12187 ↓ S12206 } RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Fluorophenol	367-12-4	STBK1705	99%	10,005.3 µg/mL	+/- 302.5390
2	Phenol-d6	13127-88-3	PR-33287A	99%	10,005.5 µg/mL	+/- 302.5475
3	2,4,6-Tribromophenol	118-79-6	RP230831RSR	99%	10,006.6 µg/mL	+/- 302.5783

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

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

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

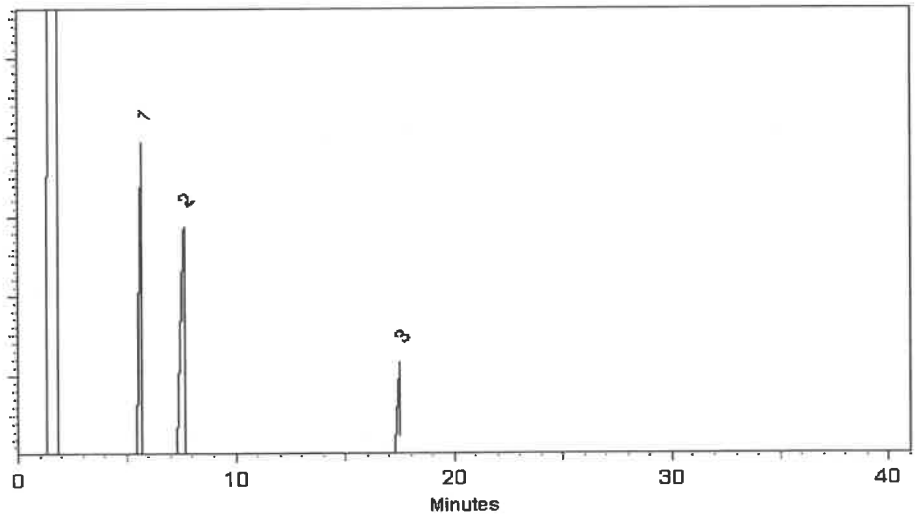
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl



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Penelope Riglin - Operations Tech I

Date Mixed: 04-Jan-2024 **Balance Serial #** 1128360905

Christie Mills - Operations Lead Tech - ARM QC

Date Passed: 08-Jan-2024

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

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

Catalog No. : 31087 **Lot No.:** A0206206

Description : Acid Surrogate Mix (4/89 SOW)

Acid Surrogate 10, 000µg/mL, Methanol, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2032 **Storage:** 10°C or colder

Ship: Ambient

S12187 ↓ S12206 } RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	2-Fluorophenol	367-12-4	STBK1705	99%	10,005.3 µg/mL	+/- 302.5390
2	Phenol-d6	13127-88-3	PR-33287A	99%	10,005.5 µg/mL	+/- 302.5475
3	2,4,6-Tribromophenol	118-79-6	RP230831RSR	99%	10,006.6 µg/mL	+/- 302.5783

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

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

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

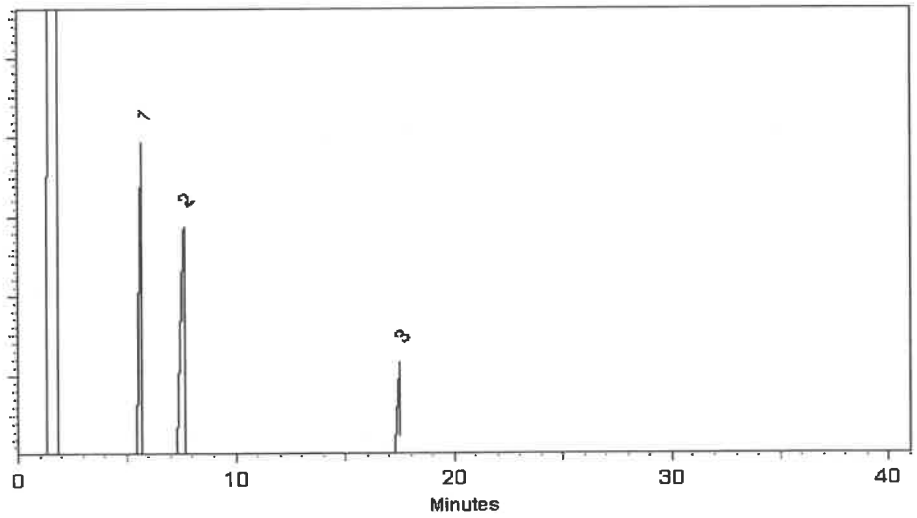
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl



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Penelope Riglin - Operations Tech I

Date Mixed: 04-Jan-2024 **Balance Serial #** 1128360905

Christie Mills - Operations Lead Tech - ARM QC

Date Passed: 08-Jan-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. : 31086 **Lot No.:** A0206381

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2029 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

S12207 ↓ S12221 RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Nitrobenzene-d5	4165-60-0	I-25158	99%	5,029.3 µg/mL	+/- 226.5204
2	2-Fluorobiphenyl	321-60-8	00021384	99%	5,030.9 µg/mL	+/- 226.5936
3	p-Terphenyl-d14	1718-51-0	PR-32599	99%	5,026.4 µg/mL	+/- 226.3909

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

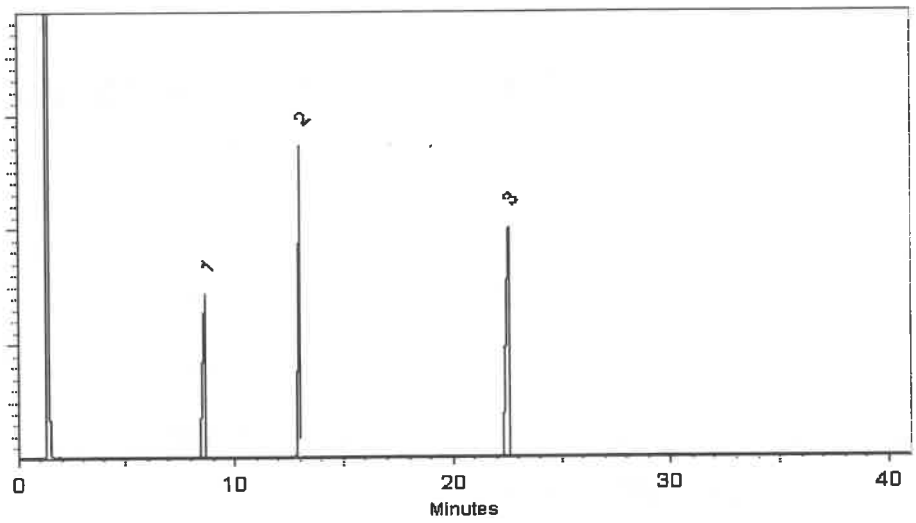
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 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.

Jess Hoy - Operations Tech I

Date Mixed: 09-Jan-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 11-Jan-2024

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

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

Catalog No. : 31086 **Lot No.:** A0206381

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2029 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

S12207 ↓ S12221 RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Nitrobenzene-d5	4165-60-0	I-25158	99%	5,029.3 µg/mL	+/- 226.5204
2	2-Fluorobiphenyl	321-60-8	00021384	99%	5,030.9 µg/mL	+/- 226.5936
3	p-Terphenyl-d14	1718-51-0	PR-32599	99%	5,026.4 µg/mL	+/- 226.3909

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

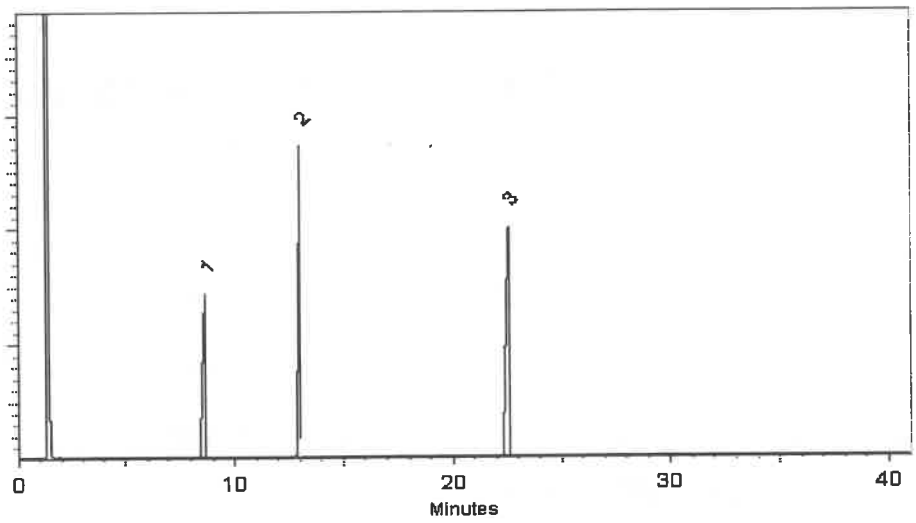
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

Split Vent:
2 ml/min.

Inj. Vol
1µl



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Jess Hoy - Operations Tech I

Date Mixed: 09-Jan-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 11-Jan-2024

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

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

ilac-MRA A2LA ACCREDITED ISO 17034 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

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Catalog No. : 31086 **Lot No.:** A0206381

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Base Neutral Surrogate 5000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2029 **Storage:** 10°C or colder

Handling: Sonicate prior to use. **Ship:** Ambient

S12207 ↓ S12221 RC/ 03/18/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Nitrobenzene-d5	4165-60-0	I-25158	99%	5,029.3 µg/mL	+/- 226.5204
2	2-Fluorobiphenyl	321-60-8	00021384	99%	5,030.9 µg/mL	+/- 226.5936
3	p-Terphenyl-d14	1718-51-0	PR-32599	99%	5,026.4 µg/mL	+/- 226.3909

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
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Quality Confirmation Test

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30m x 0.25mm x 0.25µm
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Inj. Temp:
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Det. Temp:
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Det. Type:
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Split Vent:
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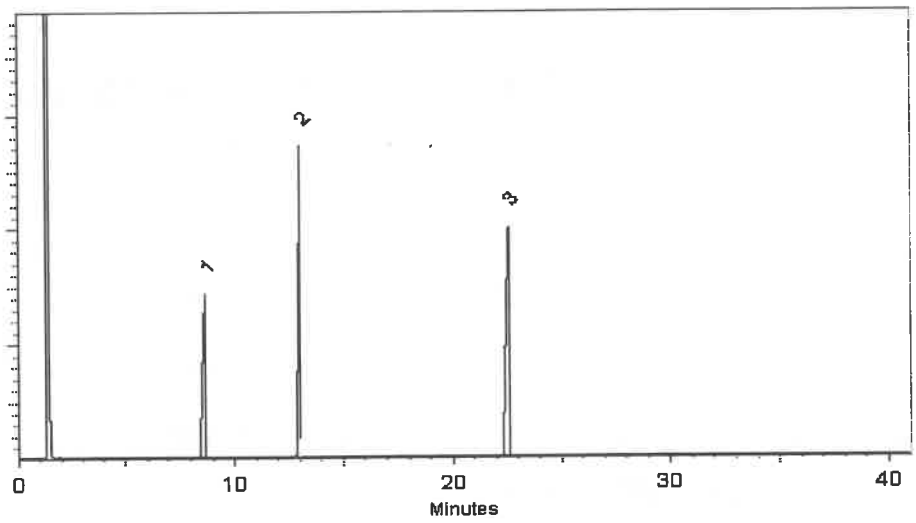

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Jess Hoy - Operations Tech I

Date Mixed: 09-Jan-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 11-Jan-2024

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

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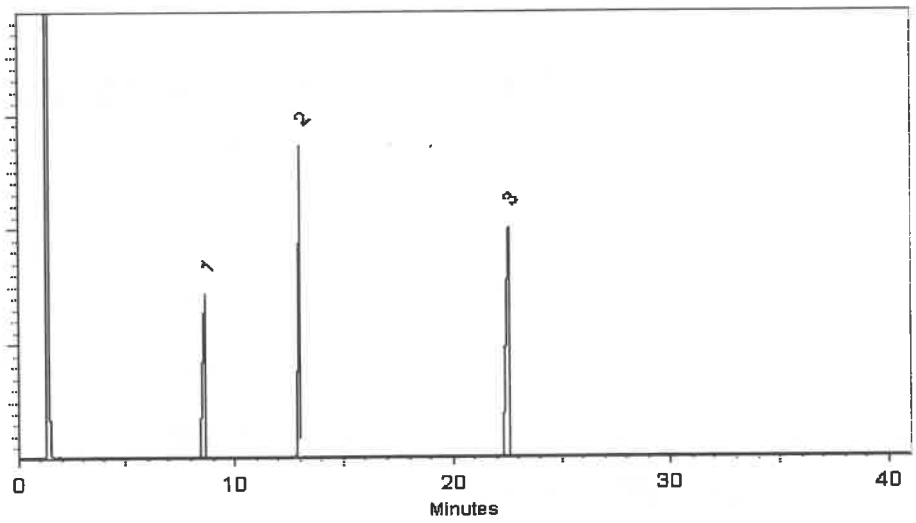

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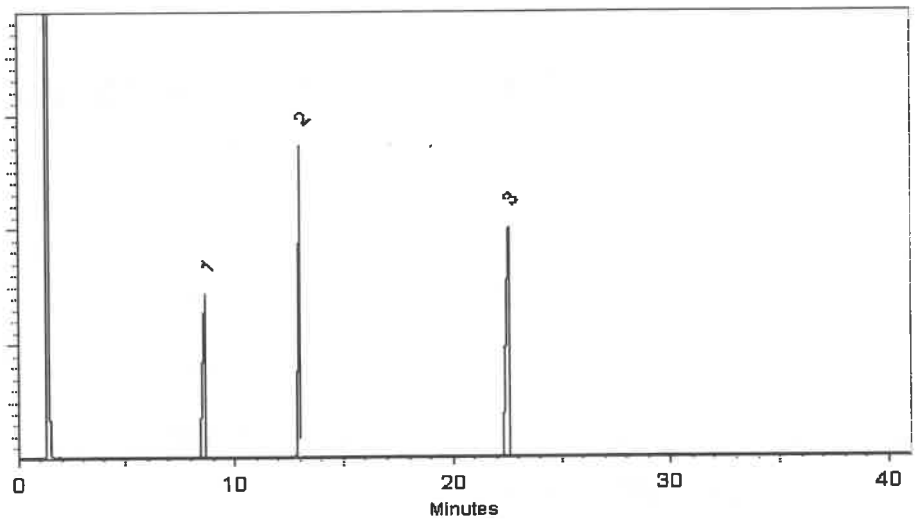

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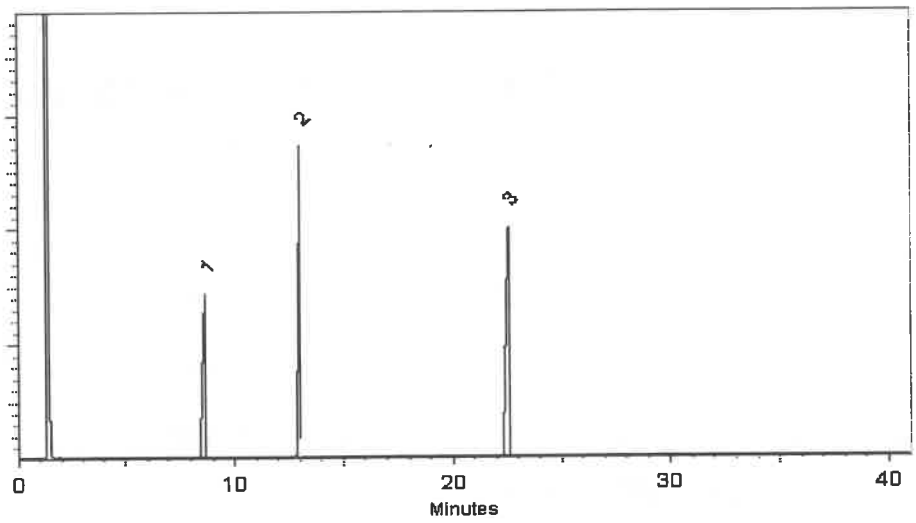

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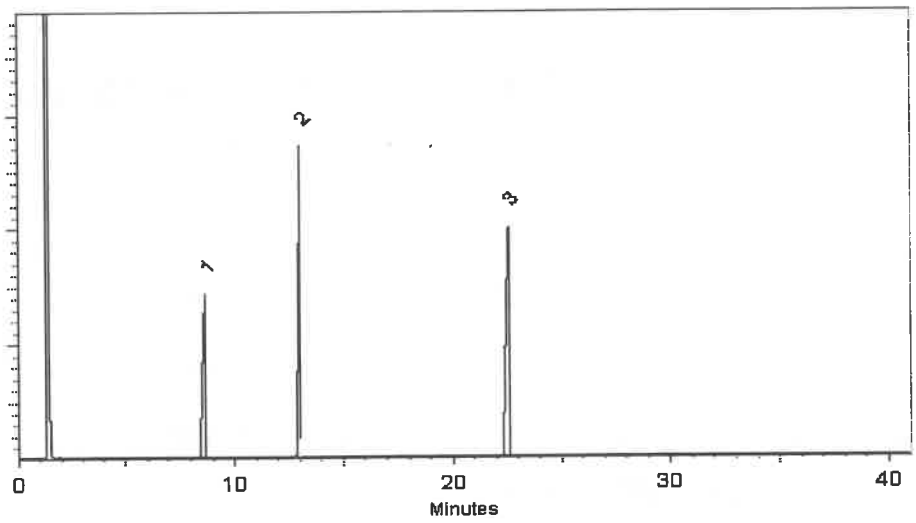

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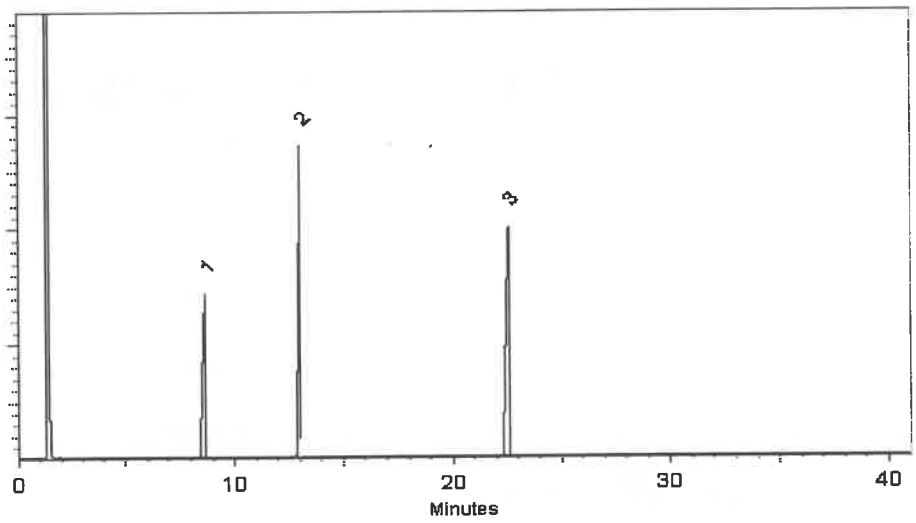

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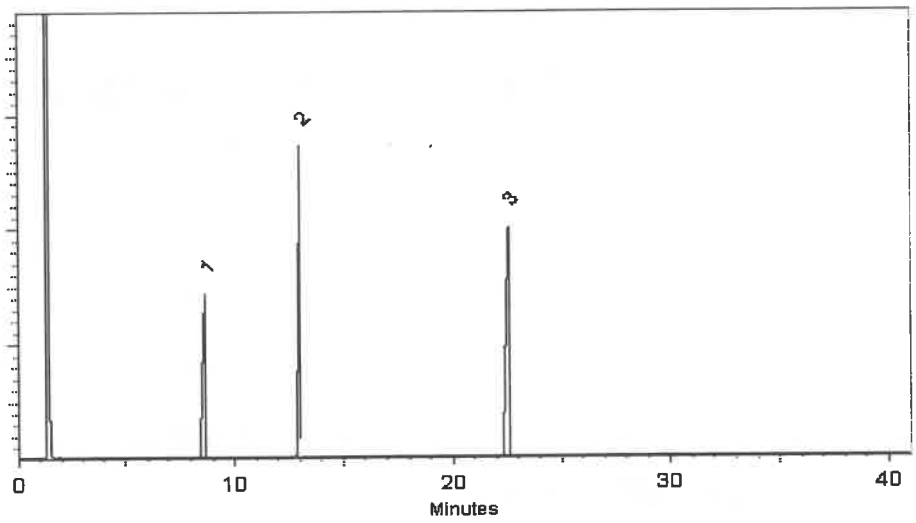

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CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received: _____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-110381-01	520963	≤ -10 °C	Methylene Chloride	10/10/2028	Method 8270 Calibration Solution, 76-1, 500 & 1,000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
acenaphthene	83-32-9	99.9	13.1.5P	1010 ± 9.89
acenaphthylene	208-96-8	97.6	14.290.1P	1014 ± 9.93
aniline	62-53-3	99.97	64.1.4P	1001 ± 9.8
anthracene	120-12-7	99.5	15.7.1P	999.6 ± 9.79
azobenzene	103-33-3	98.1	252.7.2P	999.1 ± 9.8
benzo[a]anthracene	56-55-3	100	16.7.3P	1007 ± 9.86
benzo[b]fluoranthene	205-99-2	99.8	17.421.3P	1011 ± 14.11
benzo[k]fluoranthene	207-08-9	98.9	18.421.4P	1001 ± 10.96
benzo[ghi]perylene	191-24-2	93	19.286.4P	999.6 ± 13.95
benzo[a]pyrene	50-32-8	97	20.286.2P	999.9 ± 22.24
benzyl alcohol	100-51-6	99.9	65.18.1P	1001 ± 9.82
bis(2-chloroethoxy)methane	111-91-1	99.1	31.3.15P	1000 ± 14.69
bis(2-chloroethyl)ether	111-44-4	99.8	32.7.1P	1003 ± 13.89
bis(2-chloro-1-methylethyl) ether	108-60-1	99.5	34.3.15P	999.4 ± 14.68
bis(2-ethylhexyl)adipate	103-23-1	99.5	874.7.1P	999.5 ± 9.8
bis(2-ethylhexyl)phthalate	117-81-7	99.4	33.29.1P	998.8 ± 17.03
4-bromophenyl phenyl ether	101-55-3	99.4	35.7.1.1P	1000 ± 13.85
butyl benzyl phthalate	85-68-7	98.4	36.1.6P	984.7 ± 16.79
carbazole	86-74-8	99.4	239.7.2P	1000 ± 9.8

S12270 ↓ S12274 } RC 05/24/24

*Not a certified value

Kerry E Kane

Certified By: _____

Kerry Kane
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

Certificate of Analysis

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Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
4-chloroaniline	106-47-8	100	66.7.1P	1000 ± 9.79
4-chlorophenylphenyl ether	7005-72-3	98	37.158.2P	1001 ± 17.07
4-chloro-3-methylphenol	59-50-7	99	102.1.2P	1006 ± 17.16
2-chloronaphthalene	91-58-7	99.9	42.7.6P	1000 ± 9.79
2-chlorophenol	95-57-8	99.8	103.7.1P	1007 ± 13.96
chrysene	218-01-9	96	21.286.2P	998.4 ± 12.85
dibenz[a,h]anthracene	53-70-3	99.44	22.286.3P	1000 ± 9.74
dibenzofuran	132-64-9	100	67.7.2.1P	1002 ± 9.77
di-n-butyl phthalate	84-74-2	99.84	40.286.1P	1007 ± 24.48
1,2-dichlorobenzene	95-50-1	99.8	43.7.1P	1000 ± 9.79
1,3-dichlorobenzene	541-73-1	99.5	44.1.3P	999.4 ± 9.79
1,4-dichlorobenzene	106-46-7	99.9	45.29.2P	1000 ± 9.79
2,4-dichlorophenol	120-83-2	99.6	104.7.1.1P	1005 ± 13.93
diethyl phthalate	84-66-2	99.8	38.7.1P	1011 ± 14
2,4-dimethylphenol	105-67-9	99.6	105.7.1.1P	1009 ± 13.98
dimethyl phthalate	131-11-3	99.9	39.9.2P	996.5 ± 13.8
1,2-dinitrobenzene	528-29-0	99.86	86.7.3.1P	999.5 ± 9.75
1,3-dinitrobenzene	99-65-0	100	313.7.2P	998 ± 9.79
1,4-dinitrobenzene	100-25-4	100	907.7.1P	999.5 ± 9.8
2,4-dinitrophenol	51-28-5	99.9	106.1.6DP	1002 ± 13.89
2,4-dinitrotoluene	121-14-2	100	87.7.3P	999.8 ± 13.85
2,6-dinitrotoluene	606-20-2	99.4	88.7.2.1P	999.6 ± 13.85
di-n-octyl phthalate	117-84-0	99.1	41.7.5P	991.6 ± 13.74
diphenylamine	122-39-4	100	78.1.6P	998 ± 13.79
2,3,5,6-tetrachlorophenol	935-95-5	97	1112.286.1P	1004 ± 14.02
fluoranthene	206-44-0	98.6	23.7.4P	999.6 ± 9.79
fluorene	86-73-7	98.4	24.7.1P	999.7 ± 9.79

*Not a certified value

Certified By: Kerry E Kane

Kerry Kane
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

Certificate of Analysis

Catalog No.: Z-110381-01 **Lot No.:** 520963 **Expiration Date:** 10/10/2028

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
hexachlorobenzene	118-74-1	99	46.158.4P	999.9 ± 13.96
hexachlorobutadiene	87-68-3	97.4	47.1.4P	1000 ± 9.79
hexachlorocyclopentadiene	77-47-4	99.2	48.2.2P	1001 ± 9.8
hexachloroethane	67-72-1	99.9	49.1.4P	1003 ± 9.82
indeno[1,2,3-cd]pyrene	193-39-5	98	25.286.4P	999.4 ± 22.23
isophorone	78-59-1	98.9	90.1.4P	999.9 ± 13.85
2-methyl-4,6-dinitrophenol	534-52-1	99.6	107.421.2DP	991 ± 24.09
1-methylnaphthalene	90-12-0	97.1	249.7.5P	999.2 ± 13.95
2-methylnaphthalene	91-57-6	97.4	68.7.2P	1006 ± 22.38
2-methylphenol	95-48-7	99.6	114.7.3P	1001 ± 13.87
3-methylphenol	108-39-4	99.1	115.7.4P	499.7 ± 6.92
4-methylphenol	106-44-5	99.5	116.7.1P	501.2 ± 6.94
naphthalene	91-20-3	99.8	26.9.1P	1018 ± 9.97
2-nitroaniline	88-74-4	99.7	69.29.1P	999.6 ± 9.79
3-nitroaniline	99-09-2	100	70.7.3P	1000 ± 9.74
4-nitroaniline	100-01-6	99.7	71.29.1P	1001 ± 9.8
nitrobenzene	98-95-3	100	94.7.1P	1000 ± 13.85
2-nitrophenol	88-75-5	99.1	108.29.1P	996.5 ± 13.81
4-nitrophenol	100-02-7	100	109.7.1P	1000 ± 13.82
N-nitrosodimethylamine	62-75-9	99.5	57.3.19P	998.5 ± 14.67
N-nitrosodi-n-propylamine	621-64-7	99.8	59.286.1P	996.8 ± 17
pentachlorophenol	87-86-5	99	110.1.7P	1004 ± 13.92
phenanthrene	85-01-8	99.7	27.1.5P	999 ± 12.87
phenol	108-95-2	100	112.7.1P	998.5 ± 13.8
pyrene	129-00-0	99.2	28.9.2P	998.9 ± 9.78
pyridine	110-86-1	100	101.24.1P	999 ± 9.73
2,3,4,6-Tetrachlorophenol	58-90-2	91.8	120.421.1P	996.5 ± 13.92

*Not a certified value

Certified By: Kerry E Kane

Kerry Kane
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

Certificate of Analysis

Catalog No.: Z-110381-01 **Lot No.:** 520963 **Expiration Date:** 10/10/2028

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
1,2,4-trichlorobenzene	120-82-1	99.6	54.29.1P	999.6 ± 9.79
2,4,5-trichlorophenol	95-95-4	96.5	121.7.1.1P	999.5 ± 13.85
2,4,6-trichlorophenol	88-06-2	99.6	113.7.1P	996 ± 13.8

*Not a certified value

Certified By: Kerry E Kane

Kerry Kane
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

CPI INTERNATIONAL

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(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received: _____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-010442-07	495833	≤ -10 °C	Methylene Chloride	1/16/2028	Benzaldehyde Solution, 1000 mg/L, 1.3 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
benzaldehyde	100-52-7	98.3	442.421.1P	996.8 ± 11.49

S12275 ↓ S12279 } RC/ 05/24/24

*Not a certified value

Certified By: S. Hunter

Scott Hunter
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

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Certificate #3222.02

Certificate of Analysis

chromatographic plus

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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S12312 ↓ S12331 } RC/ 05/30/24

Catalog No. : 31206 **Lot No.:** A0206540

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

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

Expiration Date : December 31, 2029 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dichlorobenzene-d4	3855-82-1	PR-30447	99%	2,007.1 µg/mL	+/- 90.4025
2	Naphthalene-d8	1146-65-2	M-2180	99%	2,005.9 µg/mL	+/- 90.3454
3	Acenaphthene-d10	15067-26-2	PR-33507	99%	2,007.9 µg/mL	+/- 90.4385
4	Phenanthrene-d10	1517-22-2	PR-32303	99%	2,006.7 µg/mL	+/- 90.3845
5	Chrysene-d12	1719-03-5	PR-32210	99%	2,015.5 µg/mL	+/- 90.7778
6	Perylene-d12	1520-96-3	PR-33205	99%	2,014.7 µg/mL	+/- 90.7448

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

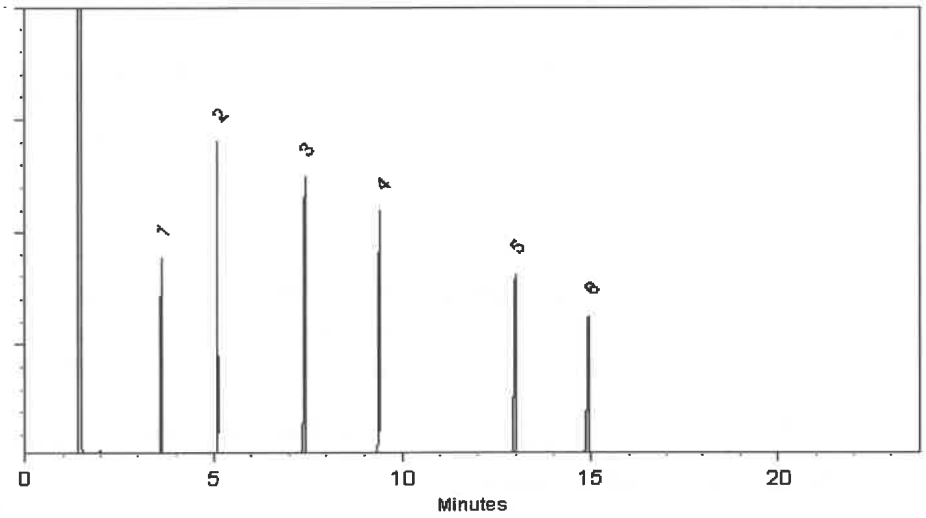
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

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.

Malina Homan - Operations Technician I

Date Mixed: 12-Jan-2024 **Balance Serial #** 1128360905

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 16-Jan-2024

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

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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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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. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S240326RSR	99%	1,004.0 µg/mL	+/- 23.0487
2	Atrazine	1912-24-9	5FYWL	99%	1,005.0 µg/mL	+/- 23.0717
3	Benzidine	92-87-5	S240430RSR	99%	1,006.0 µg/mL	+/- 23.0947
4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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

Catalog No. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S240326RSR	99%	1,004.0 µg/mL	+/- 23.0487
2	Atrazine	1912-24-9	5FYWL	99%	1,005.0 µg/mL	+/- 23.0717
3	Benzidine	92-87-5	S240430RSR	99%	1,006.0 µg/mL	+/- 23.0947
4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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

Catalog No. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S240326RSR	99%	1,004.0 µg/mL	+/- 23.0487
2	Atrazine	1912-24-9	5FYWL	99%	1,005.0 µg/mL	+/- 23.0717
3	Benzidine	92-87-5	S240430RSR	99%	1,006.0 µg/mL	+/- 23.0947
4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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.
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- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

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

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

Manufacturing Notes:

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

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampuls. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
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This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S240326RSR	99%	1,004.0 µg/mL	+/- 23.0487
2	Atrazine	1912-24-9	5FYWL	99%	1,005.0 µg/mL	+/- 23.0717
3	Benzidine	92-87-5	S240430RSR	99%	1,006.0 µg/mL	+/- 23.0947
4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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.
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

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

Catalog No. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S240326RSR	99%	1,004.0 µg/mL	+/- 23.0487
2	Atrazine	1912-24-9	5FYWL	99%	1,005.0 µg/mL	+/- 23.0717
3	Benzidine	92-87-5	S240430RSR	99%	1,006.0 µg/mL	+/- 23.0947
4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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.
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CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

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. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S240326RSR	99%	1,004.0 µg/mL	+/- 23.0487
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Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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

General Certified Reference Material Notes

Expiration Notes:

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Manufacturing Notes:

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Catalog No. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S240326RSR	99%	1,004.0 µg/mL	+/- 23.0487
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3	Benzidine	92-87-5	S240430RSR	99%	1,006.0 µg/mL	+/- 23.0947
4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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

General Certified Reference Material Notes

Expiration Notes:

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Catalog No. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
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4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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

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Catalog No. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
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3	Benzidine	92-87-5	S240430RSR	99%	1,006.0 µg/mL	+/- 23.0947
4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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

General Certified Reference Material Notes

Expiration Notes:

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Catalog No. : 555223 **Lot No.:** A0214021

Description : Custom 8270 Plus Standard #1

Custom 8270 Plus Standard #1 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Handling: This product is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	3,3'-Dichlorobenzidine	91-94-1	S240326RSR	99%	1,004.0 µg/mL	+/- 23.0487
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4	epsilon-Caprolactam	105-60-2	Y16H012	99%	1,000.0 µg/mL	+/- 22.9569

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12449 ↓ S12508 } RC 7/24/24

Rebecca Gingerich - Operations Tech II

Date Mixed: 18-Jul-2024 **Balance:** 1128353505

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

General Certified Reference Material Notes

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Catalog No. : 555224 **Lot No.:** A0214017

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2,4,5-Tetrachlorobenzene	95-94-3	MKCT9480	99%	1,005.0 µg/mL	+/- 29.541899
2	Acetophenone	98-86-2	STBH8205	99%	1,005.0 µg/mL	+/- 29.541899
3	Benzaldehyde	100-52-7	RD231129RSRA	99%	1,008.0 µg/mL	+/- 29.630084
4	Benzoic acid	65-85-0	MKCR2694	99%	1,010.0 µg/mL	+/- 29.688874
5	Biphenyl	92-52-4	MKCS5928	99%	1,008.0 µg/mL	+/- 29.630084

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12509 ↓ S12568 } RC/ 7/24/24

Jess Hoy - Operations Tech I

Date Mixed: 18-Jul-2024 **Balance:** 1128360905

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:

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Certified Uncertainty Value Notes:

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Manufacturing Notes:

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Catalog No. : 555224 **Lot No.:** A0214017

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2,4,5-Tetrachlorobenzene	95-94-3	MKCT9480	99%	1,005.0 µg/mL	+/- 29.541899
2	Acetophenone	98-86-2	STBH8205	99%	1,005.0 µg/mL	+/- 29.541899
3	Benzaldehyde	100-52-7	RD231129RSRA	99%	1,008.0 µg/mL	+/- 29.630084
4	Benzoic acid	65-85-0	MKCR2694	99%	1,010.0 µg/mL	+/- 29.688874
5	Biphenyl	92-52-4	MKCS5928	99%	1,008.0 µg/mL	+/- 29.630084

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12509 ↓ S12568 } RC/ 7/24/24

Jess Hoy - Operations Tech I

Date Mixed: 18-Jul-2024 **Balance:** 1128360905

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:

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Fax: 1-814-353-1309

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Certificate of Analysis

gravimetric

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ISO/IEC 17025 Accredited
Testing Laboratory
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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. : 555224 **Lot No.:** A0214017

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

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Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

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Catalog No. : 555224 **Lot No.:** A0214017

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Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

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Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
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Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

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Catalog No. : 555224 **Lot No.:** A0214017

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

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Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

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Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

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Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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Expiration Date : July 31, 2026 **Storage:** 10°C or colder

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Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

gravimetric

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

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. : 555224 **Lot No.:** A0214017

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2,4,5-Tetrachlorobenzene	95-94-3	MKCT9480	99%	1,005.0 µg/mL	+/- 29.541899
2	Acetophenone	98-86-2	STBH8205	99%	1,005.0 µg/mL	+/- 29.541899
3	Benzaldehyde	100-52-7	RD231129RSRA	99%	1,008.0 µg/mL	+/- 29.630084
4	Benzoic acid	65-85-0	MKCR2694	99%	1,010.0 µg/mL	+/- 29.688874
5	Biphenyl	92-52-4	MKCS5928	99%	1,008.0 µg/mL	+/- 29.630084

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12509 ↓ S12568 } RC/ 7/24/24

Jess Hoy - Operations Tech I

Date Mixed: 18-Jul-2024 **Balance:** 1128360905

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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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. : 555224 **Lot No.:** A0214017

Description : Custom 8270 Plus Standard #2

Custom 8270 Plus Standard #2 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : July 31, 2026 **Storage:** 10°C or colder

Ship: Ambient

CERTIFIED VALUES

Component #	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,2,4,5-Tetrachlorobenzene	95-94-3	MKCT9480	99%	1,005.0 µg/mL	+/- 29.541899
2	Acetophenone	98-86-2	STBH8205	99%	1,005.0 µg/mL	+/- 29.541899
3	Benzaldehyde	100-52-7	RD231129RSRA	99%	1,008.0 µg/mL	+/- 29.630084
4	Benzoic acid	65-85-0	MKCR2694	99%	1,010.0 µg/mL	+/- 29.688874
5	Biphenyl	92-52-4	MKCS5928	99%	1,008.0 µg/mL	+/- 29.630084

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12509 ↓ S12568 } RC/ 7/24/24

Jess Hoy - Operations Tech I

Date Mixed: 18-Jul-2024 **Balance:** 1128360905

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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Catalog No. : 31615 **Lot No.:** A0212955

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1,000µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : June 30, 2027 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,004.5 µg/mL	+/- 44.8902
2	DFTPP (Decafluorotriphenylphosphine)	5074-71-5	Q117-147	99%	1,004.5 µg/mL	+/- 44.8902
3	Benzidine	92-87-5	S240430RSR	99%	1,006.0 µg/mL	+/- 44.9572
4	4,4'-DDT	50-29-3	S240530RSR	97%	1,000.1 µg/mL	+/- 44.6922

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12577 ↓ S12579 RC 8/2/24

Quality Confirmation Test

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

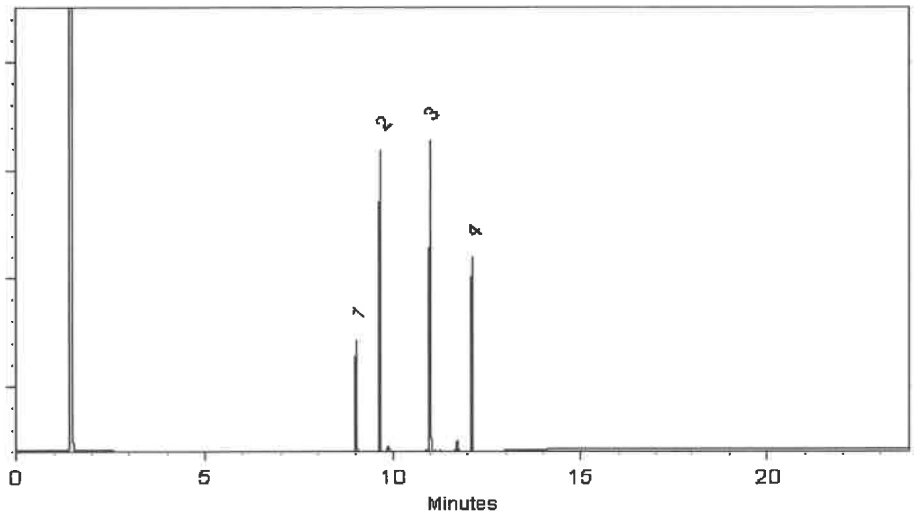
Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID

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.

Ethan Winiarski - Operations Tech I

Date Mixed: 19-Jun-2024 **Balance Serial #** 1128353505

Jennifer Pollino - Operations Tech III - ARM QC

Date Passed: 26-Jun-2024

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

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ilac-MRA A2LA ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

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

Catalog No. : 31206 **Lot No.:** A0212266

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

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

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

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dichlorobenzene-d4	3855-82-1	PR-30447	99%	2,000.6 µg/mL	+/- 90.1075
2	Naphthalene-d8	1146-65-2	M-2180	99%	2,000.3 µg/mL	+/- 90.0925
3	Acenaphthene-d10	15067-26-2	PR-33507	99%	2,000.4 µg/mL	+/- 90.1000
4	Phenanthrene-d10	1517-22-2	PR-34099	99%	2,000.5 µg/mL	+/- 90.1037
5	Chrysene-d12	1719-03-5	PR-33506	99%	2,000.7 µg/mL	+/- 90.1112
6	Perylene-d12	1520-96-3	PR-33205	99%	2,000.6 µg/mL	+/- 90.1075

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12645 ↓ S12674 AC 10/1/24

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

Catalog No. : 31206 **Lot No.:** A0212266

Description : SV Internal Standard Mix 2mg/ml

SV Internal Standard Mix 2mg/ml 2000 µg/ml, Methylene Chloride, 1mL/ampul

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

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

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	1,4-Dichlorobenzene-d4	3855-82-1	PR-30447	99%	2,000.6 µg/mL	+/- 90.1075
2	Naphthalene-d8	1146-65-2	M-2180	99%	2,000.3 µg/mL	+/- 90.0925
3	Acenaphthene-d10	15067-26-2	PR-33507	99%	2,000.4 µg/mL	+/- 90.1000
4	Phenanthrene-d10	1517-22-2	PR-34099	99%	2,000.5 µg/mL	+/- 90.1037
5	Chrysene-d12	1719-03-5	PR-33506	99%	2,000.7 µg/mL	+/- 90.1112
6	Perylene-d12	1520-96-3	PR-33205	99%	2,000.6 µg/mL	+/- 90.1075

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

S12645 ↓ S12674 AC 10/1/24

CPI INTERNATIONAL

5580 Skylane Blvd
Santa Rosa, CA 95403

(707)525-5788
(800)878-7654 Toll Free
(707)545-7901 Fax

Manufacturer's Quality System
Audited & Registered
by TUV USA to ISO 9001:2015

Date Received:_____

Certificate of Analysis

Rev 0

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
Z-110816-01	414127	≤-10 °C	Methylene Chloride	6/21/2025	Custom 8270 Mix, 4-79, 1000 mg/L, 1 mL

Compound	CAS No.	Purity (%)	Compound Lot No.	Concentration, mg/L
atrazine	1912-24-9	99.5	337.7.3P	997 ± 5.81
benzidine	92-87-5	99.9	124.18.6.2P	991.8 ± 5.77
caprolactam	105-60-2	99.9	271.1.6P	999 ± 5.82

~~S12280~~ ↓ ~~S12284~~ RCI 05/24/24

New numbers Generated.

S12790 ↓ S12794 RCI 11/12/24

*Not a certified value

Manufactured by o2si smart solutions, Accredited to ISO 9001:2008 by NSF and ISO/IEC 17025:2005 (Certification No. 3031.01) and ISO Guide 34:2009 (Certification No. 3031.02) by A2LA

Certified By: _____
Shane Overcash
Chemist

All weights are traceable through N. I. S. T. Test No. 822/264157-00. Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

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Catalog No. : 31850 **Lot No.:** A0219438

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
N-Nitrosodiphenylamine (86-30-6) is prone to breakdown in the injection port and will be converted to Diphenylamine (122-39-4). When comparing the response of Diphenylamine to mixtures manufactured using N-Nitrosodiphenylamine, a difference in response will be observed. The ratio of the MW can be used to calculate the theoretical concentration of the N-Nitrosodiphenylamine.

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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. : 31850 **Lot No.:** A0219438

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
N-Nitrosodiphenylamine (86-30-6) is prone to breakdown in the injection port and will be converted to Diphenylamine (122-39-4). When comparing the response of Diphenylamine to mixtures manufactured using N-Nitrosodiphenylamine, a difference in response will be observed. The ratio of the MW can be used to calculate the theoretical concentration of the N-Nitrosodiphenylamine.

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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. : 31850 **Lot No.:** A0219438

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
N-Nitrosodiphenylamine (86-30-6) is prone to breakdown in the injection port and will be converted to Diphenylamine (122-39-4). When comparing the response of Diphenylamine to mixtures manufactured using N-Nitrosodiphenylamine, a difference in response will be observed. The ratio of the MW can be used to calculate the theoretical concentration of the N-Nitrosodiphenylamine.

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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. : 31850 **Lot No.:** A0219438

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
N-Nitrosodiphenylamine (86-30-6) is prone to breakdown in the injection port and will be converted to Diphenylamine (122-39-4). When comparing the response of Diphenylamine to mixtures manufactured using N-Nitrosodiphenylamine, a difference in response will be observed. The ratio of the MW can be used to calculate the theoretical concentration of the N-Nitrosodiphenylamine.

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Catalog No. : 31850 **Lot No.:** A0219438

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
N-Nitrosodiphenylamine (86-30-6) is prone to breakdown in the injection port and will be converted to Diphenylamine (122-39-4). When comparing the response of Diphenylamine to mixtures manufactured using N-Nitrosodiphenylamine, a difference in response will be observed. The ratio of the MW can be used to calculate the theoretical concentration of the N-Nitrosodiphenylamine.

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Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
N-Nitrosodiphenylamine (86-30-6) is prone to breakdown in the injection port and will be converted to Diphenylamine (122-39-4). When comparing the response of Diphenylamine to mixtures manufactured using N-Nitrosodiphenylamine, a difference in response will be observed. The ratio of the MW can be used to calculate the theoretical concentration of the N-Nitrosodiphenylamine.

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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. : 31850 **Lot No.:** A0219438

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
N-Nitrosodiphenylamine (86-30-6) is prone to breakdown in the injection port and will be converted to Diphenylamine (122-39-4). When comparing the response of Diphenylamine to mixtures manufactured using N-Nitrosodiphenylamine, a difference in response will be observed. The ratio of the MW can be used to calculate the theoretical concentration of the N-Nitrosodiphenylamine.

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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. : 31850 **Lot No.:** A0219438

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
N-Nitrosodiphenylamine (86-30-6) is prone to breakdown in the injection port and will be converted to Diphenylamine (122-39-4). When comparing the response of Diphenylamine to mixtures manufactured using N-Nitrosodiphenylamine, a difference in response will be observed. The ratio of the MW can be used to calculate the theoretical concentration of the N-Nitrosodiphenylamine.

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: 1-814-353-1300
Fax: 1-814-353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

chromatographic plus

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. : 31850 **Lot No.:** A0219438

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/mL, Methylene Chloride, 1mL/ampul

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

Expiration Date : September 30, 2025 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive. **Ship:** Ambient

S12963 ↓ S12992 AC 12/17/24

CERTIFIED VALUES

Elution Order	Compound	CAS #	Lot #	Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty * (95% C.L.; K=2)
1	Pyridine	110-86-1	SHBP6240	99%	1,008.3 µg/mL	+/- 36.6849
2	N-Nitrosodimethylamine	62-75-9	S240313RSR	99%	1,008.6 µg/mL	+/- 36.6985
3	Phenol	108-95-2	MKCK1120	99%	1,003.5 µg/mL	+/- 36.5120
4	Aniline	62-53-3	X22F726	99%	1,002.9 µg/mL	+/- 36.4893
5	Bis(2-chloroethyl)ether	111-44-4	002891T24M	99%	1,003.0 µg/mL	+/- 36.4938
6	2-Chlorophenol	95-57-8	STBJ3909	99%	1,005.6 µg/mL	+/- 36.5894
7	1,3-Dichlorobenzene	541-73-1	BCCD5315	99%	1,004.1 µg/mL	+/- 36.5348
8	1,4-Dichlorobenzene	106-46-7	MKBS7929V	99%	1,002.1 µg/mL	+/- 36.4620
9	Benzyl alcohol	100-51-6	SHBK5469	99%	1,003.5 µg/mL	+/- 36.5120
10	1,2-Dichlorobenzene	95-50-1	SHBL6287	99%	1,005.3 µg/mL	+/- 36.5757
11	2-Methylphenol (o-cresol)	95-48-7	SHBN7598	99%	1,008.4 µg/mL	+/- 36.6894
12	2,2'-oxybis(1-chloropropane)	108-60-1	29-MAR-45-5	99%	1,004.6 µg/mL	+/- 36.5530
13	3-Methylphenol (m-cresol)	108-39-4	STBJ0710	99%	502.1 µg/mL	+/- 18.2697
14	4-Methylphenol (p-cresol)	106-44-5	SHBN3411	99%	503.8 µg/mL	+/- 18.3288
15	N-Nitroso-di-n-propylamine	621-64-7	N63MG	99%	1,006.5 µg/mL	+/- 36.6212
16	Hexachloroethane	67-72-1	DAXRI	99%	1,004.5 µg/mL	+/- 36.5484
17	Nitrobenzene	98-95-3	10224044	99%	1,002.5 µg/mL	+/- 36.4757

18	Isophorone	78-59-1	MKCR3249	99%	1,003.4	µg/mL	+/- 36.5075
19	2-Nitrophenol	88-75-5	RP230710	99%	1,002.5	µg/mL	+/- 36.4757
20	2,4-Dimethylphenol	105-67-9	XW5GK	99%	1,006.5	µg/mL	+/- 36.6212
21	Bis(2-chloroethoxy)methane	111-91-1	15705100	99%	1,006.6	µg/mL	+/- 36.6257
22	2,4-Dichlorophenol	120-83-2	BCCK6969	99%	1,001.5	µg/mL	+/- 36.4393
23	1,2,4-Trichlorobenzene	120-82-1	SHBP5900	99%	1,006.4	µg/mL	+/- 36.6166
24	Naphthalene	91-20-3	STBL1057	99%	1,002.1	µg/mL	+/- 36.4620
25	4-Chloroaniline	106-47-8	BCCJ3217	99%	1,004.4	µg/mL	+/- 36.5439
26	Hexachlorobutadiene	87-68-3	X05J	98%	1,002.5	µg/mL	+/- 36.4771
27	4-Chloro-3-methylphenol	59-50-7	BCCD4461	99%	1,004.5	µg/mL	+/- 36.5484
28	2-Methylnaphthalene	91-57-6	STBL3028	99%	1,000.0	µg/mL	+/- 36.3847
29	1-Methylnaphthalene	90-12-0	5234.00-8	98%	990.2	µg/mL	+/- 36.0269
30	Hexachlorocyclopentadiene	77-47-4	099063I14L	98%	1,001.3	µg/mL	+/- 36.4325
31	2,4,6-Trichlorophenol	88-06-2	STBK8870	99%	1,006.4	µg/mL	+/- 36.6166
32	2,4,5-Trichlorophenol	95-95-4	3YFRE	97%	1,004.6	µg/mL	+/- 36.5505
33	2-Chloronaphthalene	91-58-7	RPN7O	99%	1,004.3	µg/mL	+/- 36.5393
34	2-Nitroaniline	88-74-4	RP240715RSR	99%	1,004.4	µg/mL	+/- 36.5439
35	1,4-Dinitrobenzene	100-25-4	RP240703RSR	99%	1,002.8	µg/mL	+/- 36.4847
36	Acenaphthylene	208-96-8	RP241029RSR	98%	1,000.0	µg/mL	+/- 36.3835
37	1,3-Dinitrobenzene	99-65-0	TRC3-1075941-2-1	99%	1,006.3	µg/mL	+/- 36.6121
38	Dimethylphthalate	131-11-3	358221L17K	99%	1,008.9	µg/mL	+/- 36.7076
39	2,6-Dinitrotoluene	606-20-2	BCCG1833	99%	1,006.6	µg/mL	+/- 36.6257
40	1,2-Dinitrobenzene	528-29-0	RP240701RSR	99%	1,002.5	µg/mL	+/- 36.4757
41	Acenaphthene	83-32-9	MKCR7169	99%	1,000.0	µg/mL	+/- 36.3847
42	3-Nitroaniline	99-09-2	RP240708RSR	99%	1,004.6	µg/mL	+/- 36.5530
43	2,4-Dinitrophenol	51-28-5	D240927RSR	----%	1,005.6	µg/mL	+/- 36.5894
44	Dibenzofuran	132-64-9	MKCN1772	99%	1,003.5	µg/mL	+/- 36.5120
45	2,4-Dinitrotoluene	121-14-2	102869V26E	99%	1,008.3	µg/mL	+/- 36.6849
46	4-Nitrophenol	100-02-7	20241029-2-AN	99%	1,004.8	µg/mL	+/- 36.5575
47	2,3,4,6-Tetrachlorophenol	58-90-2	PR-34476	99%	1,005.8	µg/mL	+/- 36.5939
48	2,3,5,6-Tetrachlorophenol	935-95-5	RP231219RSR	99%	1,006.4	µg/mL	+/- 36.6166
49	Fluorene	86-73-7	10246250	98%	1,000.7	µg/mL	+/- 36.4102
50	4-Chlorophenyl phenyl ether	7005-72-3	MKCT7248	99%	1,004.9	µg/mL	+/- 36.5621
51	Diethylphthalate	84-66-2	BCCJ6241	99%	1,003.9	µg/mL	+/- 36.5257
52	4-Nitroaniline	100-01-6	RP230111	99%	1,006.6	µg/mL	+/- 36.6257
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)	534-52-1	S241008RSR	99%	1,001.3	µg/mL	+/- 36.4302

54	Diphenylamine	122-39-4	MKCT1512	99%	1,003.0	µg/mL	+/- 36.4938
55	Azobenzene	103-33-3	BCCK0887	99%	1,002.4	µg/mL	+/- 36.4711
56	4-Bromophenyl phenyl ether	101-55-3	STBH6361	99%	1,008.8	µg/mL	+/- 36.7031
57	Hexachlorobenzene	118-74-1	15458400	99%	1,005.1	µg/mL	+/- 36.5712
58	Pentachlorophenol	87-86-5	RP240517RSR	99%	1,005.9	µg/mL	+/- 36.5984
59	Phenanthrene	85-01-8	MKCT3391	99%	1,004.9	µg/mL	+/- 36.5621
60	Anthracene	120-12-7	101492T18R	99%	1,005.1	µg/mL	+/- 36.5712
61	Carbazole	86-74-8	15276700	99%	1,005.4	µg/mL	+/- 36.5803
62	Di-n-butylphthalate	84-74-2	MKCN4337	99%	1,006.3	µg/mL	+/- 36.6121
63	Fluoranthene	206-44-0	MKCQ4728	99%	1,003.5	µg/mL	+/- 36.5120
64	Pyrene	129-00-0	BCCK2592	99%	1,002.0	µg/mL	+/- 36.4575
65	Benzyl butyl phthalate	85-68-7	X12I018	99%	1,007.5	µg/mL	+/- 36.6576
66	Bis(2-ethylhexyl)adipate	103-23-1	MKCM1988	99%	1,005.9	µg/mL	+/- 36.5984
67	Benz(a)anthracene	56-55-3	I70012022BAA	99%	1,005.5	µg/mL	+/- 36.5848
68	Chrysene	218-01-9	RP241007RSR	99%	1,005.3	µg/mL	+/- 36.5757
69	Bis(2-ethylhexyl)phthalate	117-81-7	MKCS8065	99%	1,007.5	µg/mL	+/- 36.6576
70	Di-n-octyl phthalate	117-84-0	15566400	99%	1,002.3	µg/mL	+/- 36.4666
71	Benzo(b)fluoranthene	205-99-2	052013B	99%	1,004.1	µg/mL	+/- 36.5348
72	Benzo(k)fluoranthene	207-08-9	012022K	99%	1,002.8	µg/mL	+/- 36.4847
73	Benzo(a)pyrene	50-32-8	NQLXA	98%	1,006.2	µg/mL	+/- 36.6108
74	Indeno(1,2,3-cd)pyrene	193-39-5	12-JKL-118-9	97%	1,001.8	µg/mL	+/- 36.4490
75	Dibenz(a,h)anthracene	53-70-3	2-ASA-59-1	99%	1,003.3	µg/mL	+/- 36.5029
76	Benzo(g,h,i)perylene	191-24-2	RP241014RSR	98%	1,003.8	µg/mL	+/- 36.5217

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

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

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