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Prep Standard - Chemical Standard Summary

Order ID : P1747

Test : CBOD5,Chloride,Flash Point,Hexavalent Chromium,Non-Polar Material,Phenolics,TKN,Total Nitrogen,TS,TSS

Prepbatch ID : PB159614,PB159616,

Sequence ID/Qc Batch ID: LB129875,LB129879,LB129881,LB129888,LB129890,LB129904,LB129910,LB129917,LB129942,LB12

Standard ID :
EP2458,WP104400,WP104401,WP104563,WP104564,WP104780,WP105287,WP105476,WP105703,WP105744,WP105917,WP105918,WP105919,WP105967,WP106017,WP106018,WP106366,WP106367,WP106368,WP106381,WP106382,WP106383,WP106529,WP106542,WP106884,WP106905,WP106906,WP106917,WP106941,WP106942,WP106943,WP106944,WP106945,WP106946,WP106947,WP106948,WP106949,WP106950,WP106951,WP106952,WP106962,WP106963,WP106964,WP106965,WP106966,WP106967,WP106977,WP106978,WP106979,WP106980,

Chemical ID :
E3551,E3708,M4123,M4909,M5037,M5211,M5792,M5827,W1992,W1993,W2211,W2338,W2454,W2606,W2647,W2651,W2652,W2653,W2654,W2663,W2666,W2676,W2697,W2712,W2784,W2788,W2839,W2858,W2900,W2913,W2914,W2942,W2965,W2976,W2977,W2979,W2983,W3004,W3049,W3056,W3059,W3073,W3075,W3076,W3080,

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Extractions STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3923	Baked Sodium Sulfate	EP2458	03/08/2024	07/03/2024	Rajesh Parikh	Extraction_SCALE_2 (EX-SC-2)	None	RUPESHKUMAR SHAH 03/08/2024

FROM 4000.00000gram of E3551 = Final Quantity: 4000.000 gram

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
672	ammonia buffer for phenol	WP104400	09/28/2023	03/28/2024	Iwona Zarych	WETCHEM_SCALE_5 (WC SC-5)	None	Sohil Jodhani 10/02/2023

FROM 143.00000ml of W2676 + 16.90000gram of W1992 + 90.10000ml of W2606 = Final Quantity: 250.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1935	Potassium ferricyanide solution-phenol	WP104401	09/28/2023	03/28/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Sohil Jodhani 10/02/2023

FROM 8.00000gram of W2211 + 92.00000ml of W2606 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
153	Ammonia Stock Std. (1000 ppm)	WP104563	10/06/2023	04/06/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Sohil Jodhani 10/10/2023

FROM 3.81900gram of W1992 + 996.18100ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1895	Ammonia Stock Std, 1000PPM-SS	WP104564	10/06/2023	04/06/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Sohil Jodhani 10/10/2023

FROM 3.81900gram of W1993 + 996.18100ml of W2606 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1597	0.04 N H2SO4	WP104780	10/18/2023	04/18/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Sohil Jodhani 10/23/2023

FROM 1.00000ml of M5211 + 999.00000ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1837	Chloride Blank	WP105287	11/13/2023	05/13/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Sohil Jodhani 11/16/2023

FROM 0.10000gram of W2647 + 999.90000ml of W2606 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
740	sodium nitroferricyanide for ammonia	WP105476	11/28/2023	05/28/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 12/05/2023

FROM 0.05000gram of W2666 + 99.95000ml of W2606 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3890	Chloride Stock Std - 10000ppm	WP105703	12/14/2023	06/14/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 12/14/2023

FROM 16.48500gram of M4123 + 985.00000ml of W2606 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1841	Sulfuric Acid, 1N	WP105744	12/15/2023	06/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 12/15/2023

FROM 2.80000ml of M5037 + 97.20000ml of W2606 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2456	COD Stock std, 1000ppm	WP105917	12/27/2023	01/03/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Sohil Jodhani 01/03/2024

FROM 0.08500gram of W2784 + 100.00000ml of W2606 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2457	COD Stock std-SS, 1000ppm	WP105918	12/27/2023	01/03/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Sohil Jodhani 01/03/2024

FROM 0.08500gram of W2338 + 100.00000ml of W2606 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2458	COD CCV std, 50ppm	WP105919	12/27/2023	01/03/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Sohil Jodhani 01/03/2024

FROM 9.50000ml of W2606 + 0.50000ml of WP105917 = Final Quantity: 10.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
619	TKN digestion solution	WP105967	01/03/2024	07/03/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Sohil Jodhani 01/03/2024

FROM 134.00000gram of W2983 + 134.00000ml of M5211 + 7.30000gram of W2697 + 725.00000ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1993	HEXAVALENTCHROMIUM STOCK STD 1, 50PPM	WP106017	01/09/2024	07/09/2024	Rubina Mughal	WETCHEM_SCALE_7 (WCSC-6)	None	Iwona Zarych 01/09/2024

FROM 0.14140gram of W2651 + 1000.00000ml of W2606 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1994	HEXAVALENTCHROMIUM STOCK STD 2, 50PPM	WP106018	01/09/2024	07/09/2024	Rubina Mughal	WETCHEM_SCALE_7 (WCSC-6)	None	Iwona Zarych 01/09/2024

FROM 0.14140gram of W2652 + 1000.00000ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1338	TKN DISTILLING BUFFER	WP106366	01/31/2024	07/04/2024	Rubina Mughal	WETCHEM_SCALE_4 (WCSC-4)	None	Iwona Zarych 01/31/2024

FROM 0.47500L of W2606 + 25.00000gram of W2454 + 500.00000gram of W2942 = Final Quantity: 1.000 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1903	Phenol stock std, 1000PPM	WP106367	01/31/2024	07/31/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 01/31/2024

FROM 1.00000gram of W2663 + 999.00000ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1904	Phenol stock std, 1000PPM-SS	WP106368	01/31/2024	07/31/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 01/31/2024

FROM 1.00000gram of W2858 + 999.00000ml of W2606 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
289	Sodium Hypochlorite for Ammonia	WP106381	02/01/2024	06/30/2024	Rubina Mughal	None	None	Iwona Zarych 02/05/2024

FROM 50.00000ml of W2606 + 50.00000ml of W3073 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
290	Phenol reagent for Ammonia	WP106382	02/01/2024	07/04/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 02/05/2024

FROM 3.20000gram of W2942 + 8.30000gram of W2663 + 88.80000ml of W2606 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
635	EDTA BUFFER FOR AMMONIA	WP106383	02/01/2024	07/04/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 02/05/2024

FROM 5.50000gram of W2942 + 950.00000ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1571	Sodium hydroxide, 1N	WP106529	02/09/2024	07/04/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	None	Sohil Jodhani 02/12/2024

FROM 4.00000gram of W2942 + 96.00000ml of W2606 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
922	0.2N SULFURIC ACID	WP106542	02/12/2024	08/12/2024	Rubina Mughal	None	Glass Pipette-A	Iwona Zarych 02/13/2024

FROM 5.60000ml of M5037 + 994.40000ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
114	hexavalent chromium color reagent	WP106884	03/08/2024	03/15/2024	Nikita Patel	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 03/08/2024

FROM 0.25000gram of W2979 + 50.00000ml of E3708 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1478	Phenol Intermediate Std - 50PPM	WP106905	03/11/2024	04/11/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/11/2024

FROM 47.50000ml of W2606 + 2.50000ml of WP106367 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1635	Phenol Intermediate Std Second Source-50PPM	WP106906	03/11/2024	04/11/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/11/2024

FROM 47.50000ml of W2606 + 2.50000ml of WP106368 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
229	1:1 HCL	WP106917	03/13/2024	08/05/2024	Jignesh Parikh	None	None	Iwona Zarych 03/13/2024

FROM 500.00000ml of M5792 + 500.00000ml of W2606 = Final Quantity: 1.000 L

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
127	BOD Dilution fluid	WP106941	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 18.00000L of W2606 + 3.00000PILLOW of W2900 = Final Quantity: 18.000 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
129	Glutamic acid-glucose mix for BOD	WP106942	03/14/2024	03/15/2024	Rubina Mughal	WETCHEM_SCALE_7 (WCSC-6)	None	Iwona Zarych 03/19/2024

FROM 0.15000gram of W2653 + 0.15000gram of W2654 + 1000.00000ml of W2606 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
128	polyseed seed control	WP106943	03/14/2024	03/15/2024	Rubina Mughal	None	None	Iwona Zarych 03/19/2024

FROM 1.00000PILLOW of W3059 + 300.00000ml of WP106941 = Final Quantity: 300.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1103	HEX CHROME INTERMEDIATE STD SOURCE 1 (5PPM)	WP106944	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 9.00000ml of W2606 + 1.00000ml of WP106017 = Final Quantity: 10.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
110	calibration std. hexchrome 0 ppm	WP106945	03/14/2024	03/15/2024	Rubina Mughal	None	None	Iwona Zarych 03/19/2024

FROM 100.00000ml of W2606 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
109	calibration std. hexchrome 0.01 ppm	WP106946	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 99.80000ml of W2606 + 0.20000ml of WP106944 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3800	Calibration Std Hexachrome 0.025 ppm	WP106947	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 99.50000ml of W2606 + 0.50000ml of WP106944 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
108	Calibration Std. hexchrome 0.05 ppm	WP106948	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 99.00000ml of W2606 + 1.00000ml of WP106944 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
107	Calibration Std. hexchrome 0.1 ppm	WP106949	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 99.80000ml of W2606 + 0.20000ml of WP106017 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3808	Calibration and CCV std HexChrome 0.5PPM	WP106950	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 99.00000ml of W2606 + 1.00000ml of WP106017 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3809	Calibration std HexChrome 1.0PPM	WP106951	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 98.00000ml of W2606 + 2.00000ml of WP106017 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3804	Hexavalent Chromium ICV-LCS Std	WP106952	03/14/2024	03/15/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 99.00000ml of W2606 + 1.00000ml of WP106018 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3899	Chloride LCS std - 50ppm	WP106962	03/14/2024	03/15/2024	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Sohil Jodhani 03/20/2024

FROM 19.90000ml of W2606 + 0.10000ml of WP105703 = Final Quantity: 20.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1459	Indicator-acidifier reagent - Chloride	WP106963	03/14/2024	04/14/2024	Iwona Zarych	WETCHEM_SCALE_5 (WCSC-5)	Glass Pipette-A	Sohil Jodhani 03/20/2024

FROM 0.03000gram of W2712 + 0.25000gram of W3049 + 100.00000ml of W2788 + 4.00000ml of M5827 = Final Quantity: 105.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
295	TKN Calibration Std (10 ppm)	WP106964	03/15/2024	03/22/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 49.50000ml of W2606 + 0.50000ml of WP104563 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
297	TKN CCV STD 5 ppm	WP106965	03/15/2024	03/22/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 49.75000ml of W2606 + 0.25000ml of WP104563 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
296	TKN ICV STD 5 ppm	WP106966	03/15/2024	03/22/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 49.75000ml of W2606 + 0.25000ml of WP104564 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
298	TKN LCS STD 5 ppm	WP106967	03/15/2024	03/22/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 49.75000ml of W2606 + 0.25000ml of WP104564 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1633	Phenol Calibration Std, 2PPM	WP106977	03/15/2024	03/16/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 48.00000ml of W2606 + 2.00000ml of WP106905 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1634	Phenol CCV Std, 1PPM	WP106978	03/15/2024	03/16/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 49.00000ml of W2606 + 1.00000ml of WP106905 = Final Quantity: 50.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1636	Phenol ICV Std, 1PPM	WP106979	03/15/2024	03/16/2024	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 03/19/2024

FROM 49.00000ml of W2606 + 1.00000ml of WP106906 = Final Quantity: 50.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
506	4-AMINOANTIPYRINE	WP106980	03/15/2024	03/16/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	Glass Pipette-A	Iwona Zarych 03/19/2024

FROM 0.40000gram of W3004 + 20.00000ml of W2606 = Final Quantity: 20.000 ml

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19631-100 / SODIUM SULFATE, ANHYDROUS, PEST GRADE, 1	313201	07/03/2024	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-9254-03 / Acetone, Ultra Resi (cs/4x4L)	23H1462005	03/01/2029	03/01/2024 / Rajesh	03/01/2024 / Rajesh	E3708

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-3624-05 / Sodium Chloride, Crystal (cs/4x2.5kg)	0000187425	08/01/2024	05/24/2018 / mohan	03/02/2018 / mohan	M4123

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140440 / TEST PAPERS,PH,0-2.5,.2SENSI, 100PK	HC908519	06/30/2024	11/28/2022 / jaswal	08/09/2021 / jaswal	M4909

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	0000250349	12/15/2024	01/06/2022 / mohan	09/18/2021 / mohan	M5037

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

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22D1462006	08/05/2024	02/05/2024 / Al-Terek	02/24/2022 / Al-Terek	M5792

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	22A2562001	09/08/2024	03/08/2024 / Al-Terek	01/12/2022 / Al-Terek	M5827

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0660-1 / AMMONIUM CHLORIDE, ACS, 500G	WL13B	04/08/2025	04/08/2015 / apatel	04/08/2015 / apatel	W1992

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J0660-1 / AMMONIUM CHLORIDE, ACS, 500G	XE09B	04/08/2025	04/08/2015 / apatel	04/08/2015 / apatel	W1993

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	97062-260 / POTASSIUM FERRICYANIDE ACS GRADE 500G	1136C335	03/01/2027	03/01/2017 / apatel	02/28/2017 / apatel	W2211

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P243-500 / Potassium Hydrogen Phthalate, 500 gms	178879	03/16/2028	03/16/2018 / apatel	03/16/2018 / apatel	W2338

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3946-1 / Sodium Thiosulfate Pentahydrate, 500 gms	0000209717	08/20/2024	12/11/2018 /	12/04/2018 / AMANDEEP	W2454

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3506-5 / SODIUM BICARBONATE, PWD, ACS, 2.5KG	0000240594	06/03/2026	02/24/2020 / AMANDEEP	01/20/2020 / apatel	W2647

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA13450-36 / Potassium Dichromate, 500g(NEW)	T15F019	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2651

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P188-500 / Potassium Dichromate, 500g(new-2nd lot)	194664	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2652

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AC156212500 / GLUTAMIC ACID BIOCHEM REG, 250G	A0405990	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2653

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	D16-500 / DEXTROSE ANHYDROUS ACS REAGENT, 500G(New)	186122A	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2654

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P1060-10 / PHENOL, ACS, 500G	2HD0179	01/27/2030	01/27/2020 / apatel	01/27/2020 / apatel	W2663

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	87683 / Sodium Nitroferricyanide 250g	W12F013	02/10/2030	02/10/2020 / apatel	02/10/2020 / apatel	W2666

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J9721-3 / Ammonium Hydroxide, 2.5 L	0000246506	10/14/2024	02/18/2020 / apatel	02/18/2020 / apatel	W2676

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	0330-500G / Cupric Sulfate Pentahydrate	CPECG2635	04/23/2025	04/23/2020 / apatel	04/23/2020 / apatel	W2697

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	x0027 / Xylene Cyanol FF, 25 gms	445BM-MO	06/08/2025	06/08/2020 / apatel	06/08/2020 / apatel	W2712

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P243-500 / Potassium Hydrogen Phthalate, 500 gms	201089	06/30/2025	12/23/2020 / apatel	12/16/2020 / apatel	W2784

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC16721-3 / Isopropanol, 99%	C20F23007	06/23/2025	12/30/2020 / apatel	12/30/2020 / apatel	W2788

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	04667-2.5 / Silica Gel (60-200 mesh), 2.5 KG	010319	06/16/2026	09/01/2021 / jignesh	06/16/2021 / apatel	W2839

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P1060-10 / PHENOL, ACS, 500G	M13H048	01/07/2026	07/07/2021 / apatel	07/07/2021 / apatel	W2858

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
HACH	14863-98 / HACH NUTRIENT BUFFER PILLOW	A1316	01/31/2027	01/27/2022 / apatel	01/27/2022 / apatel	W2900

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	4620-32 / MANGANOUS SULFATE SOLUTION-364	2205851	04/30/2024	05/04/2022 / Iwona	05/04/2022 / apatel	W2913

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL04100-4 / Alkaline Iodide Azide, 1 L	2205f55	05/31/2024	05/25/2022 / Iwona	05/25/2022 / Iwona	W2914

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	7708-28	07/04/2024	01/30/2024 / Iwona	08/19/2022 / jignesh	W2942

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140730 / TEST PAPER,POT.IOD-STRCH,PK100,CS12	60799-008,260	09/19/2027	09/19/2022 / jignesh	09/19/2022 / jignesh	W2965

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LITRE	4210G81	04/30/2024	11/15/2022 / Iwona	11/15/2022 / Iwona	W2976

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL70850-8 / Starch Solution, 4L	4210G90	10/31/2024	11/15/2022 / Iwona	11/15/2022 / Iwona	W2977

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	31390 / 1,5-Diphenylcarbazide	MKCR6636	12/09/2027	12/09/2022 / Iwona	12/09/2022 / Iwona	W2979

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3278-5 / Potassium Sulfate, 2.5 Kgs	SLCM9788	11/21/2027	11/21/2022 / Iwona	11/21/2022 / Iwona	W2983

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	JA630-5 / 4-aminoanti pyrine, 100 gm	50001601	01/31/2025	01/24/2023 / Iwona	01/24/2023 / Iwona	W3004

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	LC136757 / S-DIPHENYLCARBAZONE 10G	43031219	08/09/2028	08/09/2023 / Iwona	08/09/2023 / Iwona	W3049

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140444 / TEST PAPERS,PH 0-14,.5 SENSI,100PK	HC325179	09/26/2028	09/26/2023 / Iwona	09/25/2023 / Iwona	W3056

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	136742-80 / POLYSEED	152305	05/30/2025	02/15/2024 / Rubina	10/18/2023 / Iwona	W3059

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J9416-1 / Sodium Hypochlorite 500 ml	2312D77	06/30/2024	01/16/2024 / Iwona	01/16/2024 / Iwona	W3073

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	4705-1 / MERCURIC NITRATE, 0.0141 N 4L	4308L72	08/31/2025	01/17/2024 / Iwona	01/17/2024 / Iwona	W3075

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	23g1262009	08/30/2024	01/19/2024 / jignesh	01/19/2024 / jignesh	W3076

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	TCX0014-500ML / p-xylene	Y348K-RX	02/21/2029	02/21/2024 / Iwona	02/21/2024 / Iwona	W3080

ThermoFisher SCIENTIFIC

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0090918

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	**P243**	**Quality Test / Release Date 2/2/2018**	
Lot Number	**178879**		
Description	**POTASSIUM HYDROGEN PHTHALATE,ACIDIMETRIC STANDARD, A.C.S.**		
Country of Origin	**Spain**	*** Suggested Retest Date**	**Feb-2023**
Chemical Origin	**Organic - non animal**		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	White Crystals
ASSAY POTASSIUM HYDROGEN PHTHALATE	%	Inclusive Between 99.95 - 100.05	99.99
CHLORINE COMPOUNDS	%	<= 0.003	<0.0030
HEAVY METALS (as Pb)	ppm	<= 5	<5.0
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.005	0.0030
IRON (Fe)	ppm	<= 5	<5.0
PH OF 0.05M SOLUTION		Inclusive Between 4.00 - 4.02	4.01
SODIUM (Na)	%	<= 0.005	0.0020
SULFUR COMPOUNDS	%	<= 0.002	<0.0020
TRACEABLE TO NIST	RECORD	= LOT 351a	LOT 351a
TRACEABLE TO NIST KHP STD	RECORD	= LOT 84L	LOT 84L

Jerusa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above. If there are any questions with this certificate, please call (800) 227-6701.
*Based on suggested storage condition.

ISO 9001 CERTIFIED
ISO 13485 CERTIFIED

AMRESCO LLC
28600 Fountain Parkway
Solon, Ohio USA 44139
440/349-1199 FAX: 440/349-1182
www.amresco-inc.com
Email: info@amresco-inc.com

CERTIFICATE OF QUALITY / CERTIFICATE OF ANALYSIS

Potassium Ferricyanide

Code: **0713**

Chemical Formula:	K3Fe(CN)6	Manufacture Date:	(batch specific)
Molecular Weight:	329.25	Expiration/Reassay Date:	(batch specific)
CAS #:	13746-66-2		
Appearance:		Storage:	
Dark orange crystals		Grade:	ACS GRADE

Additional Information

TEST	SPECIFICATION	DISPOSITION
Chloride	<= 0.01 %	PASS
Ferro Compounds	<= 0.05 %	PASS
Insolubles	<= 0.005 %	PASS
Purity	>= 99.0 %	PASS
Sulfate	<= 0.01 %	PASS

Spec Set: 0713ACS

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

Internal ID #: 269

Signature: _____ **Date Printed:** 03/09/2016

Title:

Certificate of Analysis

Date of Release: ***12/18/2013***

Product: ***Ammonium Chloride GR ACS*** ***Catalog No.:*** ***AX1270 all size codes***

Grade: ***Meets ACS Specifications*** ***CAS #:*** ***12125-02-9***

Country of Origin: ***India*** ***FW:*** ***53.49***

Lot No.: ***WL13B*** ClH_4N

	Requirement			
Characteristic	**Minimum**	**Maximum**	**Results**	**UOM**
Assay (argentometric)	99.5		99.9	%
Calcium (Ca)		0.001	0.0001	%
Form	White crystals		White crystals	
Heavy metals (as Pb)		5	5	ppm
Identification	To pass test		Passes	
Insoluble matter		0.005	0.002	%
Iron (Fe)		2	2	ppm
Loss on drying (105 C)		0.5	0.21	%
Magnesium (Mg)		5	0.6	ppm
pH of a 5% solution at 25 C	4.5	5.5	4.76	
Phosphate (PO4)		2	2	ppm
Residue after ignition		0.01	0.002	%
Sulfate (SO4)		0.002	0.002	%

Joe Schoellkopff

Quality Control Manager

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EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821

Certificate of Analysis

Date of Release: ***5/12/2014***

Product: ***Ammonium Chloride GR ACS*** ***Catalog No.:*** ***AX1270 all size codes***

Grade: ***Meets ACS Specifications*** ***CAS #:*** ***12125-02-9***

Country of Origin: ***India*** ***FW:*** ***53.49***

Lot No.: ***XE09B*** ClH_4N

Characteristic	Requirement Minimum	Maximum	Results	UOM
Assay (argentometric)	99.5		99.8	%
Calcium (Ca)		0.001	0.0001	%
Form	White crystals		White crystals	
Heavy metals (as Pb)		5	5	ppm
Identification	To pass test		Passes	
Insoluble matter		0.005	0.002	%
Iron (Fe)		2	2	ppm
Loss on drying (105 C)		0.5	0.22	%
Magnesium (Mg)		5	0.7	ppm
pH of a 5% solution at 25 C	4.5	5.5	4.95	
Phosphate (PO4)		2	2	ppm
Residue after ignition		0.01	0.002	%
Sulfate (SO4)		0.002	0.002	%

Joe Schoellkopff

Quality Control Manager

This document has been produced electronically and is valid without a signature.

EMD Millipore Corporation
290 Concord Road
Billerica, MA 01821

Sodium Chloride, Crystal
BAKER ANALYZED® A.C.S. Reagent

Material No.: 3624-05
Batch No.: 0000187425
Manufactured Date: 2017/08/03
Retest Date: 2024/08/01

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (NaCl) (by Ag titrn)	>= 99.0 %	99.8
pH of 5% Solution at 25°C	5.0 - 9.0	5.8
ACS - Insoluble Matter	<= 0.005 %	0.003
Iodide (I)	<= 0.002 %	< 0.002
Bromide (Br)	<= 0.01 %	< 0.01
Chlorate and Nitrate (as NO_3)	<= 0.003 %	< 0.003
ACS - Phosphate (PO_4)	<= 5 ppm	< 5
Sulfate (SO_4)	<= 0.004 %	< 0.004
Barium (Ba)	Passes Test	PT
ACS - Heavy Metals (as Pb)	<= 5 ppm	< 5
Iron (Fe)	<= 2 ppm	< 2
Calcium (Ca)	<= 0.002 %	< 0.002
Magnesium (Mg)	<= 0.001 %	< 0.001
Potassium (K)	<= 0.005 %	< 0.005

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

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

ISO
Phillipsburg, NJ 9001:2008, 14001:2004, FSSC 22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Deventer, The Netherlands 9001:2008, 14001:2004, 13485:2003
Gliwice, Poland 9001:2008, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2008
Panoli, India 9001:2008

Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor Performance Materials, LLC.
3477 Corporate Parkway. Center Valley, PA 18034. U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

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INCORPORATED
3342 International Park Dr., Atlanta, GA 30316
Tel: 678-904-6600 Fax: 678-904-6603 www.saisorb.com

Certificate of Analysis

Product Name:	Silica Gel
Catalog Number:	04667
Lot Number:	010319
Formula:	SiO_2
Molecular Weight:	60.08
Main Component:	Oxide of Silicon
Melting Point:	about 1730ºC
Color:	White
Physical Appearance:	Free Flowing Powder
Odor:	None
pH Value:	6.7 (5% aqueous slurry)
Bulk Density:	0.5 (g/ml)
Specific Surface Area	500-600 sq. m/gm
Particle Distribution:	< 63µm = 3.1% > 200µm = 0.4%
Mean Pore Diameter:	60Å
Water Soluble Matter	0.2 %
Toxicity:	non-toxic
Remarks:	Keep container closed

Measured according to the quality control methods of Scientific Adsorbents Inc., Atlanta, GA USA.

ThermoFisher SCIENTIFIC

Certificate of Analysis

Product No.: 13450

Product: Potassium dichromate, ACS, 99.0% min

Lot No.: T15F019

Test	Limits	Results
Appearance	Orange-red crystals	Orange-red crystals
Identification	To Pass	Passes
Purity	99.0 % min	99.67 %
Insoluble matter	0.005 % max	0.004 %
Loss on drying	0.05 % max	0.03 %
Chloride	0.001 % max	< 0.001 %
Sulfate	0.005 % max	< 0.005 %
Iron	0.001 % max	< 0.001 %
Calcium	0.003 % max	0.0012 %
Sodium	0.02 % max	0.0047 %

Certificate of Analysis List

For request number 1661869

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
1486327	1316	1486398	1316	BOD Nutrient Buffer Pillows

Total Enclosures: 1

HACH COMPANY

P.O.Box 389
Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

Certificate of Analysis

This is a Component of 1486398 lot A1316

COMMODITY:**BOD Nutrient Buffer Pillows**

COMMODITY NUMBER: **1486327**	MANUFACTURE DATE:	DATE OF ANALYSIS:
LOT NUMBER: **A1316**	**12/22/2021**	**1/5/2022**

TEST	*SPECIFICATIONS*	*RESULTS*
Ammonia Concentration of a diluted pillow	0.63 to 0.88 ppm	0.860 ppm
Calcium Concentration of a diluted pillow	0.71 to 0.99 ppm	0.940 ppm
Iron Concentration of a diluted pillow	0.42 to 0.56 ppm	0.479 ppm
Magnesium Concentration of a diluted pillow	0.27 to 0.37 ppm	0.340 ppm
Phosphorus Concentration of a diluted pillow	7.1 to 9.63 ppm	8.400 ppm
pH of the pillow in solution	7.1 to 7.6	7.13
Dissolved Oxygen Reagent Blank	-0.2 to 0.2 ppm	-0.10 ppm
Sterility	To Pass	Passed

The expiration date is Jan 2027

Certified by Scott Als

Scott Als
Analytical Services Chemist

RICCA CHEMICAL COMPANY®

1841 Broad Street
Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

W2913 Received by AP on 5/4/22

Manganous Sulfate Solution, 364 g/L

Lot Number: 2205851 **Product Number:** 4620

Manufacture Date: MAY 02, 2022
Expiration Date: APR 2024

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sulfuric Acid	7664-93-9	ACS
Manganous Sulfate Monohydrate	10034-96-5	Reagent

Test	Specification	Result
Appearance	Pink liquid	Passed
Assay (by Refractive Index)	360-368 g/L	362 g/L

Specification	Reference
Manganous Sulfate Solution	ASTM (D 888 A)
Manganous Sulfate Solution	ASTM (D 888 A)
Manganous Sulfate Solution	APHA (4500-O E)
Manganous Sulfate Solution	APHA (4500-O F)
Manganous Sulfate Solution	APHA (4500-O D)
Manganous Sulfate Solution	APHA (4500-O E)
Manganous Sulfate Solution	APHA (4500-O F)
Manganous Sulfate Solution	APHA (4500-O D)
Manganous Sulfate Solution	APHA (4500-O C)
Manganous Sulfate Solution	APHA (4500-O C)
Manganous Sulfate Solution	EPA (360.2)
Manganous Sulfate Solution	EPA (360.2)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
4620-32	1 L natural poly	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Myrlande Gilles (05/02/2022)

Quality Control

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Sodium Bicarbonate, Powder
BAKER ANALYZED® A.C.S. Reagent

(sodium hydrogen carbonate)

Material No.: 3506-05
Batch No.: 0000240594
Manufactured Date: 2019/06/05
Retest Date: 2026/06/03
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($NaHCO_3$) (dried basis)	99.7 - 100.3 %	100.1
Insoluble Matter	<= 0.015 %	< 0.002
Chloride (Cl)	<= 0.003 %	0.003
Phosphate (PO_4)	<= 0.001 %	0.001
Sulfur Compounds (as SO_4)	<= 0.003 %	0.003
Calcium (Ca)	<= 0.02 %	0.02
Trace Impurities - Iron (Fe)	<= 0.001 %	0.001
Magnesium (Mg)	<= 0.005 %	0.005
Potassium (K)	<= 0.005 %	0.005
Ammonium (NH_4)	<= 5 ppm	5
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	5

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

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

Jamie Ethier
Vice President Global Quality

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

spectrum® CHEMICAL MFG CORP

Certificate Of Analysis

Item Number	P1060	Lot Number	2HD0179
Item	Phenol, Loose Crystal, Reagent, ACS		
CAS Number	108-95-2		
Molecular Formula	C_6H_6O	Molecular Weight	94.11

Test	Specification		Result
	min	max	
ASSAY (C_6H_5OH)	99.0 %		100.02 %
FREEZING POINT (DRY)	40.5 C		40.5°C
CLARITY OF SOLUTION	TO PASS TEST		PASSES TEST
RESIDUE AFTER EVAPORATION		0.05 %	<0.05 %
WATER		0.5 %	0.0087 %
DATE OF MANUFACTURE			06-MAR-2018

Spectrum Chemical Mfg Corp
755 Jersey Avenue
New Brunswick 08901 NJ

Certificate Of Analysis Results Certified by

Ibad Tirmizi
Director of Quality
Spectrum Chemical Mfg. Corp.

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. It is the customer's responsibility to provide adequate hazardous material training and ensure that appropriate Personal Protective Equipment (PPE) is used before handling any chemical.

ThermoFisher SCIENTIFIC

Certificate of Analysis

W2858 Received by AP on 07/07/2021

Product No.: 33213

Product: Phenol, ACS, 99+%, stab.

Lot No.: M13H048

Test	Limits	Results
Assay	99.0 % min	99.8 %
Freezing point	40.5ºC min	40.5 ºC
Clarity of solution	To pass test	Passes
Residue after evaporation	0.05 % max	< 0.05 %
Water	0.5 % max	0.2 %

Retest date: January 7, 2026

Sodium Thiosulfate, 5-Hydrate, Crystal
BAKER ANALYZED® A.C.S. Reagent

Material No.: 3946-01
Batch No.: 0000209717
Manufactured Date: 2017/08/22
Retest Date: 2024/08/20
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($Na_2S_2O_3 \cdot 5H_2O$) (by iodometry)	99.5 - 101.0 %	100.1
ACS - Insoluble Matter	<= 0.005 %	< 0.001
pH of 5% Solution at 25°C	6.0 - 8.4	7.7
Nitrogen Compounds (as N)	<= 0.002 %	0.002
Sulfate and Sulfite (as SO_4)	<= 0.1 %	0.1
Sulfide (S)	Passes Test	PT

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

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

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

Jamie Ethier
Vice President Global Quality

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

ThermoFisher SCIENTIFIC

Certificate of Analysis

W2666 Recived on 02/10/2020 by AP

Product No.: 87683

Product: Sodium pentacyanonitrosylferrate(III) dihydrate, ACS, 99.0-102.0%

Lot No.: W12F013

Test	Limits	Results
Assay	99.0 - 102.0 %	99.67 %
Insoluble	0.01 % max	0.0079 %
Chloride	0.02 % max	Not detected
Sulfate	To pass test	Passes test
Aqueous solubility	To pass test	Passes test
Limit on Ferricyanide	To pass test	Passes test
Limit on Ferrocyanide	To pass test	Passes test

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This is to certify that units of the lot number above were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the purchaser, formulator or those performing further manufacturing to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The above information is the actual analytical results obtained.

Ammonium Hydroxide, 28.0-30.0%
BAKER ANALYZED® A.C.S. Reagent

Material No.: 9721-03
Batch No.: 0000246506
Manufactured Date: 2019/10/16
Retest Date: 2024/10/14
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Appearance (Colorless and free from suspended matter or sediment)	Passes Test	PT
Assay (as NH_3)	28.0 - 30.0 %	28.4
Color (APHA)	<= 5	5
Specific Gravity at 60°/60°F	0.896 - 0.902	0.902
Residue after Ignition	<= 0.0020 %	< 0.0003
Carbon Dioxide (CO_2)	<= 0.002 %	< 0.001
Substances Reducing Permanganate	Passes Test	PT
Chloride (Cl)	<= 0.5 ppm	< 0.2
Nitrate (NO_3)	<= 2 ppm	< 1
Phosphate (PO_4)	<= 2 ppm	< 1
Sulfate (SO_4)	<= 2 ppm	< 1
Trace Impurities - Aluminum (Al)	<= 200.0 ppb	< 5.0
Arsenic and Antimony (as As)	<= 3000 ppb	< 5
Trace Impurities - Barium (Ba)	<= 300.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 50.0 ppb	< 5.0
Trace Impurities - Chromium (Cr)	<= 100.0 ppb	< 1.0
Trace Impurities - Copper (Cu)	<= 100.0 ppb	< 1.0
Trace Impurities - Gold (Au)	<= 200.0 ppb	< 5.0
Heavy Metals (as Pb)	<= 500 ppb	< 100
Trace Impurities - Iron (Fe)	<= 100.0 ppb	< 1.0
Trace Impurities - Lead (Pb)	<= 200.0 ppb	< 10.0
Trace Impurities - Magnesium (Mg)	<= 200.0 ppb	< 1.0
Trace Impurities - Manganese (Mn)	<= 100.0 ppb	< 1.0

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

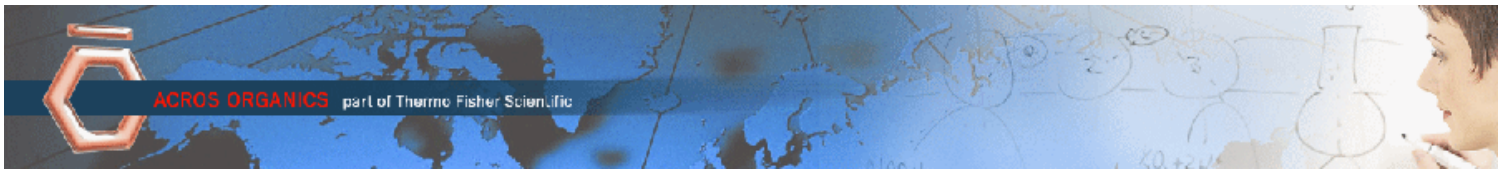
Material No.: 9721-03
Batch No.: 0000246506

Test	Specification	Result
Trace Impurities - Nickel (Ni)	<= 100.0 ppb	< 5.0
Trace Impurities - Tin (Sn)	<= 100.0 ppb	< 10.0
Trace Impurities - Titanium (Ti)	<= 100.0 ppb	< 1.0
Trace Impurities - Zinc (Zn)	<= 100.0 ppb	< 1.0

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

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

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



ACROS ORGANICS

Version	0
Molecular weight	147.13
Molecular formula	C5 H9 N O4
CAS No	56-86-0
Linear formula	HO2CCH2CH2CH(NH2)CO2H
Flash point (°C)	

Certificate of Analysis

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Catalog Number	15621	**Quality Test / Release Date**	13 March 2019
Lot Number	A0405990	**Suggested Retest Date**	March 2022

Description	L(+)-Glutamic acid,99%
Country of Origin	CHINA
Declaration of Origin	plant

Origin Comment	The product is made by fermentation of sugar molasses

Result Name	Specifications	Test Value
Appearance (Color)	White	White
Appearance (Form)	Powder	Powder
Infrared spectrum	Conforms	Conforms
Titration with NaOH	98.5 to 100.5 % (On dried substance)	99.32 % (On dried substance)
Loss on drying	=<0.5 % (105°C, 3 hrs)	0.002 % (105°C, 3 hrs)
Heavy metals (as Pb)	=<10 ppm	=<10 ppm
Sulfated ash	=<0.1 %	0.08 %
Other amino acids	not detectable	not detectable
Specific optical rotation	+30.5° to +32.5° (20°C, 589 nm) (on dried substance)	+32° (20°C, 589 nm) (on dried substance)
Specific optical rotation	(c=10, 2N HCl)	(c=10, 2N HCl)
Chloride (Cl)	=<200 ppm	=<200 ppm
Iron (Fe)	=<30 ppm	=<10 ppm
Sulfate (SO4)	=<300 ppm	=<200 ppm
Ammonium (NH4)	=<200 ppm	=<200 ppm
Arsenic oxide (As2O3)	=<1 ppm	=<1 ppm

L. Van den Broek, QA Manager Issued: 24 January 2020

Acros Organics
ENA23, zone 1, nr 1350, Janssen Pharmaceuticalaan 3a, B-2440 Geel, Belgium
Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: http://www.acros.com
1 Reagent Lane, Fair Lawn, NJ 07410,USA Fax 201-796-1329

CERTIFICATE OF ANALYSIS

Product Name	ISOPROPYL ALCOHOL, 99%
Grade	Meets ACS/USP/NF Monographs
Catalog #	231000099, zp231000099
Lot #	C20F23007
Date of Manufacture:	06/23/20
Recommended Retest Date:	Five Years from Date of Manufacture

W2788 Received on 12/30/2020 by AP

TEST	MONO GRAPH	SPECIFICATION	RESULT
Assay (corrected for water)	USP	99.0% min	99.92%
Assay (corrected for water)	ACS	99.5% min	
Solubility in water	ACS+	To Pass Test	Pass
Appearance	ACS+	Clear, colorless liquid	Pass
Color, APHA	ACS	10 max	1
Limit of Nonvolatile Residue	USP+	NMT 2.5 mg (0.005%)	0.1 mg
Residue after Evaporation	ACS+	0.001% max	< 0.001%
Specific Gravity	USP	0.783 - 0.787 @25°C	0.783
Identification A - Infrared Absorption	USP	To Pass Test	Pass
Identification B	USP	To Pass Test	Pass
Refractive Index @ 20°C	USP	1.376-1.378	1.377
Acidity	USP+	NMT 0.70 ml of 0.020N NaOH is required	0.30 mL
Titrable Acid or Base	ACS+	0.0001 meq/g max	0.0001 meq/g
Carbonyl Compounds	ACS	Propionaldehyde 0.002% max	< 0.002%
		Acetone 0.002% max	None Detected
Limit of Volatile Impurities	USP	Diethyl Ether NMT 0.1%	< 0.1%
		Acetone NMT 0.1%	None Detected
		Diisopropyl Ether NMT 0.1%	< 0.1%
		n-Propyl Alcohol NMT 0.1%	< 0.1%
		2-Butanol NMT 0.1%	< 0.1%
		Total NMT 1.0%	< 0.1%
Water, wt%	ACS	NMT 0.2%	0.05%
Water Determination	USP	NMT 0.5%	

+ This test is performed quarterly

58 Vale Road, Brookfield, Connecticut, 06804, USA | P. 800.243.5360
www.pharmco.com | www.greenfield.com

Certification and Compliance Statements

This lot of Isopropyl Alcohol complies with all of the current requirements listed in the United States Pharmacopeia, American Chemical Society monographs and the National Formulary.
No chemicals whatsoever are used as solvents at any point in the manufacture, processing or packaging of Isopropyl Alcohol. Only Class 2 and Class 3 residual solvents may appear as impurities / related substances / low level contaminants in IPA Concentration of Class 2 Option 1 and Class 3 residual solvents is below limits in the current USP/NF General Chapter <467>.
This product is not derived, nor does it come in contact with, any materials derived from bovine or other animal sources.
This product is for further commercial manufacturing, laboratory or research use, and may be used as an excipient or a process solvent for pharmaceutical purposes. It is not intended for use as an active ingredient in drug manufacturing nor as a medical device or disinfectant. Appropriate/legal use of this product is the responsibility of the user.

Approved by: D. Simoncelli, Quality Control Chemist

Date of Approval: 06/23/2020

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Sigma-Aldrich.

~~H2278~~ W2983

Rec. 11/21/22 ,2

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Potassium sulfate - ReagentPlus®, ≥99.0%

Product Number:	**P0772**
Batch Number:	**SLCM9788**
Brand:	SIGALD
CAS Number:	7778-80-5
MDL Number:	MFCD00011388
Formula:	K2O4S
Formula Weight:	174.26 g/mol
Quality Release Date:	03 MAR 2022

K_2SO_4

Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder	Powder
Solubility (Color)	Colorless	Colorless
Solubility (Turbidity) 10 g plus 150 mL, H2O	Clear	Clear
Titration with NaOH	≥ 99.0 %	99.2 %

Brian Dulle

Brian Dulle, Supervisor
Quality Assurance
St. Louis, Missouri US

BEANTOWN CHEMICAL

W3004
Rec. 01/24/23
12

Certificate of Analysis

Catalog Number	212760
Product Description	4-Aminoantipyrine, 97%
CAS Number	83-07-8
Lot Number	50001601

Test Results

	Specifications	Results
Assay	≥97.0% min	98.2%
Identification	To pass test	Passes test
Melting Point	107-109°C	109°C
Sensitivity to phenol	To pass test	Passes test
Residue after Ignition	≤0.10%	0.03%
Loss on drying	≤0.5%	0.13%
Clarity of solution (1g/20ml water)	Clear solution	Clear solution
Clarity of solution (1g/20ml EtOH)	Clear solution	Clear solution
Description	Light yellow to tan fine crystals	Light yellow crystalline powder

Suggested retest date January 2025

This certificate of analysis has been electronically generated and is valid without a signature.

BEANTOWN CHEMICAL CORPORATION, 9 SAGAMORE PARK ROAD, HUDSON NH 03051

WWW.BEANTOWNCHEM.COM TOLL FREE: 1-844-891-6306 EMAIL: TECHNICAL@BEANTOWNCHEM.COM

N3049
rec. 08/09/23
12

LabChem
Part of TCP Analytical Group
Jackson's Pointe Commerce Park- Building 1000
1010 Jackson's Pointe Court, Zelienople, PA 16063

Certificate of Analysis

Diphenylcarbazone ACS

Product Code: **LC136757**

Manufacture Date: March 16, 2023

Lot Number: **43031219**

Test	Specification	Result
Appearance (color)	orange	orange
Residue after ignition	<= 0.1 %	<0.1%
Sensitivity	To pass test	Passes
Solubility in acetone	To pass test	Passes

Intended Use *- Product is intended for use in manufacturing procedures and laboratory procedures and protocols.*

Storage Information *- Unless noted on the product label, store the product under normal lab conditions in its tightly closed original container. Do not pipet directly from the container or return unused portions to the container.*

Instructions for Handling and Use *- Please refer to the associated product label and Safety Data Sheet (SDS) for informa regarding safety and handling of this product.*

Preparation *- All products are manufactured and tested according to established, documented procedures and methodology Production documentation records manufacturing data, raw material traceability and testing history on a per lot basis. Balance thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST standards.*

Michael Monteleone

Quality Control
Michael Monteleone
Chemistry Supervisor
20230810 15:29:36 TWalker-0.0

ISO 9001:2015 Registration #0306-01

W 3059
rec. 10/18/23 12

POLYSEED®

CERTIFICATE OF ANALYSIS

PO BOX 130549 Spring, TX 77393
Phone: (281) 298-9410 Fax: (281) 298-9411

FINISHED PRODUCT, LOT NUMBER, MFG. /EXP DATE:
PolySeed® • Part No. P-110 • Lot 152305 • Mfg. Date: 05/2023 • Exp. Date: 05/2025

FORMULATION:
The formulation for this product contains a range of naturally occurring microorganisms, which are known to be non-pathogenic to man or animals.

VIABLE COUNT, FINAL TEST RESULT:
The product has been fully tested in accordance with Finished Product Specifications and contains a minimum viable count of 4.00 x10^9 cfu/g.

GLUCOSE/GLUTAMIC-ACID RESULTS:
Tested results within acceptable range 198 +/- 30.5 mg/L (167.5 - 228.5 mg/L). GGA Lot# L257-09 – Average Test Result: 203.4

See www.polyseed.com for details.

SEED CONTROL FACTOR:
Tested results within acceptable range 0.6 – 1.0 see www.polyseed.com for details

SALMONELLA TEST RESULT:
The product has been shown to be Salmonella negative using procedures recommended in the Microbiology Laboratory Guidebook, published by the USDA Food Safety and Inspection Service.

The purpose of this document is to assure that the Finished Product conforms to the above specification.

Signature: _____ Date: 05/15/2023
Quality Control Department

POLYSEED.Ref.1.19 Revised Jan 23

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International Laboratory Supply

ISO 9002
DNV
DNV Certification, Inc.
REGISTERED FIRM

W2712 Received on 06/08/2020 by AP

Certificate of Analysis

06/08/2020(JST)

TOKYO CHEMICAL INDUSTRY CO.,LTD.
4-10-1 Nihonbashi-Honcho, Chuo-ku, Tokyo 103-0023 Japan

Chemical Name: Xylene Cyanol FF		
Product Number: X0027 CAS RN: 2650-17-1	Lot: 445BM	

Tests	Results	Specifications
Appearance	Deep green powder	Green to Dark green powder to crystal
Lambda max.	613.5	613.0 to 616.0 nm(H2O)
Absorbance(E1%1cm)	999(613.5 nm)	min. 950(H2O, 613.0 to 616.0 nm)

TCI Lot numbers are 4-5 characters in length. Characters listed after the first 4-5 characters are control numbers for internal purpose only.
The contents of the specifications are subject to change without advance notice. The specification values displayed here are the most up to date values. There may be cases where the product labels display a different specification, however, the product quality still meets the latest specification.

Customer Service:

TCI AMERICA
Tel: +1-800-423-8616 / +1-503-283-1681
Fax: +1-888-520-1075 / +1-503-283-1987
E-mail: Sales-US@TCIchemicals.com

Takuya Nishioka
Quality Assurance Department Manager

ThermoFisher SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

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Catalog Number	D16	Quality Test / Release Date	03/19/2019
Lot Number	186122A		
Description	DEXTROSE, ANHYDROUS, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Mar/2022
Chemical Origin	Organic - Plant		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	White, granular powder
TITRATABLE ACID	MEQ/G	<= 0.002	<0.002
STARCH		= PASS TEST	pass test
SPECIFIC ROTATION @ 25 C	DEGREES (+ OR -)	Inclusive Between +52.5 - +53.0	53.0
SULFATE & SULFITE	%	<= 0.005	<0.005
IRON (Fe)	ppm	<= 5	<5
CHLORIDE	%	<= 0.01	<0.01
IGNITION RESIDUE	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
HEAVY METALS (as Pb)	ppm	<= 5	<5
LOSS ON DRYING @ 105 C	%	<= 0.2	<0.2
INSOLUBLE MATTER	%	<= 0.005	0.002

Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

ThermoFisher SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P188	Quality Test / Release Date	08/12/2019
Lot Number	194664		
Description	POTASSIUM DICHROMATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Aug/2024
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Fine, orange-red crystals
ASSAY	%	>= 99	99.2
CALCIUM	%	<= 0.003	<0.003
CHLORIDE	%	<= 0.001	<0.001
LOSS ON DRYING @ 105 C	%	<= 0.05	<0.05
SULFATE (SO4)	%	<= 0.005	<0.005
INSOLUBLE MATTER	%	<= 0.005	0.003
IRON (Fe)	%	<= 0.001	<0.001
SODIUM (Na)	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST

Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

ThermoFisher SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	P243	Quality Test / Release Date	06/19/2020
Lot Number	201089		
Description	POTASSIUM HYDROGEN PHTHALATE,ACIDIMETRIC STANDARD, A.C.S.		
Country of Origin	Spain	Suggested Retest Date	Jun/2025
Chemical Origin	Organic - non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	WHITE CRYSTALS
ASSAY POTASSIUM HYDROGEN PHTHALATE	%	Inclusive Between 99.95 - 100.05	100.03
CHLORINE COMPOUNDS	%	<= 0.003	<0.003
HEAVY METALS (as Pb)	ppm	<= 5	<5
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
INSOLUBLE MATTER	%	<= 0.005	<0.005
IRON (Fe)	ppm	<= 5	<5
PH OF 0.05M SOLUTION		Inclusive Between 4.00 - 4.02	4.00
SODIUM (Na)	%	<= 0.005	<0.005
SULFUR COMPOUNDS	%	<= 0.002	<0.002%
TRACEABLE TO NIST	SOD CARBONATE	= LOT 351a	351a
TRACEABLE TO NIST KHP STD	POT. ACID PHTHALATE	= LOT 84L	84L

Julian Burton

Julian Burton - Quality Control Manager – Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Allan Chemical Corporation

235 Margaret King Avenue
Ringwood NJ 07456

Telephone: 973-962-4014
Fax: 973-962-6820
E-Mail: allanchem@allanchem.com

W2697

ATTN: ALLAN CHEMICAL - QC DEPT.
DATE: September 20, 2021
P.O. #: 14410
PART #: N/A
LOT #: CPECG2635

CERTIFICATE OF ANALYSIS

CUPRIC SULFATE CRYSTAL – ACS GRADE

ASSAY:	102.0 %
LEAD:	< 0.0001 %
NITROGEN COMPOUNDS:	< 0.001 %
ZINC:	< 0.0001 %
INSOLUBLE MATTER:	< 0.001 %
CHLORIDE:	< 0.001 %
CHROMIUM:	< 0.00002 %
IRON:	0.0003 %
NICKEL:	< 0.0001 %
CADMIUM:	< 0.0001 %
MANGANESE:	< 0.0001 %
CALCIUM:	< 0.005 %
POTASSIUM:	< 0.001 %
SODIUM:	< 0.001 %

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

MIRADOR 201, COL. MIRADOR
MONTERREY, N.L. MEXICO
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.

Recd. by RB on 7/24/23 E3551

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker®

Material No.: 9254-03
Batch No.: 23H1462005
Manufactured Date: 2023-07-26
Expiration Date: 2026-07-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected for water)	≥ 99.4 %	99.7 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	≤ 0.3	0.1
Titrable Base (µeq/g)	≤ 0.6	< 0.1
Water (H_2O)	≤ 0.5 %	0.3 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	< 1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1

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

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

Recd. by KP on 03/01/24

E 3708

Ken Koehnlein
Sr. Manager, Quality Assurance

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

M5037-38-39-40
ND

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 0000250349
Manufactured Date: 2019/12/17
Retest Date: 2024/12/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (H_2SO_4)	95.0 - 98.0 %	96.5
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	1
ACS - Substances Reducing Permanganate (as SO_2)	<= 2 ppm	< 2
Ammonium (NH_4)	<= 1 ppm	< 1
Chloride (Cl)	<= 0.1 ppm	< 0.1
Nitrate (NO_3)	<= 0.2 ppm	< 0.1
Phosphate (PO_4)	<= 0.5 ppm	< 0.1
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	0.2
Arsenic and Antimony (as As)	<= 4 ppb	< 2
Trace Impurities - Barium (Ba)	<= 10.0 ppb	< 1.0
Trace Impurities - Beryllium (Be)	<= 10.0 ppb	< 1.0
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 10.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 2.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	2.9
Trace Impurities - Chromium (Cr)	<= 6.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 0.5 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 10.0 ppb	< 1.0
Trace Impurities - Germanium (Ge)	<= 10.0 ppb	< 10.0
Trace Impurities - Gold (Au)	<= 10.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 500 ppb	< 100

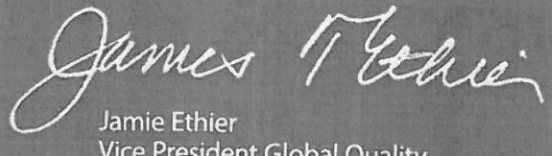
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9673-33
Batch No.: 0000250349

Test	Specification	Result
Trace Impurities - Iron (Fe)	<= 50.0 ppb	4.1
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 10.0 ppb	< 1.0
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	0.4
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	< 0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 2.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 10.0 ppb	< 1.0
Trace Impurities - Potassium (K)	<= 500.0 ppb	< 2.0
Trace Impurities - Selenium (Se)	<= 50.0 ppb	22.9
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 500.0 ppb	2.7
Trace Impurities - Strontium (Sr)	<= 5.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 10.0 ppb	< 5.0
Trace Impurities - Thallium (Tl)	<= 20.0 ppb	< 5.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 10.0 ppb	< 1.0
Trace Impurities - Vanadium (V)	<= 10.0 ppb	< 1.0
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 10.0 ppb	< 1.0

For Laboratory, Research or Manufacturing Use

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



Jamie Ethier
Vice President Global Quality

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

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

M5210 - M5217
MB

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 22D0862014
Manufactured Date: 2022-02-23
Retest Date: 2027-02-22
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS - Assay (H_2SO_4)	95.0 - 98.0 %	96.5 %
Appearance	Passes Test	Passes Test
ACS - Color (APHA)	≤ 10	5
ACS - Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS - Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	< 1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities - Aluminum (Al)	≤ 30.0 ppb	1.7 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities - Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities - Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities - Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities - Gold (Au)	≤ 10.0 ppb	< 0.2 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities - Iron (Fe)	≤ 50.0 ppb	2.0 ppb
Trace Impurities - Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities - Magnesium (Mg)	≤ 7.0 ppb	0.6 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities - Nickel (Ni)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities - Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities - Selenium (Se)	≤ 50.0 ppb	12.1 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	4.4 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

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

avantor™ | J.T.Baker®

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

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

For Laboratory,Research,or Manufacturing Use

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

James T Ethier

Jamie Ethier
Vice President Global Quality

PO: 220504-03 PRODUCT CODE: SHIP DATE: 8/19/2022

Sodium Hydroxide, Pellet
AR® (ACS)

avantor™ | MACRON FINE CHEMICALS™

W2942
Rec Date: - 08/19/22 KS

Material No.: 7708-28
Batch No.: 22A0462005
Manufactured Date: 2022-01-04
Expiration Date: 2024-07-04
Revision No.: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (NaOH) (by acidimetry)	≥ 98 %	98 %
Identification	Passes Test	Passes Test
Calcium (Ca)	≤ 0.005 %	< 0.005 %
Chloride (Cl)	≤ 0.005 %	< 0.005 %
Copper (Cu)	≤ 0.001 %	< 0.001 %
Heavy Metals (as Ag)	≤ 0.001 %	< 0.001 %
Insoluble Matter	≤ 0.003 %	< 0.002 %
Iron (Fe)	≤ 0.0003 %	< 0.0002 %
ACS – Magnesium (Mg)	≤ 0.002 %	< 0.002 %
Mercury (Hg)	≤ 0.1 ppm	< 0.1 ppm
Nickel (Ni)	≤ 0.0005 %	< 0.0005 %
Nitrogen Compounds (as N)	≤ 0.0003 %	< 0.0003 %
Phosphate (PO_4)	≤ 0.0002 %	< 0.0001 %
Potassium (K)	≤ 0.02 %	0.01 %
Sodium Carbonate (Na_2CO_3)	≤ 0.4 %	0.4 %
ACS – Sulfate (SO_4)	≤ 0.003 %	< 0.003 %

PO: 220504-03 PRODUCT CODE: SHIP DATE: 8/19/2022

Sodium Hydroxide, Pellet
AR® (ACS)

avantor™ | MACRON FINE CHEMICALS™

Material No.: 7708-28
Batch No.: 22A0462005

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Appearance (white hygroscopic pellets)

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

James T Ethier
Jamie Ethier
Vice President Global Quality

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

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W2976 Rec. 11/15/22

Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 4210G81 **Product Number:** 7900

Manufacture Date: OCT 17, 2022
Expiration Date: APR 2024

This product is specially formulated to increase its stability. A preservative is added to prevent bacterial contamination. However, all Sodium Thiosulfate solutions are subject to slow chemical deterioration and should be restandardized periodically.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Thiosulfate Pentahydrate	10102-17-7	ACS
Organic Preservative	Proprietary	
Sodium Carbonate	497-19-8	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Iodate/Starch)	0.02499-0.02501 N at 20°C	0.02500 N at 20°C	136

Specification	Reference
Standard Sodium Thiosulfate Solution, 0.0250 N	APHA (4500-S2- F)
Standard Sodium Thiosulfate Titrant	APHA (4500-O D)
Standard Sodium Thiosulfate Titrant	APHA (4500-O E)
Standard Sodium Thiosulfate Titrant	APHA (4500-O F)
Standard Sodium Thiosulfate Titrant, 0.025 N	APHA (4500-Cl B)
Standard Sodium Thiosulfate Titrant	APHA (4500-O C)
Standard Sodium Thiosulfate Titrant, 0.025 M	APHA (5530 C)
Standard Sodium Thiosulfate Solution (0.025 N)	EPA (SW-846) (9031)
Standard Sodium Thiosulfate solution (0.025 N)	EPA (SW-846) (9034)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
7900-1	4 L natural poly	18 months
7900-16	500 mL natural poly	18 months
7900-5	20 L Cubitainer®	18 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Paul Brandon (10/17/2022)
Production Manager
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W2977 Rec 11/15/22

Certificate of Analysis

Starch Indicator, 0.5% (w/v), Mercury Free, for Iodometric Titrations

Lot Number: 4210G90 **Product Number:** 8000

Manufacture Date: OCT 17, 2022
Expiration Date: OCT 2024

This product is Mercury-free.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Starch, soluble	9005-84-9	ACS
Salicylic Acid	69-72-7	ACS

Test	Specification	Result
Appearance	White translucent liquid	Passed
Suitability for Use	Colorless (Iodine absent) - Blue (Iodine present)	Passed

Specification	Reference
Starch Solution	APHA (4500-S2- F)
Starch Indicator Solution	APHA (4500-Cl B)
Starch Indicator	APHA (4500-SO32- B)
Starch indicator solution	APHA (2350 B)
Starch indicator solution	APHA (2350 E)
Starch Solution	APHA (510 B)
Starch Solution	APHA (5530 C)
Starch Indicator	APHA (4500-Cl C)
Starch Indicator	EPA (345.1)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
8000-1	4 L natural poly	24 months
8000-5	20 L Cubitainer®	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Paul Brandon (10/17/2022)
Production Manager
This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

Sigma-Aldrich.

W 2979

Rec: 12/08/22

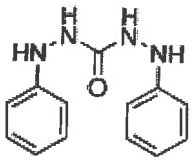
exp. 12/08/27

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
1,5-Diphenylcarbazide - ACS reagent

Product Number:	**259225**
Batch Number:	**MKCR6636**
Brand:	SIAL
CAS Number:	140-22-7
MDL Number:	MFCD00003013
Formula:	C13H14N4O
Formula Weight:	242.28 g/mol
Quality Release Date:	02 JUN 2022



Test	Specification	Result
Appearance (Color) Off-White to Pink, Light Purple or Tan	Conforms to Requirements	Pink
Appearance (Form)	Powder or Chunks	Powder
Melting Point	173.0 - 176.0 °C	173.0 °C
Infrared Spectrum	Conforms to Structure	Conforms
Residue on ignition (Ash) 15 minutes, 800 Degrees Celsius	≤ 0.05 %	0.01 %
Solubility	Pass	Pass
Sensitivity Test	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms

Larry Coers, Director
Quality Control
Milwaukee, WI US

RICCA CHEMICAL COMPANY®
W3073 Rec. on 01/16/24 by IZ

1841 Broad Street
Pocomoke City, MD 21851
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Sodium Hypochlorite Solution, 5% available Chlorine

Lot Number: 2312D77 **Product Number:** 7495.5

Manufacture Date: DEC 08, 2023
Expiration Date: JUN 2024

This solution is subject to slow decomposition upon exposure to air. Keep container tightly capped. Refrigeration may improve stability.
When used in the Phenate method for Ammonia, APHA recommends replacing this solution about every 2 months.

Name	CAS#	Grade
Water	7732-18-5	Commercial
Sodium Hypochlorite	7681-52-9	Commercial

Test	Specification	Result	NIST SRM#
Appearance	Colorless to greenish-yellow liquid	Passed	
Assay (vs. Sodium Thiosulfate/Starch)	4.75-5.25 % (w/w) Cl_2	5.24 % (w/w) Cl_2	136

Specification	Reference
Sodium Hypochlorite, 5%	APHA (4500-NH3 F)
Sodium Hypochlorite	ASTM (D 4785)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
7495.5-1	4 L black poly	6 months
7495.5-16	500 mL amber poly	6 months
7495.5-32	1 L amber poly	6 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Jose Pena (12/08/2023)
Operations Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3075 Rec. on 01/17/24 by IZ

Certificate of Analysis

Mercuric Nitrate, 0.0141 Normal, 0.00705 Molar, 1 mL = 0.5 mg Cl^-

Lot Number: 4308L72 **Product Number:** 4705

Manufacture Date: AUG 17, 2023
Expiration Date: AUG 2025

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Mercuric Nitrate Monohydrate	7783-34-8	ACS
Nitric Acid	7697-37-2	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Chloride/Diphenylcarbazone)	0.01409-0.01411 N at 20°C	0.01410 N at 20°C	999

Specification	Reference
Standard Mercuric Nitrate Titrant, 0.00705 M (0.0141 N)	APHA (4500-Cl- C)
Mercuric nitrate, 0.0141 N	TAPPI (T 256 cm-97)
Mercuric Nitrate Titrant (0.0141 N)	EPA (325.3)

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
4705-1	4 L amber glass	24 months
4705-16	500 mL amber glass	24 months
4705-32	1 L amber glass	24 months

Recommended Storage: 15°C - 30°C (59°F - 86°F)

Paul Brandon (08/17/2023)
Production Manager

This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

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

avantor™ | J.T.Baker®

W 3076
JL opened: 01.29.2024

Material No.: 9262-03
Batch No.: 23G1262009
Manufactured Date: 2023-06-01
Expiration Date: 2024-08-30
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	≤ 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	≤ 10	1
ECD-Sensitive Impurities (as Ethylene Dibromide) - Single Impurity Peak (ng/mL)	≤ 5	3
Assay (Total Saturated C_6 Isomers) (by GC, corrected for water)	≥ 99.5 %	99.6 %
Assay (as n-Hexane) (by GC, corrected for water)	≥ 95 %	98 %
Color (APHA)	≤ 10	5
Residue after Evaporation	≤ 1.0 ppm	0.3 ppm
Substances Darkened by H_2SO_4	Passes Test	Passes Test
Water (by KF, coulometric)	≤ 0.05 %	0.01 %

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

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

Ken Koehnlein
Sr. Manager, Quality Assurance

W3080 Received on 2/21/2024 by IZ

Certificate of Analysis

02/21/2024(JST)

TOKYO CHEMICAL INDUSTRY CO.,LTD.
T-PLUS Nihonbashi-Kodemmacho
16-12 Nihonbashi-kodemmacho, Chuo-ku, Tokyo 103-0001, Japan

Chemical Name: ***p*-Xylene**		
Product Number: X0014 CAS RN: 106-42-3	Lot: Y348K	

Tests	Results	Specifications
Appearance	Colorless clear liquid	Colorless to Almost colorless clear liquid
Purity(GC)	99.7 %	min. 99.0 %

TCI Lot numbers are 4-5 characters in length. Characters listed after the first 4-5 characters are control numbers for internal purpose only.
The contents of the specifications are subject to change without advance notice. The specification values displayed here are the most up to date values. There may be cases where the product labels display a different specification, however, the product quality still meets the latest specification.

Customer Service:

TCI AMERICA
Tel: +1-800-423-8616 / +1-503-283-1681
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Takuya Nishioka
Quality Assurance Department Manager