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# Prep Standard - Chemical Standard Summary

**Order ID :** Q3019

**Test :** Alkalinity,Ammonia,Anions Group1,Anions Group2,Anions Group4,Anions Group5,BOD5,CBOD5,Chloride,COD,Color,Conductance,Cyanide,Hexavalent Chromium,Nitrite,Oil and Grease pH Phenolics Phosphorus-Ortho Phosphorus-Total Residual Chlorine Settleable

**Prepbatch ID :** PB169542,PB169543,PB169624,PB169625,PB169630,PB169639,PB169642,PB169715,PB169716,PB169837,

**Sequence ID/Qc Batch ID:** LB137127,LB137128,LB137132,LB137134,LB137135,LB137136,LB137137,LB137146,LB137152,LB13

**Standard ID :**

EP2636,WP112609,WP112610,WP112611,WP112612,WP112615,WP112643,WP112782,WP112783,WP112784,WP112796,WP112826,WP112827,WP112828,WP112831,WP112832,WP112913,WP112914,WP112974,WP112989,WP112990,WP113112,WP113113,WP113135,WP113378,WP113500,WP113669,WP113780,WP113836,WP113838,WP113878,WP113880,WP113881,WP113885,WP113886,WP113887,WP113929,WP114035,WP114132,WP114133,WP114219,WP114220,WP114311,WP114324,WP114331,WP114341,WP114445,WP114571,WP114652,WP114653,WP114654,WP114655,WP114656,WP114657,WP114658,WP114659,WP114661,WP114669,WP114670,WP114677,WP114678,WP114679,WP114680,WP114681,WP114682,WP114683,WP114684,WP114685,WP114686,WP114687,WP114688,WP114689,WP114690,WP114691,WP114692,WP114693,WP114694,WP114695,WP114696,WP114698,WP114701,WP114702,WP114703,WP114704,WP114705,WP114706,WP114707,WP114708,WP114709,WP114710,WP114728,WP114729,WP114730,WP114733,WP114734,WP114735,WP114736,WP114737,WP114738,WP114749,WP114755,WP114768,WP114769,WP114771,WP114785,WP114786,WP114787,WP114788,WP114789,WP114790,WP114791,WP114796,WP114797,WP11

**Chemical ID :**

E3875,E3917,E3965,M5501,M5884,M6041,M6069,M6151,M6186,M6187,W2103,W2211,W2306,W2647,W2650,W2651,W2652,W2653,W2654,W2663,W2664,W2666,W2668,W2685,W2788,W2797,W2812,W2817,W2858,W2860,W2871,W2926,W2979,W2983,W2984,W3009,W3012,W3016,W3019,W3035,W3049,W3055,W3058,W3074,W3078,W3079,W3081,W3082,W3083,W3093,W3095,W3103,W3105,W3109,W3112,W3113,W3116,W3119,W3130,W3131,W3132,W3133,W3139,W3140,W3141,W3147,W3148,W3149,W3150,W3152,W3155,W3163,W3167,W3169,W3176,W3178,W3180,W3182,W3183,W3186,W3190,W3191,W3195,W3196,W3197,W3198,W3199,W3201,W3203,W3204,W3205,W3206,W3212,W3213,W3214,W3215,W3217,W3218,W3219,W3220,W3222,W3224,W3229,W3233,W3235,

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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 | EP2636 | 08/27/2025 | 01/28/2026 | Riteshkumar Patel | Extraction_SCALE_2 (EX-SC-2) | None | Evelyn Huang 08/27/2025 |

**FROM** 4000.00000gram of E3875 = Final Quantity: 4000.000 gram

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 672 | ammonia buffer for phenol | WP112609 | 04/07/2025 | 10/07/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WC SC-5) | None | Iwona Zarych 04/07/2025 |

**FROM** 143.00000ml of W3141 + 19.60000gram of W3195 + 90.10000ml of W3112 = 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 | WP112610 | 04/07/2025 | 10/07/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 04/07/2025 |

**FROM** 8.00000gram of W2211 + 92.00000ml of W3112 = 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) | WP112611 | 04/07/2025 | 10/07/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 04/07/2025 |

**FROM** 3.81900gram of W3196 + 95.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1895 | Ammonia Stock Std, 1000PPM-SS | WP112612 | 04/07/2025 | 10/07/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 04/07/2025 |

**FROM** 3.81900gram of W3195 + 996.18100ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1211 | 11 N sulfuric acid | WP112615 | 04/03/2025 | 10/07/2025 | Niha Farheen Shaik | None | None | Iwona Zarych 04/07/2025 |

**FROM** 306.00000ml of M6041 + 694.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 539 | CN BUFFER | WP112643 | 04/09/2025 | 10/09/2025 | Niha Farheen Shaik | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 04/09/2025 |

**FROM** 138.00000gram of W2668 + 862.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 229 | 1:1 HCL | WP112782 | 04/22/2025 | 08/18/2025 | Jignesh Parikh | None | None | Iwona Zarych 04/22/2025 |

**FROM** 500.00000ml of M6151 + 500.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 2470 | 1664A SPIKING SOLN | WP112783 | 04/22/2025 | 10/03/2025 | Jignesh Parikh | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 04/22/2025 |

**FROM** 1000.00000ml of E3917 + 4.00000gram of W2817 + 4.00000gram of W2871 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3374 | 1664A QCS spiking solution-SS | WP112784 | 04/22/2025 | 10/03/2025 | Jignesh Parikh | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 04/22/2025 |

**FROM** 1000.00000ml of E3917 + 4.00000gram of W3009 + 4.00000gram of W3082 = 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 |
|---|---|---|---|---|---|---|---|---|
| 4035 | IC ELUENT CONCENTRATE FOR IC-1 | WP112796 | 04/22/2025 | 10/22/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 04/22/2025 |

**FROM** 2.10000gram of W2647 + 84.75000gram of W3163 + 913.15000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1714 | Sulfuric Acid, 50% (v/v) | WP112826 | 04/25/2025 | 10/25/2025 | Rubina Mughal | None | None | Iwona Zarych 04/25/2025 |

**FROM** 1000.00000ml of M6041 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3214 | Magnesium Chloride For Cyanide 2.5M(51%W/V) | WP112827 | 04/25/2025 | 10/25/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 04/25/2025 |

**FROM** 500.00000ml of W3112 + 510.00000gram of W3152 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1597 | 0.04 N H2SO4 | WP112828 | 04/25/2025 | 10/25/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 04/25/2025 |

**FROM** 1.00000ml of M6041 + 999.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 126 | 5N sulfuric acid | WP112831 | 04/25/2025 | 10/25/2025 | Rubina Mughal | None | None | Iwona Zarych 04/25/2025 |

**FROM** 140.00000ml of M6041 + 860.00000ml of W3112 = Final Quantity: 1.000 L

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1841 | Sulfuric Acid, 1N | WP112832 | 04/25/2025 | 10/25/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 04/25/2025 |

**FROM** 2.80000ml of M6041 + 97.20000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 115 | Phosphate Stock Std. (50 ppm) | WP112913 | 05/01/2025 | 11/01/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 05/06/2025 |

**FROM** 0.11000gram of W3198 + 500.00000ml of W3112 = Final Quantity: 500.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2790 | Phosphate Stock std, 50PPM-SS | WP112914 | 05/01/2025 | 11/01/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 05/06/2025 |

**FROM** 0.11000gram of W3206 + 500.00000ml of W3112 = Final Quantity: 500.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1647 | Sulfate Buffer solution A | WP112974 | 05/06/2025 | 11/06/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | Glass Pipette-A | Iwona Zarych 05/06/2025 |

**FROM** 1.00000gram of W3119 + 20.00000ml of W3205 + 30.00000gram of W3152 + 5.00000gram of W2984 + 944.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3838 | Sulfate Stock Std- SS, 1000PPM | WP112989 | 05/07/2025 | 11/07/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 05/07/2025 |

**FROM** 1.47900gram of W3055 + 999.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3890 | Chloride Stock Std - 10000ppm | WP112990 | 05/07/2025 | 11/07/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 05/07/2025 |

**FROM** 16.48500gram of M5884 + 985.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 648 | Ammonium molybdate solution | WP113112 | 05/16/2025 | 11/16/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 05/16/2025 |

**FROM** 20.00000gram of W2664 + 480.00000ml of W3112 = Final Quantity: 500.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 588 | Potassium Antimonyl Tartrate | WP113113 | 05/16/2025 | 11/16/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 05/16/2025 |

**FROM** 1.37150gram of W2306 + 500.00000ml of W3112 = Final Quantity: 500.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 619 | TKN digestion solution | WP113135 | 05/20/2025 | 11/20/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 05/20/2025 |

**FROM** 134.00000gram of W2983 + 134.00000ml of M6041 + 7.30000gram of W3199 + 725.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1213 | Phenolphthalein indicator | WP113378 | 06/04/2025 | 12/04/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 06/05/2025 |

**FROM** 0.10000gram of W2650 + 50.00000ml of W2788 + 50.00000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3886 | Inorganic carbon stock solution, 1000ppm | WP113500 | 06/10/2025 | 12/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 06/13/2025 |

**FROM** 3.49700gram of W2647 + 4.41220gram of W3058 + 993.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3837 | Sulfate Stock Std, 1000PPM | WP113669 | 06/25/2025 | 11/30/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 06/27/2025 |

**FROM** 1.47900gram of W3055 + 999.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2051 | TOC STOCK STD-SS, 4000PPM | WP113780 | 07/01/2025 | 01/01/2026 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 07/02/2025 |

**FROM** 2.50000ml of W2860 + 4.25600gram of W3219 + 495.00000ml of W3112 = Final Quantity: 500.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 11 | Sodium hydroxide absorbing solution 0.25 N | WP113836 | 07/08/2025 | 12/31/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 07/08/2025 |

**FROM** 21.00000L of W3112 + 210.00000gram of W3113 = Final Quantity: 21.000 L

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3371 | Cyanide LCS Spike Solution, 5PPM | WP113838 | 07/08/2025 | 12/24/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 07/08/2025 |

**FROM** 1.00000ml of W3224 + 199.00000ml of WP113836 = Final Quantity: 200.000 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 | WP113878 | 07/09/2025 | 12/31/2025 | Iwona Zarych | WETCHEM_SCALE_7 (WCSC-6) | None | Jignesh Parikh 07/09/2025 |

**FROM** 4.00000gram of W3113 + 96.00000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1993 | HEXAVALENTCHROMIUM STOCK STD 1, 50PPM | WP113880 | 07/10/2025 | 01/10/2026 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 07/10/2025 |

**FROM** 0.14140gram of W2651 + 1000.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1994 | HEXAVALENTCHROMIUM STOCK STD 2, 50PPM | WP113881 | 07/10/2025 | 01/10/2026 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 07/10/2025 |

**FROM** 0.14140gram of W2652 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1796 | NaOH, 0.1N | WP113885 | 07/10/2025 | 12/31/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 07/10/2025 |

**FROM** 4.00000gram of W3113 + 996.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1494 | BORATE BUFFER | WP113886 | 07/10/2025 | 12/31/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 07/10/2025 |

**FROM** 0.90250L of W3112 + 9.50000gram of W3201 + 88.00000ml of WP113885 = Final Quantity: 1.000 L

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1471 | NaOH Solution, 6N | WP113887 | 07/10/2025 | 12/31/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 07/10/2025 |

**FROM** 240.00000gram of W3113 + 760.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 290 | Phenol reagent for Ammonia | WP113929 | 07/14/2025 | 12/31/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 07/15/2025 |

**FROM** 3.20000gram of W3113 + 8.30000gram of W2663 + 88.80000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2050 | TOC STOCK STD, 4000PPM | WP114035 | 07/22/2025 | 01/22/2026 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | Glass Pipette-A | Jignesh Parikh 07/22/2025 |

**FROM** 5.00000ml of W2860 + 8.51200gram of W3169 + 990.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 635 | EDTA BUFFER FOR AMMONIA | WP114132 | 07/31/2025 | 12/31/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 07/31/2025 |

**FROM** 5.50000gram of W3113 + 50.00000gram of W3132 + 950.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 289 | Sodium Hypochlorite for Ammonia | WP114133 | 07/31/2025 | 12/31/2025 | Rubina Mughal | None | None | Iwona Zarych 08/04/2025 |

**FROM** 50.00000ml of W3112 + 50.00000ml of W3222 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1903 | Phenol stock std, 1000PPM | WP114219 | 08/08/2025 | 01/07/2026 | Rubina Mughal | WETCHEM_SCALE_7 (WCSC-6) | None | Iwona Zarych 08/11/2025 |

**FROM** 1.00000gram of W2858 + 999.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1904 | Phenol stock std, 1000PPM-SS | WP114220 | 08/08/2025 | 02/08/2026 | Rubina Mughal | WETCHEM_SCALE_7 (WCSC-6) | None | Iwona Zarych 08/11/2025 |

**FROM** 1.00000gram of W2663 + 999.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 160 | 0.5M ZINC ACETATE | WP114311 | 08/19/2025 | 02/17/2026 | Rubina Mughal | WETCHEM_SCALE_8 (WC SC-7) | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 08/19/2025 |

**FROM** 0.88900L of W3112 + 1.00000ml of M6151 + 110.00000gram of W2926 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 607 | PYRIDINE-BARBITURIC ACID | WP114324 | 08/19/2025 | 02/17/2026 | Rubina Mughal | WETCHEM_SCALE_5 (WC SC-5) | Glass Pipette-A | Jignesh Parikh 08/19/2025 |

**FROM** 145.00000ml of W3112 + 15.00000gram of W3203 + 15.00000ml of M6151 + 75.00000ml of W3019 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1849 | Buffer Color reagent NO2 | WP114331 | 08/20/2025 | 09/20/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | Glass Pipette-A | Jignesh Parikh 08/21/2025 |

**FROM** 0.10000gram of W2103 + 1.00000gram of W3083 + 10.00000ml of W2860 + 90.00000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 922 | 0.2N SULFURIC ACID | WP114341 | 08/20/2025 | 02/12/2026 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 08/21/2025 |

**FROM** 5.60000ml of M6186 + 994.40000ml of W3112 = 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 | WP114445 | 08/27/2025 | 12/31/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | None | Iwona Zarych 09/03/2025 |

**FROM** 0.47500L of W3112 + 25.00000gram of W3148 + 500.00000gram of W3113 = Final Quantity: 1.000 L

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1105 | conditioning reagent | WP114571 | 09/04/2025 | 10/31/2025 | Rubina Mughal | WETCHEM_SCALE_8 (WCSC-7) | Glass Pipette-A | Iwona Zarych 09/04/2025 |

**FROM** 100.00000ml of W3218 + 30.00000ml of M6151 + 300.00000ml of W3112 + 50.00000ml of W2812 + 75.00000gram of M5884 = Final Quantity: 500.000 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 | WP114652 | 09/08/2025 | 09/15/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/11/2025 |

**FROM** 0.08500gram of W3219 + 100.00000ml of W3112 = 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 | WP114653 | 09/08/2025 | 09/15/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/11/2025 |

**FROM** 0.08500gram of W3169 + 100.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 139 | COD calibration std. 0 ppm | WP114654 | 09/08/2025 | 09/15/2025 | Iwona Zarych | None | None | Jignesh Parikh 09/11/2025 |

**FROM** 10.00000ml of W3112 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 138 | COD calibration std. 10 ppm | WP114655 | 09/08/2025 | 09/15/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 9.90000ml of W3112 + 0.10000ml of WP114652 = 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 |
|---|---|---|---|---|---|---|---|---|
| 137 | COD calibration std. 50 ppm | WP114656 | 09/08/2025 | 09/15/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 9.50000ml of W3112 + 0.50000ml of WP114652 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4161 | COD calibration std. 75 ppm | WP114657 | 09/08/2025 | 09/15/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 9.25000ml of W3112 + 0.75000ml of WP114652 = 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 |
|---|---|---|---|---|---|---|---|---|
| 136 | COD calibration std. 100 ppm | WP114658 | 09/08/2025 | 09/15/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 9.00000ml of W3112 + 1.00000ml of WP114652 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 135 | COD calibration std. 150 ppm | WP114659 | 09/08/2025 | 09/15/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 8.50000ml of W3112 + 1.50000ml of WP114652 = 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 |
|---|---|---|---|---|---|---|---|---|
| 2459 | COD ICV-LCS std, 50ppm | WP114661 | 09/08/2025 | 09/15/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 9.50000ml of W3112 + 0.50000ml of WP114653 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1478 | Phenol Intermediate Std - 50PPM | WP114669 | 09/09/2025 | 10/09/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 47.50000ml of W3112 + 2.50000ml of WP114219 = 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 | WP114670 | 09/09/2025 | 10/09/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 47.50000ml of W3112 + 2.50000ml of WP114220 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2487 | Anions 300/9056 calibration standard 1 | WP114677 | 09/09/2025 | 09/10/2025 | Iwona Zarych | None | None | Jignesh Parikh 09/11/2025 |

**FROM** 10.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 24 | Anions 300/9056 calibration standard 2 | WP114678 | 09/09/2025 | 09/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 0.20000ml of W3180 + 9.80000ml of W3112 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 25 | Anions 300/9056 calibration standard 3 | WP114679 | 09/09/2025 | 09/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 0.40000ml of W3180 + 9.60000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 26 | Anions 300/9056 calibration standard 4 | WP114680 | 09/09/2025 | 09/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 0.50000ml of W3180 + 9.50000ml of W3112 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3680 | Anions 300/9056 calibration standard 5-CCV | WP114681 | 09/09/2025 | 09/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 45.00000ml of W3112 + 5.00000ml of W3180 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3679 | Anions 300/9056 calibration standard 6 | WP114682 | 09/09/2025 | 09/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 2.00000ml of W3180 + 8.00000ml of W3112 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3681 | Anions 300/9056 calibration standard 7 | WP114683 | 09/09/2025 | 09/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 2.50000ml of W3180 + 7.50000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3233 | Anions 300/9056 ICV-LCS std | WP114684 | 09/09/2025 | 09/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 45.00000ml of W3112 + 5.00000ml of W3197 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4036 | IC ELUENT FOR IC-1 | WP114685 | 09/09/2025 | 10/09/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 09/11/2025 |

**FROM** 1980.00000ml of W3112 + 20.00000ml of WP112796 = Final Quantity: 2000.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4037 | IC H2SO4 FOR IC-1 | WP114686 | 09/09/2025 | 10/09/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 09/11/2025 |

**FROM** 5.60000ml of M6186 + 994.40000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3311 | Sulfide Int std, 1000PPM | WP114687 | 09/10/2025 | 09/11/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 09/11/2025 |

**FROM** 0.75000gram of W3190 + 99.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3312 | Sulfide std, 25PPM | WP114688 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 48.75000ml of W3112 + 1.25000ml of WP114687 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3456 | Cyanide Intermediate Working Std, 5PPM | WP114689 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 0.25000ml of W3214 + 49.75000ml of WP113836 = 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 |
|---|---|---|---|---|---|---|---|---|
| 4 | Calibation standard 500 ppb | WP114690 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 45.00000ml of WP113836 + 5.00000ml of WP114689 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3761 | Calibration-CCV CN Standard 250 ppb | WP114691 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 2.50000ml of WP114689 + 47.50000ml of WP113836 = 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 |
|---|---|---|---|---|---|---|---|---|
| 6 | Calibration Standard 100 ppb | WP114692 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 1.00000ml of WP114689 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 7 | Calibration Standard 50 ppb | WP114693 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 0.50000ml of WP114689 + 49.50000ml of WP113836 = 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 |
|---|---|---|---|---|---|---|---|---|
| 8 | Calibration Standard 10 ppb | WP114694 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 1.00000ml of WP114690 + 49.00000ml of WP113836 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 9 | Calibration Standard 5 ppb | WP114695 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 0.50000ml of WP114690 + 49.50000ml of WP113836 = 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 |
|---|---|---|---|---|---|---|---|---|
| 167 | 0 ppb CN calibration std | WP114696 | 09/10/2025 | 09/11/2025 | Rubina Mughal | None | None | Iwona Zarych 09/11/2025 |

**FROM** 50.00000ml of WP113836 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1582 | Chloramine T solution, 0.014M | WP114698 | 09/10/2025 | 09/11/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | Glass Pipette-A | Iwona Zarych 09/11/2025 |

**FROM** 0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3443 | Residual chlorine std, Intermediate 10PPM | WP114701 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 09/11/2025 |

**FROM** 42.75000ml of W3112 + 7.25000ml of W3130 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3444 | Residual chlorine std, Intermediate-SS 10PPM | WP114702 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 09/11/2025 |

**FROM** 42.50000ml of W3112 + 7.50000ml of W3131 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3710 | Chlorine Calibration std, 0.0ppm | WP114703 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | None | Jignesh Parikh 09/11/2025 |

**FROM** 50.00000ml of W3112 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3707 | Chlorine Calibration std, 0.1ppm | WP114704 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 49.50000ml of W3112 + 0.50000ml of WP114701 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3708 | Chlorine Calibration std, 0.2ppm | WP114705 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 49.00000ml of W3112 + 1.00000ml of WP114701 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3799 | Residual Chlorine Calibration and CCV std, 0.4PPM | WP114706 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 96.00000ml of W3112 + 4.00000ml of WP114701 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3709 | Chlorine Calibration std, 0.8ppm | WP114707 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 46.00000ml of W3112 + 4.00000ml of WP114701 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3711 | Chlorine Calibration std, 1.6ppm | WP114708 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 09/11/2025 |

**FROM** 42.00000ml of W3112 + 8.00000ml of WP114701 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3452 | Residual chlorine ICV-LCS, 0.4PPM | WP114709 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 48.00000ml of W3112 + 2.00000ml of WP114702 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3450 | Residual chlorine LOD, 0.05PPM | WP114710 | 09/10/2025 | 09/11/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/11/2025 |

**FROM** 49.75000ml of W3112 + 0.25000ml of WP114701 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3482 | Nitrite Calibration Std-0.6PPM | WP114728 | 09/11/2025 | 09/12/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 1.00000ml of W3180 + 49.00000ml of W3112 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3483 | Nitrite CCV Std-0.3PPM | WP114729 | 09/11/2025 | 09/12/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 0.50000ml of W3180 + 49.50000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3484 | Nitrite ICV-LCSW Std-0.3PPM | WP114730 | 09/11/2025 | 09/12/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/11/2025 |

**FROM** 0.50000ml of W3197 + 49.50000ml of W3112 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1633 | Phenol Calibration Std, 2PPM | WP114733 | 09/11/2025 | 09/12/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/12/2025 |

**FROM** 48.00000ml of W3112 + 2.00000ml of WP114669 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1634 | Phenol CCV Std, 1PPM | WP114734 | 09/11/2025 | 09/12/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/12/2025 |

**FROM** 49.00000ml of W3112 + 1.00000ml of WP114669 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1636 | Phenol ICV Std, 1PPM | WP114735 | 09/11/2025 | 09/12/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/12/2025 |

**FROM** 49.00000ml of W3112 + 1.00000ml of WP114670 = 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 |
|---|---|---|---|---|---|---|---|---|
| 506 | 4-AMINOANTIPYRINE | WP114736 | 09/11/2025 | 09/12/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | Glass Pipette-A | Jignesh Parikh 09/12/2025 |

**FROM** 0.40000gram of W3176 + 20.00000ml of W3112 = Final Quantity: 20.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3680 | Anions 300/9056 calibration standard 5-CCV | WP114737 | 09/11/2025 | 09/12/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/12/2025 |

**FROM** 45.00000ml of W3112 + 5.00000ml of W3180 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3233 | Anions 300/9056 ICV-LCS std | WP114738 | 09/11/2025 | 09/12/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/12/2025 |

**FROM** 45.00000ml of W3112 + 5.00000ml of W3197 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 540 | conductivity standard | WP114749 | 09/12/2025 | 03/12/2026 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/12/2025 |

**FROM** 0.74560gram of W2685 + 1000.00000ml of W3112 = 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 | WP114755 | 09/15/2025 | 09/22/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 09/17/2025 |

**FROM** 0.25000gram of W2979 + 50.00000ml of E3965 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3898 | Mixed indicator reagent for Chloride more than 100ppm | WP114768 | 09/15/2025 | 10/15/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/18/2025 |

**FROM** 0.05000gram of W2797 + 0.50000gram of W3049 + 99.00000ml of W3218 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3806 | HNO3 0.1N for Chloride | WP114769 | 09/15/2025 | 01/28/2026 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/18/2025 |

**FROM** 0.64000ml of M6187 + 99.36000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3891 | Chloride LCS Std - 500ppm | WP114771 | 09/15/2025 | 09/16/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/18/2025 |

**FROM** 19.00000ml of W3112 + 1.00000ml of WP112990 = Final Quantity: 20.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1322 | Ammonia Intermediate Std, 50PPM | WP114785 | 09/16/2025 | 10/07/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/17/2025 |

**FROM** 95.00000ml of W3112 + 5.00000ml of WP112611 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1639 | Ammonia Intermediate Std-Second source, 50PPM | WP114786 | 09/16/2025 | 10/07/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/17/2025 |

**FROM** 95.00000ml of W3112 + 5.00000ml of WP112612 = 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 |
|---|---|---|---|---|---|---|---|---|
| 295 | TKN Calibration Std (10 ppm) | WP114787 | 09/16/2025 | 09/23/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/17/2025 |

**FROM** 49.50000ml of W3112 + 0.50000ml of WP112611 = 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 | WP114788 | 09/16/2025 | 09/23/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/17/2025 |

**FROM** 49.75000ml of W3112 + 0.25000ml of WP112611 = 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 | WP114789 | 09/16/2025 | 09/23/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/17/2025 |

**FROM** 49.75000ml of W3112 + 0.25000ml of WP112612 = 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 | WP114790 | 09/16/2025 | 09/23/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/17/2025 |

**FROM** 49.75000ml of W3112 + 0.25000ml of WP112612 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3590 | TKN LOD-MDL 0.25PPM | WP114791 | 09/16/2025 | 09/23/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/17/2025 |

**FROM** 99.50000ml of W3112 + 0.50000ml of WP114785 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 275 | Ammonia Calibration Std. (2 ppm) | WP114796 | 09/17/2025 | 09/18/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/18/2025 |

**FROM** 48.00000ml of W3112 + 2.00000ml of WP114785 = 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 |
|---|---|---|---|---|---|---|---|---|
| 285 | Ammonia CCV Std. (1 ppm) | WP114797 | 09/17/2025 | 09/18/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/18/2025 |

**FROM** 49.00000ml of W3112 + 1.00000ml of WP114785 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 286 | Ammonia ICV Std. (1 ppm) | WP114798 | 09/17/2025 | 09/18/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/18/2025 |

**FROM** 49.00000ml of W3112 + 1.00000ml of WP114786 = 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 |
|---|---|---|---|---|---|---|---|---|
| 740 | sodium nitroferricyanide for ammonia | WP114799 | 09/17/2025 | 10/17/2025 | Rubina Mughal | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/18/2025 |

**FROM** 0.05000gram of W2666 + 99.95000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 127 | BOD Dilution fluid | WP114800 | 09/17/2025 | 09/18/2025 | Rubina Mughal | None | None | Jignesh Parikh 09/18/2025 |

**FROM** 18.00000L of W3112 + 3.00000PILLOW of W3233 = Final Quantity: 18.000 L

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 129 | Glutamic acid-glucose mix for BOD | WP114801 | 09/17/2025 | 09/18/2025 | Rubina Mughal | WETCHEM_SCALE_7 (WCSC-6) | None | Jignesh Parikh 09/18/2025 |

**FROM** 0.15000gram of W2653 + 0.15000gram of W2654 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 128 | polyseed seed control | WP114802 | 09/17/2025 | 09/18/2025 | Rubina Mughal | None | None | Jignesh Parikh 09/18/2025 |

**FROM** 1.00000PILLOW of W3212 + 300.00000ml of WP114800 = Final Quantity: 300.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1103 | HEX CHROME INTERMEDIATE STD SOURCE 1 (5PPM) | WP114804 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/19/2025 |

**FROM** 9.00000ml of W3112 + 1.00000ml of WP113880 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 110 | calibration std. hexchrome 0 ppm | WP114805 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | None | Iwona Zarych 09/19/2025 |

**FROM** 100.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 109 | calibration std. hexchrome 0.01 ppm | WP114806 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/19/2025 |

**FROM** 99.80000ml of W3112 + 0.20000ml of WP114804 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3800 | Calibration Std Hexachrome 0.025 ppm | WP114807 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/19/2025 |

**FROM** 99.50000ml of W3112 + 0.50000ml of WP114804 = 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 |
|---|---|---|---|---|---|---|---|---|
| 108 | Calibration Std. hexchrome 0.05 ppm | WP114808 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/19/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP114804 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 107 | Calibration Std. hexchrome 0.1 ppm | WP114809 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/19/2025 |

**FROM** 99.80000ml of W3112 + 0.20000ml of WP113880 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3808 | Calibration and CCV std HexChrome 0.5PPM | WP114810 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/19/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP113880 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3809 | Calibration std HexChrome 1.0PPM | WP114811 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/19/2025 |

**FROM** 98.00000ml of W3112 + 2.00000ml of WP113880 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3804 | Hexavalent Chromium ICV-LCS Std | WP114812 | 09/18/2025 | 09/19/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 09/19/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP113881 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1103 | HEX CHROME INTERMEDIATE STD SOURCE 1 (5PPM) | WP114827 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 9.00000ml of W3112 + 1.00000ml of WP113880 = 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 | WP114828 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | None | Jignesh Parikh 09/22/2025 |

**FROM** 100.00000ml of W3112 = 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 | WP114829 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 99.80000ml of W3112 + 0.20000ml of WP114827 = 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 | WP114830 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 99.50000ml of W3112 + 0.50000ml of WP114827 = 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 | WP114831 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP114827 = 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 | WP114832 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 99.80000ml of W3112 + 0.20000ml of WP113880 = 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 | WP114833 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP113880 = 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 | WP114834 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 98.00000ml of W3112 + 2.00000ml of WP113880 = 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 | WP114835 | 09/19/2025 | 09/20/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP113881 = 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 | WP114844 | 09/22/2025 | 09/29/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/22/2025 |

**FROM** 0.08500gram of W3219 + 100.00000ml of W3112 = 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 | WP114845 | 09/22/2025 | 09/29/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/22/2025 |

**FROM** 0.08500gram of W3169 + 100.00000ml of W3112 = 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 | WP114846 | 09/22/2025 | 09/29/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 9.50000ml of W3112 + 0.50000ml of WP114844 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 2459 | COD ICV-LCS std, 50ppm | WP114847 | 09/22/2025 | 09/29/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 9.50000ml of W3112 + 0.50000ml of WP114845 = 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 |
|---|---|---|---|---|---|---|---|---|
| 4162 | RL CHECK | WP114848 | 09/22/2025 | 09/29/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/22/2025 |

**FROM** 9.90000ml of W3112 + 0.10000ml of WP114844 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 122 | calibration std. 0 ppm | WP114888 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | None | Jignesh Parikh 09/26/2025 |

**FROM** 100.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 121 | calibration std. phosphate 0.05 ppm | WP114889 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 99.90000ml of W3112 + 0.10000ml of WP112913 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 120 | calibration std. phosphate 0.1 ppm | WP114891 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 99.80000ml of W3112 + 0.20000ml of WP112913 = 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 |
|---|---|---|---|---|---|---|---|---|
| 119 | calibration std. phosphate 0.3 ppm | WP114892 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 99.40000ml of W3112 + 0.60000ml of WP112913 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 118 | calibration std. phosphate 0.5 ppm | WP114893 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP112913 = 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 |
|---|---|---|---|---|---|---|---|---|
| 117 | calibration std. phosphate 1 ppm | WP114894 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 98.00000ml of W3112 + 2.00000ml of WP112913 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3805 | Phosphate ICV-LCS Std | WP114895 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP112914 = 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 |
|---|---|---|---|---|---|---|---|---|
| 124 | phosphate CCV std. | WP114896 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP112913 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4212 | Phosphate RL CHECK | WP114897 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 99.80000ml of W3112 + 0.20000ml of WP112913 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3907 | Phosphate MDL-LOD-LOQ spike solution, 5ppm | WP114898 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 9.00000ml of W3112 + 1.00000ml of WP112913 = Final Quantity: 10.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3814 | Phosphate LOD-MDL Std 0.025ppm | WP114899 | 09/25/2025 | 10/02/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 09/26/2025 |

**FROM** 99.50000ml of W3112 + 0.50000ml of WP114898 = 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 |
|---|---|---|---|---|---|---|---|---|
| 590 | Ascorbic Acid | WP114918 | 09/25/2025 | 09/26/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 09/26/2025 |

**FROM** 0.52800gram of W3074 + 30.00000ml of W3112 = Final Quantity: 30.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 658 | Combined reagent | WP114919 | 09/25/2025 | 09/26/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 09/26/2025 |

**FROM** 15.00000ml of WP113112 + 30.00000ml of WP114918 + 5.00000ml of WP113113 + 50.00000ml of WP112831 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3888 | TOC Water Intermediate std-200ppm | WP115031 | 10/02/2025 | 10/09/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/03/2025 |

**FROM** 95.00000ml of W3112 + 5.00000ml of WP114035 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3889 | TOC Water Intermediate std SS-200ppm | WP115032 | 10/02/2025 | 10/09/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/03/2025 |

**FROM** 95.00000ml of W3112 + 5.00000ml of WP113780 = 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 |
|---|---|---|---|---|---|---|---|---|
| 613 | Phosphoric acid reagent | WP115035 | 10/02/2025 | 01/31/2026 | Iwona Zarych | None | None | Jignesh Parikh 10/03/2025 |

**FROM** 150.00000ml of W3112 + 50.00000ml of W2860 = Final Quantity: 200.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 304 | TOC CAL 0.00ppm | WP115042 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | None | Jignesh Parikh 10/09/2025 |

**FROM** 100.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 305 | TOC CAL 0.5ppm | WP115043 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 10/09/2025 |

**FROM** 99.75000ml of W3112 + 0.25000ml of WP115031 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 306 | TOC CAL 1.0PPM | WP115044 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 10/09/2025 |

**FROM** 99.50000ml of W3112 + 0.50000ml of WP115031 = 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 |
|---|---|---|---|---|---|---|---|---|
| 307 | TOC CAL 2.0PPM | WP115045 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 10/09/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP115031 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 308 | TOC CAL 5.0PPM | WP115046 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 10/09/2025 |

**FROM** 97.50000ml of W3112 + 2.50000ml of WP115031 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3331 | TOC CAL-CCV std, 10PPM | WP115047 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/09/2025 |

**FROM** 190.00000ml of W3112 + 10.00000ml of WP115031 = Final Quantity: 200.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 310 | TOC CAL 20.0PPM | WP115048 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/09/2025 |

**FROM** 90.00000ml of W3112 + 10.00000ml of WP115031 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1650 | TOC ICV/LCS STD. 10PPM | WP115049 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/09/2025 |

**FROM** 190.00000ml of W3112 + 10.00000ml of WP115032 = Final Quantity: 200.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3887 | Inorganic carbon solution, 20ppm | WP115050 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/09/2025 |

**FROM** 49.00000ml of W3112 + 1.00000ml of WP113500 = 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 |
|---|---|---|---|---|---|---|---|---|
| 4003 | Solution A | WP115051 | 10/03/2025 | 04/03/2026 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 10/09/2025 |

**FROM** 1000.00000ml of W3112 + 2.56500gram of W3167 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4004 | Solution B | WP115052 | 10/03/2025 | 04/03/2026 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 10/09/2025 |

**FROM** 0.28100gram of M5501 + 0.28300gram of W2685 + 0.59400gram of W3196 + 1000.00000ml of W3112 + 2.05000gram of W3235 = 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 |
|---|---|---|---|---|---|---|---|---|
| 4005 | Solution C | WP115053 | 10/03/2025 | 11/30/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 10/09/2025 |

**FROM** 0.70500gram of W3016 + 1000.00000ml of W3112 + 2.80600gram of W2647 = Final Quantity: 1000.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 4006 | Solution D | WP115054 | 10/03/2025 | 04/03/2026 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 10/09/2025 |

**FROM** 1.86200gram of W3183 + 1000.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 4007 | IC-removal check solution | WP115055 | 10/03/2025 | 10/10/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 10/09/2025 |

**FROM** 0.04000ml of M6186 + 10.00000ml of WP115051 + 10.00000ml of WP115052 + 10.00000ml of WP115053 + 10.00000ml of WP115054 = Final Quantity: 40.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3407 | Acidity-Alkalinity Stock Std(-+2500PPM) | WP115069 | 10/06/2025 | 10/13/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 10/09/2025 |

**FROM** 0.62500gram of W3163 + 249.40000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 293 | alkalinity LCSW 50 ppm | WP115070 | 10/06/2025 | 10/13/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/09/2025 |

**FROM** 196.00000ml of W3112 + 4.00000ml of WP115069 = Final Quantity: 200.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3700 | Sulfate Calibration std, 0ppm | WP115073 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | None | Iwona Zarych 10/08/2025 |

**FROM** 100.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3705 | Sulfate Calibration std, 5ppm | WP115074 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 99.50000ml of W3112 + 0.50000ml of WP113669 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3701 | Sulfate Calibration std, 10ppm | WP115075 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 99.00000ml of W3112 + 1.00000ml of WP113669 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3698 | Sulfate Calibration std, 15ppm | WP115076 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 98.50000ml of W3112 + 0.50000ml of WP113669 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3702 | Sulfate Calibration std, 20ppm | WP115077 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 98.00000ml of W3112 + 2.00000ml of WP113669 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3699 | Sulfate Calibration std, 25ppm | WP115078 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 97.50000ml of W3112 + 2.50000ml of WP113669 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3703 | Sulfate Calibration std, 30ppm | WP115079 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 97.00000ml of W3112 + 3.00000ml of WP113669 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3706 | Sulfate Calibration std, 35ppm | WP115080 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 96.50000ml of W3112 + 3.50000ml of WP113669 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3704 | Sulfate Calibration std, 40ppm | WP115081 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 96.00000ml of W3112 + 4.00000ml of WP113669 = 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 |
|---|---|---|---|---|---|---|---|---|
| 360 | sulfate ICV 20ppm | WP115082 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 98.00000ml of W3112 + 2.00000ml of WP112989 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 359 | sulfate CCV 20ppm | WP115083 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 98.00000ml of W3112 + 2.00000ml of WP113669 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3415 | Sulfate LCS std, 20ppm | WP115084 | 10/07/2025 | 10/14/2025 | Rubina Mughal | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 10/08/2025 |

**FROM** 98.00000ml of W3112 + 2.00000ml of WP112989 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1167 | hydrazine sulfate solution 1 | WP115124 | 10/08/2025 | 11/08/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 10/27/2025 |

**FROM** 1.00000gram of W3078 + 99.00000ml of W3112 = 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 |
|---|---|---|---|---|---|---|---|---|
| 1843 | HEXAMETHYLENETETRAMINE SOLUTION 1 | WP115125 | 10/08/2025 | 11/08/2025 | Iwona Zarych | WETCHEM_SCALE_5 (WCSC-5) | None | Jignesh Parikh 10/27/2025 |

**FROM** 10.00000gram of W3081 + 90.00000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1102 | Formazin turbidity 400 NTU suspension | WP115126 | 10/08/2025 | 11/08/2025 | Iwona Zarych | None | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh 10/27/2025 |

**FROM** 90.00000ml of W3112 + 50.00000ml of WP115124 + 50.00000ml of WP115125 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3713 | Turbidity Calibration std, 0NTU | WP115127 | 10/09/2025 | 10/10/2025 | Iwona Zarych | None | None | Jignesh Parikh 10/27/2025 |

**FROM** 100.00000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3718 | Turbidity Calibration std, 40NTU | WP115128 | 10/09/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/27/2025 |

**FROM** 90.00000ml of W3112 + 10.00000ml of WP115126 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3714 | Turbidity Calibration std, 20NTU | WP115129 | 10/09/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/27/2025 |

**FROM** 95.00000ml of W3112 + 5.00000ml of WP115126 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3807 | Turbidity Calibration - CCV std, 10 NTU | WP115130 | 10/09/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/27/2025 |

**FROM** 97.50000ml of W3112 + 2.50000ml of WP115126 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3722 | Turbidity Calibration std, 5NTU | WP115131 | 10/09/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/27/2025 |

**FROM** 87.50000ml of W3112 + 12.50000ml of WP115128 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3720 | Turbidity Calibration std, 1NTU | WP115132 | 10/09/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/27/2025 |

**FROM** 97.50000ml of W3112 + 2.50000ml of WP115128 = 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 |
|---|---|---|---|---|---|---|---|---|
| 3715 | Turbidity Calibration std, 0.5NTU | WP115133 | 10/09/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/27/2025 |

**FROM** 97.50000ml of W3112 + 2.50000ml of WP115129 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1998 | TURBIDITY LOD STD, 0.5NTU | WP115134 | 10/09/2025 | 10/10/2025 | Iwona Zarych | None | Glass Pipette-A | Jignesh Parikh 10/27/2025 |

**FROM** 5.00000ml of W3116 + 95.00000ml of W3112 = Final Quantity: 100.000 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 | 417203 | 07/28/2026 | 07/28/2025 / RUPESH | 01/29/2025 / Rajesh | E3875 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9254-03 / Acetone, Ultra Resi (cs/4x4L) | 24H2762008 | 10/03/2025 | 04/03/2025 / Rajesh | 03/31/2025 / Rajesh | E3917 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-9254-03 / Acetone, Ultra Resi (cs/4x4L) | 24H1462005 | 05/24/2027 | 08/22/2025 / RUPESH | 08/20/2025 / RUPESH | E3965 |

| 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) | 0000281938 | 07/06/2026 | 07/24/2023 / mohan | 04/14/2023 / mohan | M5501 |

| 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) | 0000281938 | 07/06/2026 | 04/30/2024 / mohan | 04/25/2024 / mohan | M5884 |

| 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) | 23D2462010 | 03/20/2028 | 08/16/2024 / mohan | 08/16/2024 / mohan | M6041 |

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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. | 140440 / TEST PAPERS,PH,0-2.5,.2SENSI, 100PK | 80A0441 | 02/29/2028 | 09/03/2024 / jignesh | 08/19/2024 / Jaswal | M6069 |

| 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) | 22G2862015 | 02/17/2026 | 02/18/2025 / Sagar | 01/15/2025 / Sagar | M6151 |

| 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) | 23D2462010 | 07/12/2026 | 08/13/2025 / Sagar | 08/06/2025 / Sagar | M6186 |

| 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) | 24H0162012 | 01/28/2026 | 08/29/2025 / Sagar | 08/08/2025 / Sagar | M6187 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| VWR Scientific | 102572-606 / N-(1-Naphthyl)ethylene diamine dihydrochloride, 100 gms | 00815-1734-1015- | 04/22/2026 | 04/22/2016 / apatel | 04/22/2016 / apatel | W2103 |

| 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 |

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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. | A1561-500GM / POTASSIUM ANTIMONY TARTRATE TRIHYDRATE, 500G | 2GH0057 | 12/11/2027 | 12/11/2017 / apatel | 12/11/2017 / apatel | W2306 |

| 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. | J2870-1 / PHENOLPHTHALEIN, INDICATOR F/TITRATION, 500G | 0000235350 | 06/04/2025 | 01/31/2020 / AMANDEEP | 01/20/2020 / apatel | W2650 |

| 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. | J07716-1 / Ammonium Molybdate 500G | 0000234410 | 02/11/2026 | 02/10/2020 / AMANDEEP | 01/31/2020 / apatel | W2664 |

| 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. | J3818-5 / SODIUM PHOSPHATE, MONOBAS/HYD, CRYS, ACS, 2.5 KG | 0000225799 | 12/03/2025 | 04/05/2021 / Alexander | 02/10/2020 / apatel | W2668 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J3040-1 / POTASSIUM CHLORIDE, CRYS, ACS, 500G | 0000250362 | 10/23/2026 | 02/20/2020 / AMANDEEP | 02/20/2020 / apatel | W2685 |

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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. | PC16721-3 / Isopropanol, 99% | C20F23007 | 06/30/2025 | 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. | AA32641-06 / BROMOPHENOL BLUE ACS 5G | W2AG026 | 01/29/2026 | 01/29/2021 / apatel | 01/29/2021 / apatel | W2797 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | AC410985000 / Glycerin, Anhydrous, 500 ml | B0541750B | 10/31/2025 | 03/29/2021 / apatel | 03/29/2021 / apatel | W2812 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | A12244 / Stearic acid, 98%, 100 g | U20E006 | 04/02/2026 | 04/02/2021 / apatel | 04/02/2021 / apatel | W2817 |

| 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 # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J0260-3 / Phosphoric Acid, 2.5 L | 0000278313 | 01/31/2026 | 07/12/2021 / apatel | 07/12/2021 / apatel | W2860 |

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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 | H223-57 / Hexadecane, 99.0% | 0000266903 | 05/04/2027 | 09/07/2021 / apatel | 08/26/2021 / apatel | W2871 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J4296-1 / ZINC ACETATE,DIHYD,CRYS,ACS,500G | 383058 | 07/05/2027 | 07/05/2022 / ketankumar | 07/05/2022 / ketankumar | W2926 |

| 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 |

| 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. | 7372-12 / Sodium Acetate, Anhydrous | MKCR6583 | 04/30/2026 | 12/12/2022 / Iwona | 12/12/2022 / Iwona | W2984 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | H223-57 / Hexadecane, 99.0% | SHBP8192 | 02/27/2028 | 02/27/2023 / Iwona | 02/27/2023 / Iwona | W3009 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| EPA | / ICV-CN | ICV6-400 | 12/31/2025 | 01/08/2025 / Iwona | 02/20/2020 / Iwona | W3012 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| SIGMA ALDRICH | S9390-100G / Sodium phosphate dibasic heptahydrate | SLCP6576 | 11/30/2025 | 04/03/2023 / Iwona | 04/03/2023 / Iwona | W3016 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| SIGMA ALDRICH | 270970-1L / Pyridine 1L | SHBQ2113 | 04/03/2028 | 04/03/2023 / Iwona | 04/03/2023 / Iwona | W3019 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | BDH0214-500G / Ammonium Persulfate Crystal, 500g | MKCR9319 | 06/30/2028 | 03/05/2024 / Iwona | 06/06/2023 / Iwona | W3035 |

| 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. | EM-SX0761-1 / SODIUM SULFATE ANHY POWDER 500GM | SLCP7811 | 11/30/2025 | 10/16/2023 / Iwona | 09/14/2023 / Iwona | W3055 |

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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. | EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG | 2023012653 | 10/19/2028 | 09/03/2024 / jignesh | 10/19/2023 / Iwona | W3058 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J0938-7 / Ascorbic Acid, 500 gms | MKCS4627 | 09/30/2025 | 01/16/2024 / Iwona | 01/16/2024 / Iwona | W3074 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J2177-1 / Hydrazine sulfate, 500 gms | BCCK9980 | 10/13/2028 | 01/26/2024 / Iwona | 01/26/2024 / Iwona | W3078 |

| 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 | 072154301 | 01/30/2029 | 05/07/2024 / jignesh | 01/30/2024 / jignesh | W3079 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | AA36462-36 / hexamethylenetetramine | M02K021 | 01/02/2027 | 02/26/2024 / Iwona | 02/26/2024 / Iwona | W3081 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | A12244 / Stearic acid, 98%, 100 g | U23E020 | 02/26/2029 | 02/26/2024 / Iwona | 02/26/2024 / Iwona | W3082 |

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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. | 123260-100G / Sulfanilamide, 100 gms | 50091180 | 06/30/2028 | 02/26/2024 / Iwona | 02/26/2024 / Iwona | W3083 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | 566002 / BUFFER PH 7.00 GREEN 1PINT PK6 | 44001f99 | 12/31/2025 | 04/03/2024 / jignesh | 04/02/2024 / jignesh | W3093 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | 4740-16 / Mercuric Nitrate, 0.141 N, 500ml | 4403N69 | 03/31/2026 | 09/18/2024 / Iwona | 04/09/2024 / Iwona | W3095 |

| 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 | 2403J02 | 03/31/2026 | 04/22/2024 / Iwona | 04/22/2024 / Iwona | W3103 |

| 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 | 4403S13 | 09/30/2025 | 04/22/2024 / Iwona | 04/22/2024 / Iwona | W3105 |

| 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 | 1405D67 | 04/30/2026 | 05/23/2024 / Iwona | 05/23/2024 / Iwona | W3109 |

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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 | DIW / DI Water | Daily Lab-Certified | 07/03/2029 | 07/03/2024 / Iwona | 07/03/2024 / Iwona | W3112 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | PC19510-7 / Sodium Hydroxide Pellets 12 Kg | 23B1556310 | 12/31/2025 | 07/08/2024 / Iwona | 07/08/2024 / Iwona | W3113 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| HACH | 2659949 / 10 NTU Standard 500 ml | A4151 | 05/30/2026 | 07/12/2024 / Iwona | 07/12/2024 / Iwona | W3116 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| ULTRA Scientific | PANAL0100 / Potassium Nitrate | 50082064 | 11/30/2027 | 07/12/2024 / Iwona | 07/12/2024 / Iwona | W3119 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| ULTRA Scientific | PANAL0100 / Potassium Nitrate | 50082064 | 11/30/2027 | 07/12/2024 / Iwona | 07/12/2024 / Iwona | W3119 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| HACH | 14268-10 / Chlorine Std, Pk of 16 | A4144 | 01/31/2026 | 07/25/2024 / Iwona | 07/25/2024 / Iwona | W3130 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| HACH | 14268-10 / Chlorine Std, Pk of 16 | A4166 | 02/28/2026 | 07/25/2024 / Iwona | 07/25/2024 / Iwona | W3131 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | PC05050-1 / EDTA, disodium salt, dihydrate 1 lb | 2ND0156 | 07/10/2026 | 07/26/2024 / Iwona | 07/26/2024 / Iwona | W3132 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | 140476 / Test Paper,PH Short Range 9.0/10.0 | L23 | 08/22/2029 | 08/22/2024 / Iwona | 08/22/2024 / Iwona | W3133 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | JTE494-6 / CHLORAMINE-T BAKER 250GM | 10239484 | 09/09/2029 | 09/09/2024 / Iwona | 09/09/2024 / Iwona | W3139 |

| 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 | 10D0142 | 09/17/2029 | 09/17/2024 / Iwona | 09/17/2024 / Iwona | W3140 |

| 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 | 431110 | 11/30/2025 | 09/18/2024 / Iwona | 09/18/2024 / Iwona | W3141 |

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# CHEMICAL RECEIPT LOG BOOK

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| HACH | 14064-99 / Total Chlorine Powder Pillows | A4230 | 08/31/2029 | 10/01/2024 / Iwona | 10/01/2024 / Iwona | W3147 |

| 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 | MKCW3077 | 07/31/2029 | 10/07/2024 / Iwona | 10/07/2024 / Iwona | W3148 |

| 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 | 4408P62 | 08/31/2026 | 10/16/2024 / Iwona | 10/16/2024 / Iwona | W3149 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | AL74050-8 / SULFURIC ACID, 0.02N, 4L | 235420 | 03/31/2029 | 11/04/2024 / Iwona | 11/04/2024 / Iwona | W3150 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | 01237-10KG / Megnasium Chloride Hexahydrate ACS 10KG | 002126-2019-201 | 11/25/2029 | 11/25/2024 / Iwona | 11/25/2024 / Iwona | W3152 |

| 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 | 14-860 | 12/02/2029 | 12/02/2024 / Iwona | 12/02/2024 / Iwona | W3155 |

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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. | EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG | 24E3156178 | 09/30/2027 | 12/10/2024 / Iwona | 12/10/2024 / Iwona | W3163 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J2500-1 / MAGNESIUM SULFATE 7-HYDRATE CRYSTALS 500G | 24J2856877 | 05/29/2027 | 01/03/2025 / Iwona | 01/03/2025 / Iwona | W3167 |

| 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 | 24H0956262 | 04/28/2026 | 01/03/2025 / Iwona | 01/03/2025 / Iwona | W3169 |

| 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 | 50107308 | 07/31/2028 | 01/24/2025 / Iwona | 01/24/2025 / Iwona | W3176 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | AL14055-3 / PH 4 BUFFER SOLUTION | 2411A93 | 10/30/2026 | 04/01/2025 / JIGNESH | 01/27/2025 / jignesh | W3178 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | 300-CAL-A-500ML / 300.0 Calibration Standard, 500 ml | V2-MEB742616 | 02/19/2026 | 02/19/2025 / Iwona | 01/27/2025 / Iwona | W3180 |

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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. | 470112-662 / TEST STRIPES, NITRATE/NITRITE, PK50 | 436101 | 04/30/2027 | 08/05/2025 / Iwona | 02/26/2025 / Iwona | W3182 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| SIGMA ALDRICH | S4392-250G / Sodium metasilicate nonahydrate | SLCM8472 | 01/31/2028 | 10/03/2025 / Iwona | 03/06/2025 / Iwona | W3183 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | BA-3382-05 / Sand, Purified (cs/4x2.5kg) | 25A2756718 | 12/31/2028 | 03/10/2025 / Iwona | 03/10/2025 / Iwona | W3186 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J3910-1 / Sodium Sulfide, 500 g | 250330 | 06/30/2026 | 07/10/2025 / Iwona | 03/17/2025 / Iwona | W3190 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | 1601-1 / PH 10.01 BUFFER,COLOR CD 475ML | 2410F80 | 03/31/2026 | 04/01/2025 / JIGNESH | 03/13/2025 / jignesh | W3191 |

| 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 | 24L0356561 | 08/31/2027 | 03/19/2025 / Iwona | 03/19/2025 / Iwona | W3195 |

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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. | J0660-1 / AMMONIUM CHLORIDE, ACS, 500G | MKCV1009 | 09/30/2026 | 03/19/2025 / Iwona | 03/19/2025 / Iwona | W3196 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Inorganic Ventures | 300-CAL-A-500ML / 300.0 Calibration Standard, 500 ml | 040525 | 04/05/2027 | 04/08/2025 / Iwona | 04/08/2025 / Iwona | W3197 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J3246-1 / POTAS PHOSPHATE, MONO, CRYS, ACS, 500G | MKCW6723 | 10/31/2028 | 04/11/2025 / Iwona | 04/11/2025 / Iwona | W3198 |

| 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 | 24H0956271 | 05/31/2027 | 04/11/2025 / Iwona | 04/11/2025 / Iwona | W3199 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J3568-1 / Sodium Borate, 500 gms | BCCL9613 | 05/31/2029 | 04/16/2025 / Iwona | 04/16/2025 / Iwona | W3201 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | EM-BX0035-3 / Barbituric Acid, 100 gms | WXBF3271V | 05/16/2029 | 04/21/2025 / Iwona | 04/21/2025 / Iwona | W3203 |

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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-9262-03 / Hexane, Ultra-Resi (cs/4x4L) | 25c0362005 | 04/30/2026 | 04/22/2025 / jignesh | 04/18/2025 / jignesh | W3204 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | PC01050-3 / ACETIC ACID, GLACIAL, ACS, 2.5L | 540404 | 04/30/2026 | 04/22/2025 / jignesh | 04/17/2025 / jignesh | W3205 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | J3246-1 / POTAS PHOSPHATE, MONO, CRYS, ACS, 500G | MKCX1379 | 01/31/2029 | 04/29/2025 / Iwona | 04/29/2025 / Iwona | W3206 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | 136742-80 / POLYSEED | 132409 | 09/30/2026 | 05/21/2025 / Iwona | 05/21/2025 / Iwona | W3212 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | AL35830-4 / IODINE SOLUTION .025N 1L | MK25A21527 | 01/20/2029 | 05/21/2025 / Iwona | 05/21/2025 / Iwona | W3213 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | RC2543-4 / CYANIDE STD 1000PPM 4OZ | 1505H73 | 11/30/2025 | 05/21/2025 / Iwona | 05/21/2025 / Iwona | W3214 |

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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. | 140444 / TEST PAPERS,PH 0-14,.5 SENSI,100PK | 10D3242 | 12/31/2028 | 06/09/2025 / Iwona | 06/09/2025 / Iwona | W3215 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | AL14455-3 / buffer solution pH 7 yellow | 2504D34 | 03/31/2027 | 07/02/2025 / jignesh | 06/26/2025 / Iwona | W3217 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | PC16721-3 / Isopropanol, 99% | 25C1161072 | 03/04/2029 | 06/26/2025 / Iwona | 06/26/2025 / Iwona | W3218 |

| 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 | 2025040493 | 06/30/2030 | 06/26/2025 / Iwona | 06/26/2025 / Iwona | W3219 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| PCI Scientific Supply, Inc. | EMD-FX0410-5 / FORMALDEHYDE SOLUTION 450ML | MKCW7614 | 12/31/2026 | 06/26/2025 / Iwona | 06/26/2025 / Iwona | W3220 |

| 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 | 2506M51 | 12/31/2025 | 07/02/2025 / Iwona | 07/02/2025 / Iwona | W3222 |

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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. | LC135457 / Cyanide Standard, 1000 PPM, Second Source | 45060288 | 12/24/2025 | 07/07/2025 / Iwona | 07/07/2025 / Iwona | W3224 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Environmental Express LTD | B1010 / COD Digestion Vials Low Level 0-150Mg/L | 5GE0517 | 05/31/2030 | 08/28/2025 / Eman | 07/11/2025 / Iwona | W3229 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| HACH | 1486266 / BOD Nutrient Buffer Pillows, 6 mL concentrate to make 6 L, 50/pk | A5105 | 05/31/2030 | 08/14/2025 / rubina | 07/21/2025 / Iwona | W3233 |

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| SIGMA ALDRICH | C7902-500G / Calcium chloride dihydrate - 500G | 0000440940 | 12/31/2027 | 07/29/2025 / Iwona | 07/29/2025 / Iwona | W3235 |

# *Chem-Impex International, Inc.*

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**Fax: (630) 766-2218**
**E-mail: sales@chemimpex.com**
**Web site: www.chemimpex.com**
**Shipping and Correspondence:**
935 Dillon Drive
Wood Dale, IL 60191
**Manufacturing site:**
825 Dillon Drive
Wood Dale, IL 60191

## *Certificate of Analysis*

| | |
|---|---|
| **Catalogue Number** | 00222 |
| **Lot Number** | 000815-1734-1015-1 |
| **Product** | ***N*-(1-Naphthyl)ethylenediamine dihydrochloride**<br>NED•2HCl<br>2-(1-Naphthylamino)ethylamine dihydrochloride |
| **CAS Number** | 1465-25-4 |
| **Molecular Formula** | $C_{12}H_{14}N_2$•2HCl |
| **Molecular Weight** | 259.18 |

| | |
|---|---|
| **Appearance** | Off-white powder |
| **Solubility** | Passes test (Clear solution, 1g/50 mL Water) |
| **Water Content (Karl Fisher)** | 1.13% |
| **Sensitivity** | Passes test (Sulfanilamide) |
| **Infrared Spectrum** | Conforms to structure |
| **Assay by titration** | 99.68% (Anhydrous basis) |
| **Grade** | ACS reagent |
| **Application** | Determination of sulfanilamide |
| **Storage** | Store at RT |
| **Remarks** | See material safety data sheet for additional information<br>For laboratory use only |

**The foregoing is a copy of the Certificate of Analysis as provided by our supplier**

**Bala Kumar**
**Quality Control Manager**

# CERTIFICATE OF ANALYSIS



**Printed:** 12/8/2017

**Customer No :** 30017 **Customer :** PCI SCIENTIFIC **Customer PO :** 6035343

**Order Number :** 3008126 **Delivery # :** 58495347

**Catalog :** A1561 Potassium Antimony Tartrate Trihydrate, Reagent, ACS **Lot :** 2GH0057

W2306
Received
12/11/17
RP

**Chemical Formula :** $C_8H_4K_2O_{12}Sb_2.3H_2O$ **Formula Weight :** 667.87

**CAS# :** 28300-74-5

| Test | Limit Min. | Limit Max. | Results |
|---|---|---|---|
| ASSAY ($C_8H_4K_2O_{12}Sb_2.3HO$) | 99.0 | 103.0 % | 101.0 % |
| TITRATABLE ACID OR BASE | -- | 0.020 meq/g | <0.020 meq/g |
| LOSS ON DRYING | -- | 2.7 % | <2.7 % |
| ARSENIC (As) | -- | 0.015 % | <0.015 % |
| APPEARANCE | | | WHITE POWDER |
| DATE OF MANUFACTURE | | | 29-DEC-2015 |

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

**Read and understand label and MSDS/SDS before handling any chemical. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. The customer must ensure to provide its users adequate hazardous material training and appropriate protective gears before handling our chemicals.**

Certificate of Analysis Results Certified By:

Ibad Tirmizi
Director, Quality Assurance, Quality Control
New Brunswick, NJ 08901

spectrum CHEMICAL MFG CORP
SpectrumChemical.com

*Corporate Office:*
755-769 Jersey Ave.
New Brunswick, NJ 08901
(732) 214-1300

*West Coast Plant:*
14422 S. San Pedro St.
Gardena, CA 90248
(310) 516-8000

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:**

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 % |



**This document has been electronically generated and does not require a signature.**

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 Molybdate, 4-Hydrate, Crystal
BAKER ANALYZED® A.C.S. Reagent

(ammonium heptamolybdate, tetrahydrate)

Material No.: 0716-01
Batch No.: 0000234410
Manufactured Date: 2019/02/13
Retest Date: 2026/02/11
Revision No: 1

# Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

| Test | Specification | Result |
|---|---|---|
| Assay (as $MoO_3$) | 81.0 - 83.0 % | 81.4 |
| ACS - Insoluble Matter | <= 0.005 % | < 0.001 |
| Chloride (Cl) | <= 0.002 % | < 0.002 |
| Nitrate ($NO_3$) | Passes Test | PT |
| Arsenate, Phosphate and Silicate (as $SiO_2$) | <= 0.001 % | < 0.001 |
| ACS - Phosphate ($PO_4$) | <= 5 ppm | < 5 |
| Sulfate ($SO_4$) | <= 0.02 % | < 0.02 |
| Heavy Metals (as Pb) | <= 0.001 % | < 0.001 |
| Magnesium (Mg) | <= 0.005 % | < 0.001 |
| Potassium (K) | <= 0.01 % | < 0.01 |
| Sodium (Na) | <= 0.01 % | <0.001 |

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

Phenolphthalein, Powder
BAKER ANALYZED® A.C.S. Reagent

Material No.: 2870-01
Batch No.: 0000235350
Manufactured Date: 2018/06/06
Retest Date: 2025/06/04
Revision No: 1

# Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

| Test | Specification | Result |
|---|---|---|
| ACS - Clarity of Solution | Passes Test | PT |
| Visual Transition Interval - pH...8.0 (Colorless) | Passes Test | PT |
| Visual Transition Interval - pH...10.0 (Red) | Passes Test | PT |

For Laboratory, Research or Manufacturing Use

Country of Origin: CN
Packaging Site: Paris 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

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.**

Received by : Amit 02/20/2020

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

Material No.: 3040-01
Batch No.: 0000250362
Manufactured Date: 2019/10/25
Retest Date: 2026/10/23
Revision No: 1

# Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

| Test | Specification | Result |
|---|---|---|
| Assay (KCl) (by Ag titrn) | 99.0 - 100.5 % | 99.8 |
| Loss on Drying at 105°C | <= 1.0 % | < 0.1 |
| ACS - Insoluble Matter | <= 0.005 % | < 0.001 |
| pH of 5% Solution at 25°C | 5.4 - 8.6 | 6.2 |
| Iodide (I) | <= 0.002 % | < 0.002 |
| Bromide (Br) | <= 0.01 % | < 0.01 |
| Calcium (Ca) | <= 0.002 % | < 0.002 |
| Chlorate and Nitrate (as $NO_3$) | <= 0.003 % | < 0.001 |
| Magnesium (Mg) | <= 0.001 % | < 0.001 |
| Nitrogen Compounds (as N) | <= 0.001 % | < 0.001 |
| Sulfate ($SO_4$) | <= 0.001 % | < 0.001 |
| Barium (Ba) | Passes Test | PT |
| Sodium (Na)(by FES) | <= 0.005 % | < 0.005 |
| Phosphate ($PO_4$) | <= 5 ppm | < 5 |
| Trace Impurities - ACS - Heavy Metals (as Pb) | <= 5 ppm | < 5 |
| Trace Impurities - Arsenic (As) | <= 1.000 ppm | < 1.000 |
| Trace Impurities - Iron (Fe) | <= 2.000 ppm | < 1.000 |
| Trace Impurities - Nickel (Ni) | <= 1.000 ppm | < 1.000 |

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

Hexadecane, 99.0%

Material No.: H223-57
Batch No.: 0000266903
Manufactured Date: 2020/05/05
Retest Date: 2027/05/04
Revision No: 1

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($CH_3(CH_2)_{14}CH_3$) (by GC) | >= 99.0 % | 99.3 |
| Infrared Spectrum | Passes Test | PT |

For Laboratory, Research or Manufacturing Use

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

Jamie Ethier
Vice President Global Quality

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

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# Certificate of Analysis

Product No.: 32641

Product: Bromophenol Blue, ACS

Lot No.: W24G026

| Test | Limits | Results |
|---|---|---|
| Appearance | Brown-pink to peach powder | Pink powder |
| Loss on Drying | < 1.0 % | 0.85 % |
| Clarity of solution | To pass test | Passes test |
| Visual transition interval | pH 3.0 (yellow) to pH 4.6 (blue) | pH 3.0 (yellow) to pH 4.6 (blue) |
| Absorptivity 1 %/ 1 cm | | |
| (pH 3.0) at $\lambda_{max}$ 437 nm | 350- 385 | 361 |
| (pH 4.6) at $\lambda_{max}$ 591 nm | 940- 1000 | 983 |

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

Phosphoric Acid
BAKER ANALYZED® A.C.S. Reagent

(orthophosphoric acid)

Material No.: 0260-03
Batch No.: 0000278313
Manufactured Date: 2021/02/01
Retest Date: 2026/01/31
Revision No: 2

# Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

| Test | Specification | Result |
|---|---|---|
| Assay ($H_3PO_4$) (by acidimetry) | 85.0 - 87.0 % | 85.8 |
| Calcium (Ca) | <= 0.002 % | < 0.001 |
| Color (APHA) | <= 10 | 5 |
| Insoluble Matter | <= 0.001 % | < 0.001 |
| ACS - Magnesium (Mg) | <= 0.002 % | <0.002 |
| Sulfate ($SO_4$) | <= 12 ppm | < 4 |
| Volatile Acids (as $CH_3COOH$) | <= 0.001 % | 0.001 |
| Reducing Substances | Passes Test | PT |
| Chloride (Cl) | <= 3 ppm | < 1 |
| Nitrate ($NO_3$) | <= 5 ppm | < 2 |
| Trace Impurities - Antimony (Sb) | <= 20.000 ppm | 0.007 |
| Trace Impurities - Arsenic (As) | <= 0.500 ppm | < 0.001 |
| Trace Impurities - Iron (Fe) | <= 10.000 ppm | < 1.000 |
| Heavy Metals (as Pb) | <= 8 ppm | < 3 |
| Trace Impurities - Manganese (Mn) | <= 0.500 ppm | 0.005 |
| Trace Impurities - Potassium (K) | <= 40.000 ppm | < 0.001 |
| Trace Impurities - Sodium (Na) | <= 200.000 ppm | 0.082 |

For Laboratory, Research or Manufacturing Use
Exceeds A.C.S. Specifications
Meets Reagent Specifications for testing USP/NF monographs

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

ThermoFisher SCIENTIFIC

# Certificate of Analysis

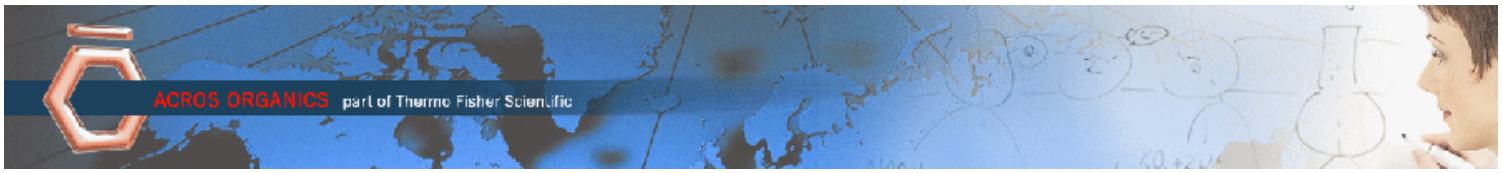
W2666 Recived on 02/10/2020 by AP

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 |




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

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. Acros Organics 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 human or animals. It is the responsiblity 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 following information is the actual analytical results obtained.

| | | | |
|---|---|---|---|
| **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

ThermoFisher SCIENTIFIC

W2817
Rec. 04/02/2021

Product Specification

**Product Name:** Stearic acid, 98%, Thermo Scientific Chemicals
**Catalog Number:** A12244.14

---

| | |
|---|---|
| **CAS Number:** | 57-11-4 |
| **Molecular Formula:** | C18H36O2 |
| **Molecular Weight:** | 284.48 |
| **InChI Key:** | QIQXTHQIDYTFRH-UHFFFAOYSA-N |
| **SMILES:** | CCCCCCCCCCCCCCCCCC(O)=O |
| **Synonym:** | stearic acid acide stearique hydrofol acid 1855 hydrofol acid 1655 industrene 5016 stearic acid, ion(1-) (8CI) glycon TP glycon DP acidum stearinicul hydrofol acid 150 |

## Product Specification

| | |
|---|---|
| **Appearance (Color):** | White |
| **Form:** | Crystals or powder or crystalline powder or flakes or waxy solid |
| **Assay (Silylated GC):** | ≥97.5% |
| **Melting Point (clear melt):** | 67.0-74.0?C |

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**Date Of Print:** 11/30/2023

*Product Specifications are subject to amendment and may change over time. Data contained is accurate as of the date printed.*

# 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

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

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

Sigma-Aldrich.

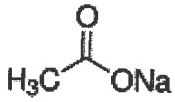
W2984
W2985

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:
Sodium acetate - ACS reagent, ≥99.0%

| | |
|---|---|
| **Product Number:** | **241245** |
| **Batch Number:** | **MKCR6583** |
| Brand: | SIGALD |
| CAS Number: | 127-09-3 |
| MDL Number: | MFCD00012459 |
| Formula: | C2H3NaO2 |
| Formula Weight: | 82.03 g/mol |
| Quality Release Date: | 29 JUL 2022 |
| Recommended Retest Date: | APR 2026 |




| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder or Crystals | Powder |
| Infrared Spectrum | Conforms to Structure | Conforms |
| Titration with HClO4 | ≥ 99.0 % | 99.4 % |
| Loss on Drying | ≤ 1.0 % | 0.9 % |
| Insoluble Matter C = 13.3%, H2O | ≤ 0.01 % | < 0.01 % |
| Chloride Content | ≤ 0.002 % | < 0.002 % |
| Iron (Fe) | ≤ 0.001 % | < 0.001 % |
| Heavy Metals (by ICP-OES) | ≤ 0.001 % | < 0.001 % |
| pH C = 5%, H2O At 25 Degrees Celsius | 7.0 - 9.2 | 8.3 |
| Phosphate (PO4) | ≤ 0.001 % | < 0.001 % |
| Calcium (Ca) | ≤ 0.005 % | < 0.001 % |
| Magnesium (Mg) | ≤ 0.002 % | < 0.001 % |
| Sulfate (SO4) | ≤ 0.003 % | < 0.003 % |
| Meets ACS Requirements | Current ACS Specification | Conforms |
| Recommended Retest Period 4 Years | ---------- | ---------- |

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 Number:** 241245
**Batch Number:** MKCR6583

Larry Coers, Director
Quality Control
Milwaukee, WI US

Sigma-Aldrich

W3009

rec. 2/27/2023 12

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:
**Hexadecane - ReagentPlus®, 99%**

| | |
|---|---|
| **Product Number:** | **H6703** |
| **Batch Number:** | **SHBP8192** |
| Brand: | SIAL |
| CAS Number: | 544-76-3 |
| MDL Number: | MFCD00008998 |
| Formula: | C16H34 |
| Formula Weight: | 226.44 g/mol |
| Quality Release Date: | 04 AUG 2022 |

$CH_3(CH_2)_{14}CH_3$

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | Colorless or White | Colorless |
| Appearance (Form) | Liquid or Solid | Liquid |
| Infrared Spectrum | Conforms to Structure | Conforms |
| Refractive index at 20 ° C | 1.432 - 1.436 | 1.435 |
| Purity (GC) | ≥ 98.5 % | 99.3 % |
| Color Test | ≤ 20 APHA | < 5 APHA |

Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

Sigma-Aldrich.

W3016
Rec 04/03/23 12

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Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

# Certificate of Analysis

Product Name:
Sodium phosphate dibasic heptahydrate - ACS reagent, 98.0-102.0%

$Na_2HPO_4 \cdot 7H_2O$

| | |
|---|---|
| **Product Number:** | **S9390** |
| **Batch Number:** | **SLCP6576** |
| Brand: | SIGALD |
| CAS Number: | 7782-85-6 |
| MDL Number: | MFCD00149180 |
| Formula: | HNa2O4P · 7H2O |
| Formula Weight: | 268.07 g/mol |
| Quality Release Date: | 02 NOV 2022 |
| Recommended Retest Date: | NOV 2025 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder | Powder |
| Assay | 98.0 - 102.0 % | 99.8 % |
| Insoluble Matter | ≤ 0.005 % | 0.003 % |
| Chloride (Cl) < or = 0.001% | Pass | Pass |
| Sulfate < or = 0.005% | Pass | Pass |
| Iron (Fe) < or = 0.001% | Pass | Pass |
| Heavy Metals by ICP | < = 0.001% | < 0.001% |
| pH of 5% solution at 25 deg C | 8.7 - 9.3 | 9.2 |
| Note ACS Tests | _____ | _____ |

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

Sigma-Aldrich.

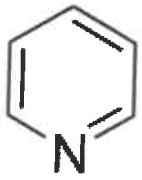
W3019
Rec 4/3/23

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:
**Pyridine - anhydrous, 99.8%**

| | |
|---|---|
| **Product Number:** | **270970** |
| **Batch Number:** | **SHBQ2113** |
| Brand: | SIAL |
| CAS Number: | 110-86-1 |
| MDL Number: | MFCD00011732 |
| Formula: | C5H5N |
| Formula Weight: | 79.10 g/mol |
| Quality Release Date: | 15 DEC 2022 |




| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | Colorless | Colorless |
| Appearance (Form) | Liquid | Liquid |
| Infrared Spectrum | Conforms to Structure | Conforms |
| Purity (GC) | ≥ 99.75 % | 99.99 % |
| Water (by Karl Fischer) | ≤ 0.003 % | 0.002 % |
| Residue on Evaporation | ≤ 0.0005 % | < 0.0001 % |

Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

Sigma-Aldrich.

W 3035
Lec. 6/6/23 12

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:
Ammonium persulfate - ACS reagent, ≥98.0%

| | |
|---|---|
| **Product Number:** | **248614** |
| **Batch Number:** | **MKCR9319** |
| Brand: | SIGALD |
| CAS Number: | 7727-54-0 |
| MDL Number: | MFCD00003390 |
| Formula Weight: | 228.20 g/mol |
| Quality Release Date: | 13 OCT 2022 |

$(NH_4)_2S_2O_8$

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White to Off White | White |
| Appearance (Form) | Powder or Crystals or Granules or Chunks | Crystals |
| ICP Major Analysis<br>Confirms Sulfur Component | Confirmed | Confirmed |
| Titration by KMNO4 | ≥ 98.0 % | 100.0 % |
| Residue on ignition (Ash) | ≤ 0.05 % | < 0.05 % |
| Insoluble Matter<br>c = 10 %; In Water | ≤ 0.005 % | 0.002 % |
| Chloride and Chlorate (as Cl) | ≤ 0.001 % | < 0.001 % |
| Iron (Fe) | ≤ 0.001 % | < 0.001 % |
| Heavy Metal<br>as Lead | ≤ 0.005 % | < 0.001 % |
| Manganese (Mn) | ≤ 0.5 ppm | < 0.1 ppm |
| Titratable Acid (meq/g) | ≤ 0.04 | < 0.04 |
| Meets ACS Requirements | Current ACS Specification | Conforms |

Larry Coers, Director
Quality Control
Milwaukee, WI US

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*

N 3055

Sigma-Aldrich.

rec. 09/14/23

12

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:
Sodium sulfate - ACS reagent, ≥99.0%, anhydrous, granular

| | |
|---|---|
| **Product Number:** | **239313** |
| **Batch Number:** | **SLCP7811** |
| Brand: | SIGALD |
| CAS Number: | 7757-82-6 |
| MDL Number: | MFCD00003504 |
| Formula: | SO4.2Na |
| Formula Weight: | 142.04 g/mol |
| Quality Release Date: | 02 NOV 2022 |
| Recommended Retest Date: | NOV 2025 |

$Na_2SO_4$

| Test | Specification | Result |
|---|---|---|
| Appearance (Form)<br>Granular | Conforms | Conforms |
| Iron (Fe) | < = 0.001% | < = 0.001% |
| pH<br>5% at 25°C | 5.2 - 9.2 | 6.4 |
| Insoluble matter | ≤ 0.01 % | 0.00 % |
| Loss on Ignition | ≤ 0.5 % | 0.2 % |
| Chloride (Cl) | ≤ 0.001 % | < 0.001 % |
| Nitrogen Compounds | ≤ 5 ppm | < 5 ppm |
| Phosphate (PO4) | ≤ 0.001 % | < 0.001 % |
| Calcium (Ca) | ≤ 0.01 % | 0.00 % |
| Magnesium (Mg) | ≤ 0.005 % | 0.000 % |
| Potassium (K) | ≤ 0.01 % | 0.00 % |
| Size<br>10-60 mesh | Conforms | Conforms |
| Assay | ≥ 99.0 % | 99.7 % |
| Heavy Metals<br>(by ICP-OES) | < = 5 ppm | < 5 ppm |
| Note<br>ACS tests | ---------- | ---------- |

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 Number:** 239313
**Batch Number:** SLCP7811

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

# Certificate Of Analysis

W 3058
Rec. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**
Powder, ACS
Item No: **SX0395 All Sizes**
Lot / Batch No: **2023012653**
Country of Origin: **India**

| Item | Specifications | Analysis |
|---|---|---|
| Assay (calculated on dried substance) | 99.5% min. | 100.2% |
| Calcium (Ca) | 0.03% max. | 0.004% |
| Chloride (Cl) | 0.001% max. | <0.001% |
| Color | White | Passes Test |
| Form | Powder | Passes Test |
| Heavy metals (by ICP-OES) | 5 ppm max. | <5 ppm |
| Insoluble Matter | 0.01% max. | 0.003% |
| Iron (Fe) | 5 ppm max. | <5 ppm |
| Loss on heating at 285C | 1.0% max. | 0.1% |
| Magnesium (Mg) | 0.005% max. | 0.0008% |
| Phosphate (PO4) | 0.001% max. | <0.001% |
| Potassium (K) | 0.005% max. | 0.003% |
| Silica (SiO2) | 0.005% max. | <0.005% |
| Sulfur compounds (as SO4) | 0.003% max. | <0.003% |

Joe Schoellkopff
---
Quality Control Manager

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

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation
400 Summit Drive
Burlington, MA 01803
U.S.A.

# 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 | 41098 | Quality Test / Release Date | 10/27/2020 |
| Lot Number | B0541750B | | |
| Description | GLYCEROL, REAGENT ACS | | |
| Country of Origin | United States | Suggested Retest Date | Oct/2025 |
| 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. | | |
| 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 | Clear Syrupy Liquid |
| ACROLEIN, GLUCOSE, NH4 | PASS/FAIL | IN PASS TEST | PASS TEST |
| ASSAY | % | >= 99.5 | 99.8 |
| CHLORINATED COMPOUNDS (AS Cl) | % | <= 0.003 | <0.003 |
| COLOR | APHA | <= 10 | 5 |
| FATTY ACID ESTERS | % | <= 0.05 | <0.005 |
| HEAVY METALS (as Pb) | ppm | <= 2 | <2 |
| INFRARED SCAN | REPORT | IN CONFORMS TO REF | CONFORMS TO REF |
| NEUTRALITY | PASS/FAIL | IN PASS TEST | PASS TEST |
| RESIDUE AFTER IGNITION | % | <= 0.005 | <0.001 |
| SUBSTANCES DARKENED BY H2SO4 | PASS/FAIL | IN PASS TEST | PASS TEST |
| SULFATE (SO4) | % | <= 0.001 | <0.001 |
| WATER (H2O) | % | <= 0.5 | 0.1 |

| | |
|---|---|
| Residual Solvents | No Class 1 or 3 Residual Solvents are used in the processing of Glycerin. Class 2 Methanol is used as a reactant to manufacture Glycerin but is removed in subsequent manufacturing processes to typically below 1 ppm. This is well below the 3000 ppm recommended maximum concentration in drug products. |

Julian Burton - Quality Control Manager - Bridgewater

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

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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

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| | | | |
|---|---|---|---|
| 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.

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker

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

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($(CH_3)_2CO$) (by GC, corrected forwater) | >= 99.4 % | 99.8 % |
| Color (APHA) | <= 10 | 5 |
| Residue after Evaporation | <= 1.0 ppm | 0.2 ppm |
| Substances Reducing Permanganate | Passes Test | Passes Test |
| Titrable Acid (µeq/g) | <= 0.3 | 0.2 |
| Titrable Base (µeq/g) | <= 0.6 | <0.1 |
| Water ($H_2O$) | <= 0.5 % | 0.2 % |
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | <1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 1 |

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

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

Rec on 8/20/25

E3965

JCroak
Jamie Croak
Director Quality Operations, Bioscience Production

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

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

# CERTIFICATE OF ANALYSIS

| | | | |
|---|---|---|---|
| PRODUCT : | SODIUM SULFATE CRYSTALS ANHYDROUS | | |
| QUALITY : | ACS (CODE **RMB3375)** | FORMULA : | $Na_2SO_4$ |
| SPECIFICATION NUMBER: | 6399 | RELEASE DATE: | MAY/23/2024 |
| LOT NUMBER : | 417203 | | |

| TEST | SPECIFICATIONS | LOT VALUES |
|---|---|---|
| Assay ($Na_2SO_4$) | Min. 99.0% | 99.8 % |
| pH of a 5% solution at 25°C | 5.2 - 9.2 | 6.2 |
| Insoluble matter | Max. 0.01% | 0.001 % |
| Loss on ignition | Max. 0.5% | 0.1 % |
| Chloride (Cl) | Max. 0.001% | <0.001 % |
| Nitrogen compounds (as N) | Max. 5 ppm | <5 ppm |
| Phosphate ($PO_4$) | Max. 0.001% | <0.001 % |
| Heavy metals (as Pb) | Max. 5 ppm | <5 ppm |
| Iron (Fe) | Max. 0.001% | <0.001 % |
| Calcium (Ca) | Max. 0.01% | 0.001 % |
| Magnesium (Mg) | Max. 0.005% | 0.001 % |
| Potassium (K) | Max. 0.008% | 0.001 % |
| Extraction-concentration suitability | Passes test | Passes test |
| Appearance | Passes test | Passes test |
| Identification | Passes test | Passes test |
| Solubility and foreing matter | Passes test | Passes test |
| Retained on US Standard No. 10 sieve | Max. 1% | 0.2 % |
| Retained on US Standard No. 60 sieve | Min. 94% | 96.2 % |
| Through US Standard No. 60 sieve | Max. 5% | 3.5 % |
| Through US Standard No. 100 sieve | Max. 10% | 0.1 % |

COMMENTS

QC: PhC Irma Belmares

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



E 3875

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

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

Recd. by RP on 03/31/25

E3917

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

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

M5493 - M5708
Added 4/14/23
JMG

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 2

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay (NaCl) (by Ag titrn) | ≥ 99.0 % | 100.0 % |
| pH of 5% Solution at 25°C | 5.0 - 9.0 | 6.3 |
| 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 % | < 0.001 % |
| ACS - Phosphate ($PO_4$) | ≤ 5 ppm | < 5 ppm |
| Sulfate ($SO_4$) | ≤ 0.004 % | < 0.004 % |
| Barium (Ba) | Passes Test | Passes Test |
| ACS - Heavy Metals (as Pb) | ≤ 5 ppm | < 5 ppm |
| Iron (Fe) | ≤ 2 ppm | < 1 ppm |
| Calcium (Ca) | ≤ 0.002 % | < 0.001 % |
| Magnesium (Mg) | ≤ 0.001 % | < 0.001 % |
| Potassium (K) | ≤ 0.005 % | 0.001 % |

For Laboratory,Research,or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris 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

## QATS LABORATORY INORGANIC REFERENCE MATERIAL INITIAL CALIBRATION VERIFICATION SOLUTIONS (ICV1, ICV5, AND ICV6)

**NOTE:** These instructions are for advisory purposes only. If any apparent conflict exists between these instructions and the analytical protocol or your contract, disregard these instructions.

***APPLICATION:*** For use with the CLP SFAM01.0 SOW and revisions.

***CAUTION:*** Read instructions carefully before opening bottle(s) and proceeding with the analyses.

Contains Metals in Dilute Acidic or Cyanide in Basic Aqueous Solutions
**HAZARDOUS MATERIAL**

Safety Data Sheets Available Upon Request

W2160, W2161, W2162, W2163, W2164 Receive by AP on 9/2/2016

### (A) *SAMPLE DESCRIPTION*

Enclosed is a set of one (1) or more Aqueous Inorganic Reference Materials containing various analyte concentrations. ICV1 and ICV5 are in a matrix of dilute nitric acid. ICV6 is in a matrix of dilute basic solution. **For the reference material source in reporting ICVs use "USEPA". For the reference material lot number for the ICV1, ICV5, and ICV6 solutions use "ICV1-1014", "ICV5-0415", and "ICV6-0400", respectively.**

### (B) *BREAKAGE OR MISSING ITEMS*

Check the contents of the shipment carefully for any broken, leaking, or missing items. Check that the seal is intact on each bottle. Refer to the enclosed chain of custody record. Report any problems to Mr. Keith Strout, APTIM Federal Services, LLC, at (702) 895-8722. If requested, return the chain-of-custody record with appropriate annotations and signatures to the address provided below.

**QUALITY ASSURANCE TECHNICAL SUPPORT LABORATORY**
**APTIM Federal Services, LLC**
**2700 Chandler Avenue - Building C**
**Las Vegas, NV 89120**

### (C) *ANALYSIS OF SAMPLES*

The Initial Calibration Verification Solutions (ICVs) are to be used to evaluate the accuracy of the initial calibrations of ICP, AA, and Cyanide colorimetric instruments, and are to be used with the CLP SOWs and revisions. The values for each element in the ICVs are listed below in µg/L (ppb) for the resulting solution(s) after the dilution of the concentrate(s) according to the following instructions. Use Class 'A' glassware to prepare the solution(s).

**ICV1-1014** For ICP-AES analysis, use a 10-fold dilution by pipetting 10 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid.

**ICV1-1014** For ICP-MS analysis, use a 50-fold dilution by pipetting 2 mL of the ICV1 concentrate into a 100 mL volumetric flask and dilute to volume with 1% (v/v) nitric acid.

**ICV5-0415** For the cold vapor analysis of mercury by AA, use a 100-fold dilution by pipetting 1 mL of the ICV5 concentrate into a 100 mL volumetric flask and dilute to volume with 2% (v/v) nitric acid. The ICV5 concentrate is prepared in 0.05% (w/v) $K_2Cr_2O_7$ and 5% (v/v) nitric acid.

**ICV6-0400** For the analysis of cyanide, use a 100-fold dilution by pipetting 1 mL of the ICV6 concentrate into a 100 mL volumetric flask and dilute to volume with Type II water. Distill this solution along with the samples before analysis. The cyanide concentrate is prepared from $K_3Fe(CN)_6$, Type II water, and 0.1 % sodium hydroxide, and will decompose rapidly if exposed to light.

**NOTE:** USE TYPE II WATER AND HIGH-PURITY ACIDS FOR ALL DILUTIONS.

**(D)** ***CERTIFIED CONCENTRATIONS OF QATS ICV1, ICV5, AND ICV6 SOLUTIONS***

| ICV1-1014 | | |
|---|---|---|
| **Element** | **Concentration (µg/L) (after 10-fold dilution)** | **Concentration (µg/L) (after 50-fold dilution)** |
| **Al** | 2500 | 500 |
| **Sb** | 1000 | 200 |
| **As** | 1000 | 200 |
| **Ba** | 520 | 100 |
| **Be** | 510 | 100 |
| **Cd** | 510 | 100 |
| **Ca** | 10000 | 2000 |
| **Cr** | 520 | 100 |
| **Co** | 520 | 100 |
| **Cu** | 510 | 100 |
| **Fe** | 10000 | 2000 |
| **Pb** | 1000 | 200 |
| **Mg** | 6000 | 1200 |
| **Mn** | 520 | 100 |
| **Ni** | 530 | 110 |
| **K** | 9900 | 2000 |
| **Se** | 1000 | 200 |
| **Ag** | 250 | 50 |
| **Na** | 10000 | 2000 |
| **Tl** | 1000 | 210 |
| **V** | 500 | 100 |
| **Zn** | 1000 | 200 |

| ICV5-0415 | | ICV6-0400 | |
|---|---|---|---|
| **Element** | **Concentration (µg/L) (after 100-fold dilution)** | **Analyte** | **Concentration (µg/L) (after 100-fold dilution)** |
| **Hg** | 4.0 | **$CN^-$** | 99 |

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

MT884
MB

avantor™ | J.T.Baker®

Material No.: 3624-01
Batch No.: 0000281938
Manufactured Date: 2021-06-07
Retest Date: 2026-06-07
Revision No.: 1

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay (NaCl) (by Ag titrn) | ≥ 99.0 % | 100.0 % |
| pH of 5% Solution at 25°C | 5.0 - 9.0 | 6.3 |
| 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 % | < 0.001 % |
| ACS - Phosphate ($PO_4$) | ≤ 5 ppm | < 5 ppm |
| Sulfate ($SO_4$) | ≤ 0.004 % | < 0.004 % |
| Barium (Ba) | Passes Test | Passes Test |
| ACS - Heavy Metals (as Pb) | ≤ 5 ppm | < 5 ppm |
| Iron (Fe) | ≤ 2 ppm | < 1 ppm |
| Calcium (Ca) | ≤ 0.002 % | < 0.001 % |
| Magnesium (Mg) | ≤ 0.001 % | < 0.001 % |
| Potassium (K) | ≤ 0.005 % | 0.001 % |

For Laboratory,Research,or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs
Country of Origin: USA
Packaging Site: Paris 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 Mansford 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

M 6041-46
MS

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| ACS – Assay ($H_2SO_4$) | 95.0 – 98.0 % | 96.1 % |
| Appearance | Passes Test | Passes Test |
| ACS – Color (APHA) | ≤ 10 | 5 |
| ACS – Residue after Ignition | ≤ 3 ppm | < 1 ppm |
| ACS – Substances Reducing Permanganate (as SO2) | ≤ 2 ppm | < 2 ppm |
| Ammonium ($NH_4$) | ≤ 1 ppm | 1 ppm |
| Chloride (Cl) | ≤ 0.1 ppm | < 0.1 ppm |
| Nitrate ($NO_3$) | ≤ 0.2 ppm | < 0.1 ppm |
| Phosphate ($PO_4$) | ≤ 0.5 ppm | < 0.1 ppm |
| Trace Impurities – Aluminum (Al) | ≤ 30.0 ppb | < 5.0 ppb |
| Arsenic and Antimony (as As) | ≤ 4.0 ppb | < 2.0 ppb |
| Trace Impurities – Boron (B) | ≤ 10.0 ppb | 8.5 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 | 0.5 ppb |
| Heavy Metals (as Pb) | ≤ 500.0 ppb | < 100.0 ppb |
| Trace Impurities – Iron (Fe) | ≤ 50.0 ppb | 1.3 ppb |
| Trace Impurities – Lead (Pb) | ≤ 0.5 ppb | < 0.5 ppb |
| Trace Impurities – Magnesium (Mg) | ≤ 7.0 ppb | 0.8 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 | < 0.1 ppb |
| Trace Impurities – Silicon (Si) | ≤ 100.0 ppb | 31.5 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.: 23D2462010

| Test | Specification | Result |
|---|---|---|
| Trace Impurities - Sodium (Na) | ≤ 500.0 ppb | 5.4 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 | 0.4 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

R: 8/19/24 M6069

MACHEREY-NAGEL

# Certificate of Analysis

## Product information

| | |
|---|---|
| Product | pH-Fix 0.3-2.3 |
| REF | 92180 |
| LOT | 80A0441 |
| Expiration date: | 29.02.2028 |
| Date of examination: | 23.01.2024 |
| Gradation: | pH 0.3-0.7-1.0-1.3-1.6-1.9-2.3 |

## Confirmation

Hereby we confirm, that the above mentioned product has successfully passed our quality control system in accordance with ISO 9001 and meets the specific quality criteria.

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

MACHEREY-NAGEL GmbH & Co. KG
Valencienner Str. 11
52355 Düren · Germany
*www.mn-net.com*

DE Tel.: +49 24 21 969-0 info@mn-net.com
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com
FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
US Tel.: +1 888 321 62 24 sales-us@mn-net.com

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

M6151

R-> 1/15/25

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| ACS – Assay (as HCl) (by acid-base titrn) | 36.5 – 38.0 % | 37.9 % |
| ACS – Color (APHA) | ≤ 10 | 5 |
| ACS – Residue after Ignition | ≤ 3 ppm | < 1 ppm |
| ACS – Specific Gravity at 60°/60°F | 1.185 – 1.192 | 1.191 |
| ACS – Bromide (Br) | ≤ 0.005 % | < 0.005 % |
| ACS – Extractable Organic Substances | ≤ 5 ppm | < 1 ppm |
| ACS – Free Chlorine (as $Cl_2$) | ≤ 0.5 ppm | < 0.5 ppm |
| Phosphate ($PO_4$) | ≤ 0.05 ppm | < 0.03 ppm |
| Sulfate ($SO_4$) | ≤ 0.5 ppm | < 0.3 ppm |
| Sulfite ($SO_3$) | ≤ 0.8 ppm | 0.3 ppm |
| Ammonium ($NH_4$) | ≤ 3 ppm | < 1 ppm |
| Trace Impurities – Arsenic (As) | ≤ 0.010 ppm | < 0.003 ppm |
| Trace Impurities – Aluminum (Al) | ≤ 10.0 ppb | 1.3 ppb |
| Arsenic and Antimony (as As) | ≤ 5.0 ppb | < 3.0 ppb |
| Trace Impurities – Barium (Ba) | ≤ 1.0 ppb | 0.2 ppb |
| Trace Impurities – Beryllium (Be) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Bismuth (Bi) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Boron (B) | ≤ 20.0 ppb | < 5.0 ppb |
| Trace Impurities – Cadmium (Cd) | ≤ 1.0 ppb | < 0.3 ppb |
| Trace Impurities – Calcium (Ca) | ≤ 50.0 ppb | 163.0 ppb |
| Trace Impurities – Chromium (Cr) | ≤ 1.0 ppb | 0.7 ppb |
| Trace Impurities – Cobalt (Co) | ≤ 1.0 ppb | < 0.3 ppb |
| Trace Impurities – Copper (Cu) | ≤ 1.0 ppb | < 0.1 ppb |
| Trace Impurities – Gallium (Ga) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities – Germanium (Ge) | ≤ 3.0 ppb | < 2.0 ppb |
| Trace Impurities – Gold (Au) | ≤ 4.0 ppb | 0.6 ppb |
| Heavy Metals (as Pb) | ≤ 100 ppb | < 50 ppb |
| Trace Impurities – Iron (Fe) | ≤ 15 ppb | 6 ppb |

>>> Continued on page 2 >>>

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

| Test | Specification | Result |
|---|---|---|
| Trace Impurities - Lead (Pb) | ≤ 1.0 ppb | < 0.5 ppb |
| Trace Impurities - Lithium (Li) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities - Magnesium (Mg) | ≤ 10.0 ppb | 2.9 ppb |
| Trace Impurities - Manganese (Mn) | ≤ 1.0 ppb | < 0.4 ppb |
| Trace Impurities - Mercury (Hg) | ≤ 0.5 ppb | 0.1 ppb |
| Trace Impurities - Molybdenum (Mo) | ≤ 10.0 ppb | < 3.0 ppb |
| Trace Impurities - Nickel (Ni) | ≤ 4.0 ppb | < 0.3 ppb |
| Trace Impurities - Niobium (Nb) | ≤ 1.0 ppb | 0.8 ppb |
| Trace Impurities - Potassium (K) | ≤ 9.0 ppb | < 2.0 ppb |
| Trace Impurities - Selenium (Se), For Information Only | | < 1.0 ppb |
| Trace Impurities - Silicon (Si) | ≤ 100.0 ppb | < 10.0 ppb |
| Trace Impurities - Silver (Ag) | ≤ 1.0 ppb | 0.5 ppb |
| Trace Impurities - Sodium (Na) | ≤ 100.0 ppb | 2.3 ppb |
| Trace Impurities - Strontium (Sr) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities - Tantalum (Ta) | ≤ 1.0 ppb | 1.6 ppb |
| Trace Impurities - Thallium (Tl) | ≤ 5.0 ppb | < 2.0 ppb |
| Trace Impurities - Tin (Sn) | ≤ 5.0 ppb | 4.0 ppb |
| Trace Impurities - Titanium (Ti) | ≤ 1.0 ppb | 1.5 ppb |
| Trace Impurities - Vanadium (V) | ≤ 1.0 ppb | < 0.2 ppb |
| Trace Impurities - Zinc (Zn) | ≤ 5.0 ppb | 0.8 ppb |
| Trace Impurities - Zirconium (Zr) | ≤ 1.0 ppb | 0.3 ppb |

>>> Continued on page 3 >>>

Hydrochloric Acid, 36.5–38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

avantor™ | J.T.Baker®

Material No.: 9530-33
Batch No.: 22G2862015

| Test | Specification | Result |
|---|---|---|

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

avantor™ | J.T.Baker®

M6186

Recien Date :- 08/06/25

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| ACS - Assay ($H_2SO_4$) | 95.0 - 98.0 % | 96.1 % |
| Appearance | Passes Test | Passes Test |
| ACS - Color (APHA) | ≤ 10 | 5 |
| ACS - Residue after Ignition | ≤ 3 ppm | < 1 ppm |
| ACS - Substances Reducing Permanganate (as SO2) | ≤ 2 ppm | < 2 ppm |
| Ammonium ($NH_4$) | ≤ 1 ppm | 1 ppm |
| Chloride (Cl) | ≤ 0.1 ppm | < 0.1 ppm |
| Nitrate ($NO_3$) | ≤ 0.2 ppm | < 0.1 ppm |
| Phosphate ($PO_4$) | ≤ 0.5 ppm | < 0.1 ppm |
| Trace Impurities - Aluminum (Al) | ≤ 30.0 ppb | < 5.0 ppb |
| Arsenic and Antimony (as As) | ≤ 4.0 ppb | < 2.0 ppb |
| Trace Impurities - Boron (B) | ≤ 10.0 ppb | 8.5 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 | 0.5 ppb |
| Heavy Metals (as Pb) | ≤ 500.0 ppb | < 100.0 ppb |
| Trace Impurities - Iron (Fe) | ≤ 50.0 ppb | 1.3 ppb |
| Trace Impurities - Lead (Pb) | ≤ 0.5 ppb | < 0.5 ppb |
| Trace Impurities - Magnesium (Mg) | ≤ 7.0 ppb | 0.8 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 | < 0.1 ppb |
| Trace Impurities - Silicon (Si) | ≤ 100.0 ppb | 31.5 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.: 23D2462010

| Test | Specification | Result |
|---|---|---|
| Trace Impurities – Sodium (Na) | ≤ 500.0 ppb | 5.4 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 | 0.4 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

For questions on this Certificate of Analysis please contact Technical Services at 855 282 6867 or +1 610 286 1700

Nitric Acid 69%
CMOS

M6187
R.D :- 08/08/25

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012
Manufactured Date: 2024-06-28
Retest Date: 2029-06-27
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| Assay ($HNO_3$) | 69.0 - 70.0 % | 69.7 % |
| Appearance | Passes Test | Passes Test |
| Color (APHA) | ≤ 10 | 5 |
| Residue after Ignition | ≤ 2 ppm | < 1 ppm |
| Chloride (Cl) | ≤ 0.08 ppm | 0.03 ppm |
| Phosphate ($PO_4$) | ≤ 0.10 ppm | < 0.03 ppm |
| Sulfate ($SO_4$) | ≤ 0.2 ppm | < 0.2 ppm |
| Trace Impurities - Aluminum (Al) | ≤ 40.0 ppb | < 1.0 ppb |
| Arsenic and Antimony (as As) | ≤ 5.0 ppb | < 2.0 ppb |
| Trace Impurities - Barium (Ba) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Beryllium (Be) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Bismuth (Bi) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities - Boron (B) | ≤ 10.0 ppb | 0.1 ppb |
| Trace Impurities - Cadmium (Cd) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities - Calcium (Ca) | ≤ 50.0 ppb | 0.3 ppb |
| Trace Impurities - Chromium (Cr) | ≤ 30.0 ppb | 0.1 ppb |
| Trace Impurities - Cobalt (Co) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Copper (Cu) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Gallium (Ga) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Germanium (Ge) | ≤ 20 ppb | < 1 ppb |
| Trace Impurities - Gold (Au) | ≤ 20 ppb | < 1 ppb |
| Heavy Metals (as Pb) | ≤ 100 ppb | < 50 ppb |
| Trace Impurities - Iron (Fe) | ≤ 40.0 ppb | < 1.0 ppb |
| Trace Impurities - Lead (Pb) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities - Lithium (Li) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Magnesium (Mg) | ≤ 20 ppb | < 1 ppb |
| Trace Impurities - Manganese (Mn) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities - Nickel (Ni) | ≤ 20.0 ppb | < 1.0 ppb |

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012

| Test | Specification | Result |
|---|---|---|
| Trace Impurities – Niobium (Nb) | ≤ 50.0 ppb | < 1.0 ppb |
| Trace Impurities – Potassium (K) | ≤ 50 ppb | < 1 ppb |
| Trace Impurities – Silicon (Si) | ≤ 50 ppb | 1 ppb |
| Trace Impurities – Silver (Ag) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities – Sodium (Na) | ≤ 150.0 ppb | < 1.0 ppb |
| Trace Impurities – Strontium (Sr) | ≤ 30.0 ppb | < 1.0 ppb |
| Trace Impurities – Tantalum (Ta) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Thallium (Tl) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Tin (Sn) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities – Titanium (Ti) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Vanadium (V) | ≤ 10.0 ppb | < 1.0 ppb |
| Trace Impurities – Zinc (Zn) | ≤ 20.0 ppb | < 1.0 ppb |
| Trace Impurities – Zirconium (Zr) | ≤ 10.0 ppb | < 1.0 ppb |
| Particle Count – 0.5 µm and greater | ≤ 60 par/ml | 13 par/ml |
| Particle Count – 1.0 µm and greater | ≤ 10 par/ml | 5 par/ml |

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24H0162012

| Test | Specification | Result |
|---|---|---|

For Microelectronic Use

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

Jamie Croak
Director Quality Operations, Bioscience Production

Sodium Phosphate, Monobasic, Monohydrate,
Crystal
BAKER ANALYZED® A.C.S. Reagent

(sodium dihydrogen phosphate, monohydrate)

Material No.: 3818-05
Batch No.: 0000225799
Manufactured Date: 2018/12/05
Retest Date: 2025/12/03
Revision No: 1

# Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

| Test | Specification | Result |
|---|---|---|
| Assay ($NaH_2PO_4 \cdot H_2O$) | 98.0 - 102.0 % | 99.5 |
| pH of 5% Solution at 25°C | 4.1 - 4.5 | 4.3 |
| Insoluble Matter | <= 0.01 % | < 0.01 |
| Chloride (Cl) | <= 5 ppm | < 5 |
| ACS - Sulfate ($SO_4$) | <= 0.003 % | < 0.003 |
| Calcium (Ca) | <= 0.005 % | <0.005 |
| Potassium (K) | <= 0.01 % | < 0.01 |
| Heavy Metals (as Pb) | <= 0.001 % | < 0.001 |
| Trace Impurities - Iron (Fe) | <= 0.001 % | < 0.001 |

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

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

Jamie Ethier
Vice President Global Quality

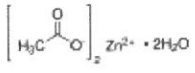
For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

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

W2926
open 7/5/22
received
on
7/5/22

# Certificate of Analysis

Product Name:
Zinc acetate dihydrate - ACS reagent, ≥98%



| | |
|---|---|
| **Product Number:** | **383058** |
| **Batch Number:** | **MKCQ9159** |
| Brand: | SIGALD |
| CAS Number: | 5970-45-6 |
| MDL Number: | MFCD00066961 |
| Formula: | C4H6O4Zn · 2H2O |
| Formula Weight: | 219.51 g/mol |
| Quality Release Date: | 06 JAN 2022 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder or Crystal or Chunk(s) | Powder |
| Infrared Spectrum | Conforms to Structure | Conforms |
| Insoluble Matter | ≤ 0.005 % | 0.003 % |
| Calcium (Ca) | ≤ 0.005 % | 0.003 % |
| Chloride (Cl) | ≤ 5 ppm | < 5 ppm |
| Iron (Fe) | ≤ 5 ppm | < 5 ppm |
| Potassium (K) | ≤ 0.01 % | 0.00 % |
| Magnesium (Mg) | ≤ 0.005 % | 0.003 % |
| Sodium (Na) | ≤ 0.05 % | 0.03 % |
| Lead (Pb) | ≤ 0.002 % | < 0.001 % |
| pH | 6.0 - 7.0 | 6.1 |
| Sulfate (SO4) | ≤ 0.005 % | < 0.005 % |
| Complexometric EDTA | 98.0 - 101.0 % | 100.3 % |
| Meets ACS Requirements | Meets Requirements | Meets Requirements |

Larry Coers, Director
Quality Control
Milwaukee, WI US

Sigma-Aldrich.

W 2979

Rec: 12/08/22

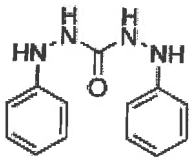
exp. 12/08/27

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)<br>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)<br>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
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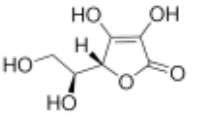
W3074 Rec. on 01/16/24 by IZ

# Certificate of Analysis

Product Name:
L-Ascorbic acid - ACS reagent, ≥99%



| | |
|---|---|
| **Product Number:** | **255564** |
| **Batch Number:** | **MKCS4627** |
| Brand: | SIAL |
| CAS Number: | 50-81-7 |
| MDL Number: | MFCD00064328 |
| Formula: | C6H8O6 |
| Formula Weight: | 176.12 g/mol |
| Quality Release Date: | 21 NOV 2022 |
| Recommended Retest Date: | SEP 2025 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form)<br>Powder, Crystals, Crystalline Powder, Granules and/or Chunks | Conforms to Requirements | Powder |
| Infrared Spectrum | Conforms to Structure | Conforms |
| Optical Rotation<br>(+ ); c = 10%; Water | 20.5 - 21.5 deg | 20.7 deg |
| Titration by Iodine | ≥ 99.0 % | 99.4 % |
| Residue on Ignition | ≤ 0.10 % | 0.03 % |
| Iron (Fe) | ≤ 0.001 % | < 0.001 % |
| Heavy Metals<br>by ICP-OES | ≤ 0.002 % | 0.001 % |
| Recommended Retest Period<br>3 Years | ---------- | ---------- |
| Meets ACS Requirements | Current ACS Specification | Conforms |

Larry Coers, Director
Quality Control
Milwaukee, WI US

W 3078 Rec. on 1/26/24 by 12

Sigma-Aldrich.

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:
Hydrazine sulfate salt - ACS reagent, ≥99.0%

$NH_2NH_2 \cdot H_2SO_4$

| | |
|---|---|
| **Product Number:** | **216046** |
| **Batch Number:** | **BCCK9980** |
| Brand: | SIAL |
| CAS Number: | 10034-93-2 |
| Formula: | H4N2 · H2SO4 |
| Formula Weight: | 130,12 g/mol |
| Quality Release Date: | 13 OCT 2023 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder or Crystals or Chunk(s) | Crystals |
| Redox Titration<br>With Iodine | ≥ 99.0 % | 99.4 % |
| Residue on Ignition | ≤ 0.05 % | 0.01 % |
| Infrared Spectrum | Conforms to Structure | Conforms |
| Meets ACS Requirements | Corresponds to Requirements | Corresponds |
| ACS Specifications<br>Heavy Metals < = 0.002 % (as Pb),<br>Insoluble Matter < = 0.005 % (C= 6.67%, H2O) | Corresponds to Requirements | Corresponds |
| Iron (Fe) | ≤ 10 mg/kg | < 10 mg/kg |
| Chloride (Cl) | ≤ 50 mg/kg | < 50 mg/kg |

Dr.Reinhold Schwenninger
Quality Assurance
Buchs,Switzerland CH

ThermoFisher SCIENTIFIC

# Certificate of Analysis

W3081 Recieved on 02/26/2024 by IZ

Product No.: 036462

Product: Hexamethylenetetramine, ACS, 99+%

Lot No.: M02K021

Appearance White solid

| Test | Limits | Results |
|---|---|---|
| Assay | 99.0 % min | 100.7 % |
| Loss on drying | 2.0 % max | 0.2 % |
| Heavy metals (as Pb) | 0.001 % max | < 0.001 % |
| Residue after ignition | 0.1 % max | < 0.1 % |

Retest Date: January 2, 2027

# Certificate of analysis

W3082 Received on 2/26/2026 by IZ

| | |
|---|---|
| Product No.: | A12244 |
| Product: | Stearic acid, 98% |
| Lot No.: | U23E020 |

| | |
|---|---|
| Appearance | White flakes |
| Assay | 98.7 % |

This document has been electronically generated and does not require a signature.

BEANTOWN CHEMICAL

W3083 Received on 2/26/2024 by IZ

# Certificate of Analysis

| | |
|---|---|
| **Catalog Number** | 123260 |
| **Product Description** | Sulfanilamide, 99% |
| **CAS Number** | 63-74-1 |
| **Lot Number** | 50091180 |

**Test Results**

| | Specifications | Results |
|---|---|---|
| **Assay (Titration HClO4)** | ≥ 99.0% | 99.7% |
| **Appearance/Color** | White to off-white crystalline powder | White crystalline powder |
| **Loss on drying (1g, 105°C)** | ≤ 0.5% | 0.03% |
| **Melting Point** | 163-167°C | 164.7-165.3°C |
| **Identification (FTIR)** | Positive | Positive |
| **Solubility (50 mg/ml 0.5M HCl)** | Clear, colorless to faint yellow | Passes test |
| **Suggested retest date** | June 2028 | |

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

RICCA CHEMICAL COMPANY®

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Batesville, IN 47006
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1-888-GO-RICCA
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W3093 0941.. 04/03/2024 LG

# Certificate of Analysis

## Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

**Lot Number:** 4401F99 **Product Number:** 1551

**Manufacture Date:** JAN 08, 2024
**Expiration Date:** DEC 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

| °C | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | 7.12 | 7.09 | 7.06 | 7.04 | 7.02 | 7.00 | 6.99 | 6.98 | 6.98 | 6.97 | 6.97 |

| Name | CAS# | Grade |
|---|---|---|
| Water | 7732-18-5 | ACS/ASTM/USP/EP |
| Sodium Phosphate Dibasic | 7558-79-4 | ACS |
| Potassium Dihydrogen Phosphate | 7778-77-0 | ACS |
| Preservative | Proprietary | |
| Yellow Dye | Proprietary | |
| Sodium Hydroxide | 1310-73-2 | |

| Test | Specification | Result | |
|---|---|---|---|
| Appearance | Yellow liquid | Passed | *Not a certified value. |

| Test | Certified Value | Uncertainty | NIST SRM# |
|---|---|---|---|
| pH at 25°C (Method: SQCP027, SQCP033) | 7.004 | 0.02 | 186-I-g, 186-II-g, 191d |

| Specification | Reference |
|---|---|
| Commercial Buffer Solutions | ASTM (D 1293 B) |
| Buffer A | ASTM (D 5464) |
| Buffer A | ASTM (D 5128) |

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. 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) |
|---|---|---|
| 1551-1 | 4 L natural poly | 24 months |
| 1551-1CT | 4 L Cubitainer® | 24 months |
| 1551-2.5 | 10 L Cubitainer® | 24 months |
| 1551-5 | 20 L Cubitainer® | 24 months |

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

Paul Brandon (01/08/2024)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

## This product was tested in an ISO 17025 Accredited Laboratory

RICCA CHEMICAL COMPANY®
W3095 Received on 04/09/2024 by IZ

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

# Certificate of Analysis

## Mercuric Nitrate, 0.141 Normal, 0.0705 Molar, 1 mg = 5 mL $Cl^-$

**Lot Number:** 4403N69 **Product Number:** 4740

**Manufacture Date:** MAR 26, 2024
**Expiration Date:** MAR 2026

| 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) | 0.1409-0.1411 N at 20°C | 0.1410 N at 20°C | 999 |

| Specification | Reference |
|---|---|
| Strong Standard Mercuric Nitrate Titrant, 0.0705 M (0.141 N) | APHA (4500-Cl- C) |
| Mercuric Nitrate Titrant (0.141 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) |
|---|---|---|
| 4740-16 | 500 mL amber glass | 24 months |

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

Paul Brandon (03/26/2024)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

RICCA CHEMICAL COMPANY®
W3103 Received on 4/22/24 by IZ

1841 Broad Street
Pocomoke City, MD 21851
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customerservice@riccachemical.com

# Certificate of Analysis

## Manganous Sulfate Solution, 364 g/L

**Lot Number:** 2403J02 **Product Number:** 4620

**Manufacture Date:** MAR 15, 2024
**Expiration Date:** MAR 2026

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

| Test | Specification | Result |
|---|---|---|
| Appearance | Pink liquid | Passed |
| Assay (by Refractive Index) | 360-368 g/L | 367 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)

Jose Pena (03/15/2024)

Operations Manager

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

RICCA CHEMICAL COMPANY®

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W3105 Received on 4/22/24 by IZ

# Certificate of Analysis

## Sodium Thiosulfate, 0.0250 Normal (N/40)

**Lot Number:** 4403S13 **Product Number:** 7900

**Manufacture Date:** MAR 29, 2024
**Expiration Date:** SEP 2025

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 | 0.02501 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 |
| 7900-1CT | 4 L Cubitainer® | 18 months |
| 7900-32 | 1 L natural poly | 18 months |

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

Paul Brandon (03/29/2024)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

RICCA CHEMICAL COMPANY®

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# Certificate of Analysis

## Alkaline-Iodide-Azide, Pomeroy Formulation for Dissolved Oxygen (DO) Analysis

**Lot Number:** 1405D67 **Product Number:** 535

**Manufacture Date:** APR 05, 2024
**Expiration Date:** APR 2026

This solution is intended for use with samples with high Dissolved Oxygen content (above 15 mg/L) and for samples with high concentrations of organic material.

| Name | CAS# | Grade |
|---|---|---|
| Water | 7732-18-5 | ACS/ASTM/USP/EP |
| Sodium Iodide | 7681-82-5 | ACS |
| Sodium Hydroxide | 1310-73-2 | ACS |
| Sodium Azide | 26628-22-8 | Reagent |

| Test | Specification | Result |
|---|---|---|
| Appearance | Colorless liquid | Passed |
| Free Iodine | To Pass Test | Passed |

| Specification | Reference |
|---|---|
| Alkaline Iodide-Sodium Azide Solution II | ASTM (D 888 A) |

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) |
|---|---|---|
| 535-32 | 1 L natural poly | 24 months |

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

Heidi J Green (04/05/2024)
Operations Manager

# Certificate of Analysis

# Sodium Hydroxide (Pellets)

**Material:** 0583

**Grade:** ACS GRADE

**Batch Number:** 23B1556310

Chemical Formula: NaOH
Molecular Weight: 40
CAS #: 1310-73-2
Appearance:

Pellets

Manufacture Date: 12/14/2022
Expiration Date: 12/31/2025

Storage: Room Temperature

| TEST | SPECIFICATION | ANALYSIS | DISPOSITION |
|---|---|---|---|
| Calcium | <= 0.005 % | <0.005 % | PASS |
| Chloride | <= 0.005 % | 0.002 % | PASS |
| Heavy Metals | <= 0.002 % | <0.002 % | PASS |
| Iron | <= 0.001 % | <0.001 % | PASS |
| Magnesium | <= 0.002 % | <0.002 % | PASS |
| Mercury | <= 0.1 ppm | <0.1 ppm | PASS |
| Nickel | <= 0.001 % | <0.001 % | PASS |
| Nitrogen Compounds | <= 0.001 % | <0.001 % | PASS |
| Phosphate | <= 0.001 % | <0.001 % | PASS |
| Potassium | <= 0.02 % | <0.02 % | PASS |
| Purity | >= 97.0 % | 99.2 % | PASS |
| Sodium Carbonate | <= 1.0 % | 0.5 % | PASS |
| Sulfate | <= 0.003 % | <0.003 % | PASS |

Internal ID #: 710

## Signature

We certify that this batch conforms to the specifications listed.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

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

Product meets analytical specifications of the grades listed.

# Certificate of Analysis

# Sodium Hydroxide (Pellets)

**Material:** **0583**

**Grade:** **ACS GRADE**

**Batch Number:** **23B1556310**

| | | | |
|---|---|---|---|
| Chemical Formula: | NaOH | Manufacture Date: | 12/14/2022 |
| Molecular Weight: | 40 | Expiration Date: | 12/31/2025 |
| CAS #: | 1310-73-2 | | |
| Appearance: | | Storage: | Room Temperature |

Pellets

Spec Set: 0583ACS

Internal ID #: 710

## Signature

We certify that this batch conforms to the specifications listed.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

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

Product meets analytical specifications of the grades listed.

# *Certificate of Analysis List*

For request number 2018129

| Catalog Number Entered | Lot Number Entered | Related Catalog Number | Related Lot Code | Description |
|---|---|---|---|---|
| 2659949 | 4151 | N/A | N/A | StablCal\|sup\|TS\|sup Standard, 10 NTU |

Total Enclosures: 1

**HACH COMPANY**

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

An ISO 9001 Certified Company

# *Certificate of Analysis*



COMMODITY:**StablCal|sup|TS|sup Standard, 10 NTU**
COMMODITY NUMBER: **2659949** MANUFACTURE DATE: **6/4/2024** DATE OF ANALYSIS: **6/7/2024**
LOT NUMBER: **A4151**

| *TEST* | *SPECIFICATIONS* | *RESULTS* |
|---|---|---|
| Turbidity | 9.5 to 10.5 NTU | 9.99 NTU |

The expiration date is May 2026

Formazin and StablCal® solutions provided by Hach are not NIST traceable because the NIST does not carry turbidity standards. However, the use of Formazin and StablCal® as used in Hach method 8195 are accepted by the EPA as a primary standard to be used in the calibration of turbidity instruments.

Certified by Scott Als

Scott Als
Analytical Services Chemist

BEANTOWN CHEMICAL

# Certificate of Analysis

| | |
|---|---|
| **Catalog Number** | 123945 |
| **Product Description** | Potassium nitrate, ACS, 99.0% min. |
| **CAS Number** | 7757-79-1 |
| **Lot Number** | 50082064 |

**Test Results**

| | **Specifications** | **Results** |
|---|---|---|
| **Assay** | ≥99.0% | 99.35% |
| **Appearance** | Colorless to white crystalline powder | Conforms |
| **pH of a 5% solution** | 4.5-8.5 at 25°C | 6.21 |
| **Insoluble Matter** | ≤0.005% | 0.003% |
| **Chloride (Cl)** | ≤0.002% | 0.001% |
| **Iodate ($IO_3$)** | ≤5 ppm | <3 ppm |
| **Nitrite ($NO_2$)** | ≤0.001% | 0.0008% |
| **Phosphate ($PO_4$)** | ≤5 ppm | <3 ppm |
| **Sulfate ($SO_4$)** | ≤0.003% | 0.002% |
| **Heavy Metals (as Pb)** | ≤5 ppm | <3 ppm |
| **Iron (Fe)** | ≤3 ppm | <2 ppm |
| **Calcium (Ca)** | ≤0.005% | <0.004% |
| **Magnesium (Mg)** | ≤0.002% | 0.001% |
| **Sodium (Na)** | ≤0.005% | <0.0025% |
| **Solubility** | 10% solution in water is clear and colorless | Conforms |

**Suggested retest date** November 2027

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

Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

# *Certificate of Analysis*

**PRODUCT:** Chlorine Solution Ampule 50-75 mg/l

**PRODUCT NUMBER:** 1426810

**LOT NUMBER:** A4144

**MANUFACTURE DATE:** 05/28/2024

**DATE OF ANALYSIS:** 05/30/2024

| TEST | SPECIFICATIONS | RESULTS |
|---|---|---|
| Standard Deviation for the ampules sampled | 0 to 0.4 mg/L | 0.10 mg/L |
| Mean Chlorine Concentration ampules sampled. | 50 to 75 mg/L | 60.9 mg/L |

The expiration date is Jan 2026

Certified by: Scott Als

Analytical Services Chemist

Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

# *Certificate of Analysis*

**PRODUCT:** Chlorine Solution Ampule 50-75 mg/l

**PRODUCT NUMBER:** 1426810

**LOT NUMBER:** A4166

**MANUFACTURE DATE:** 06/24/2024

**DATE OF ANALYSIS:** 06/25/2024

| TEST | SPECIFICATIONS | RESULTS |
|---|---|---|
| Standard Deviation for the ampules sampled | 0 to 0.4 mg/L | 0.10 mg/L |
| Mean Chlorine Concentration ampules sampled. | 50 to 75 mg/L | 61.9 mg/L |

The expiration date is Feb 2026

Certified by: Scott Als

Analytical Services Chemist

spectrum® CHEMICAL MFG CORP

# Certificate Of Analysis

| | | | |
|---|---|---|---|
| Item Number | ED150 | Lot Number | 2ND0156 |
| Item | Edetate Disodium, Dihydrate, USP | CAS Number | 6381-92-6 |
| Molecular Formula | $C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$ | Molecular Weight | 372.24 |

| TEST | SPECIFICATION | | RESULT |
|---|---|---|---|
| | MIN | MAX | |
| ASSAY (DRIED BASIS) | 99.0 | 101.0 % | 99.5 % |
| pH OF A 5% SOLUTION @ 25°C | 4.0 | 6.0 | 4.6 |
| LOSS ON DRYING | 8.7 | 11.4 % | 8.90 % |
| CALCIUM (Ca) | NO PRECIPITATE IS FORMED | | NO PRECIPITATE IS FORMED |
| ELEMENTAL IMPURITIES: | | | . |
| NICKEL (Ni) | AS REPORTED | | <0.3 ppm |
| CHROMIUM (Cr) | AS REPORTED | | <0.3 ppm |
| NITRILOTRIACETIC ACID[$n[(HOCOCH_2)_3N]$] | | 0.1 % | <0.10 % |
| IDENTIFICATION A | MATCHES REFERENCE | | MATCHES REFERENCE |
| IDENTIFICATION B | RED COLOR IS DISCHARGED, LEAVING A YELLOWISH SOLUTION | | RED COLOR IS DISCHARGED, LEAVING A YELLOWISH SOLUTION |
| IDENTIFICATION C | MEETS THE REQUIREMENTS FOR SODIUM | | MEETS THE REQUIREMENTS FOR SODIUM |
| CERTIFIED HALAL | | | CERTIFIED HALAL |
| EXPIRATION DATE | | | 10-JUL-2026 |
| DATE OF MANUFACTURE | | | 11-JUL-2023 |
| APPEARANCE | | | WHITE CRYSTALLINE POWDER |
| RESIDUAL SOLVENTS | | AS REPORTED | NO RESIDUAL SOLVENTS PRESENT |
| MONOGRAPH EDITION | | | USP 2024 |

Certificate of Analysis Results Entered By:

CACEVEDO
Charmian Acevedo
22-MAY-24 08:12:30

Certificate of Analysis Results Approved By:

GHERRERA
Genaro Herrera
22-MAY-24 12:32:01

Spectrum Chemical Mfg Corp
755 Jersey Avenue
New Brunswick 08901 NJ

**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.**

The Elemental Impurities standards implemented by USP and other Pharmaceutical Compendia reflect a growing understanding of the toxicology of trace levels of elemental impurities that can remain in drug substances originating from either raw materials or manufacturing processes. Identifying and quantifying impurities can be critical to predicting the best possible patient outcomes. Elemental Impurities has been a requirement of all products meeting USP/NF, EP and BP monographs since January 1, 2018. More information can be found in USP sections <232> Elemental Impurities – Limits and <233> Elemental Impurities – Procedures. Data for drug substances furnished by Spectrum Chemical Mfg. Corp can be used to ensure that patient daily exposures by oral administration to the selected elements are not exceeded in the formulation of pharmaceutical products.

ThermoFisher SCIENTIFIC

# Certificate of Analysis

W3139 Received on 9/9/24 by IZ

| | |
|---|---|
| Product No.: | A12044 |
| Product: | Chloramine-T trihydrate, 98% |
| Lot No.: | 10239484 |

| | |
|---|---|
| Appearance: | White powder |
| Melting Point: | 166°C(dec) |
| Assay (Iodometric titration): | 100.5% |
| Identification (FTIR): | Conforms |

Order our products online **thermofisher.com/chemicals**

**This document has been electronically generated and does not require a signature.**

# CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

W3141 Rec on 9/18/24 by IZ

## CERTIFICATE OF ANAYLYSIS

**Date:** 11/10/2023 **Lot No. 431110**

**Ammonium Hydroxide, ACS**
Reagent Grade

| TEST | MAXIMUM LIMITS | RESULT |
|---|---|---|
| Appearance | Colorless and free from Suspended matter or sediment | Pass |
| Assay | 28-30% | 29.85% |
| Residue after ignition | 0.002% | .0005% |
| Carbon Dioxide ($CO_2$) | 0.002% | .0001% |
| Chloride | 0.5 ppm | <.2 ppm |
| Phosphate ($PO_4$) | 2 ppm | < 1 ppm |
| Total Sulfur (as $SO_4$) | 2 ppm | < 1 ppm |
| Heavy Metals (as Pb) | 0.5 ppm | < .05 ppm |
| Iron (Fe) | 0.2 ppm | < .02 ppm |
| Sub. Red. Permanganate | Passes Test | Pass |
| Nitrate ($NO_3$) | 2 ppm | < 1 ppm |
| Specific Gravity @ 60 Degrees | 0.896- 0.902 | Pass |

**Date of MFG: 11/2023**
**Retest Date: 11/2025**

**CORCO CHEMICAL CORPORATION. 299 CEDAR LANE. FAIRLESS HILLS PA 19030. 215-295-5006. FAX 215-295-0781**

Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

# *Certificate of Analysis*

**PRODUCT:** DPD Total Chlorine Reagent

**PRODUCT NUMBER:** 1406499

**LOT NUMBER:** A4230

**MANUFACTURE DATE:** 08/27/2024

**DATE OF ANALYSIS:** 08/28/2024

| TEST | SPECIFICATIONS | RESULTS |
|---|---|---|
| Percent Recovery for a 2.5 ppm Standard. Chlorine concentration determined using DPD compared to the actual concentration. | 93 to 107 % | 95.7 % |
| pH of reagent in 50 mL of DI water. | 6.2 to 6.5 | 6.40 |
| Percent Recovery for a 5.0 ppm Standard. Chlorine concentration determined using DPD compared to the actual concentration. | 93 to 107 % | 96.2 % |
| Hardness Blank: 1000 ppm as Calcium Carbonate Hardness standard vs DI water measured at 530 nm in 1 cm cells. | 0 to 0.009 abs | 0.0020 abs |

The expiration date is Aug 2029

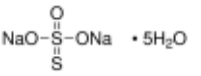
Certified by: Scott Abs

Analytical Services Chemist

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:
Sodium thiosulfate pentahydrate - ACS reagent, ≥99.5%



| | |
|---|---|
| **Product Number:** | **217247** |
| **Batch Number:** | **MKCW3077** |
| Brand: | SIGALD |
| CAS Number: | 10102-17-7 |
| MDL Number: | MFCD00149186 |
| Formula: | Na2O3S2 · 5H2O |
| Formula Weight: | 248.18 g/mol |
| Quality Release Date: | 12 JUL 2024 |
| Recommended Retest Date: | JUL 2029 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | Colorless or White | White |
| Appearance (Form) | Powder or Crystals or Pellets | Crystals |
| ICP Major Analysis<br>Confirms Sodium and Sulfur Components | Confirmed | Confirmed |
| Titration by Iodine | 99.5 - 101.0 % | 100.2 % |
| pH<br>c = 5%; Water; At 25 Deg C | 6.0 - 8.4 | 6.1 |
| Insoluble Matter<br>c = 10%; Water | ≤ 0.005 % | < 0.001 % |
| Nitrogen Compounds | ≤ 0.002 % | < 0.002 % |
| Sulfate & Sulfite (as SO4) | ≤ 0.1 % | < 0.1 % |
| Sulfide | Pass | Pass |
| Meets ACS Requirements | Current ACS Specification | Conforms |
| Recommended Retest Period<br>5 Years | ---------- | ---------- |

Larry Coers, Director
Quality Control
Milwaukee, WI US

RICCA CHEMICAL COMPANY®

W3149 Received on 10/16/24 by IZ

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

# Certificate of Analysis

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

**Lot Number:** 4408P62 **Product Number:** 8000

**Manufacture Date:** AUG 28, 2024
**Expiration Date:** AUG 2026

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 |
| 8000-16 | 500 mL natural poly | 24 months |
| 8000-32 | 1 L natural poly | 24 months |

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

Paul Brandon (08/28/2024)
Production Manager

W3150 Received on 11/4/24 by IZ

Certificate of Analysis



# 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 – 0120633

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 | SA226 | Quality Test / Release Date | 03/18/2024 |
| Lot Number | 235420 | | |
| Description | SULFURIC ACID, 0.02N, CERTIFIED | | |
| Country of Origin | United States | Suggested Retest Date | Mar/2029 |

| N/A | | | |
|---|---|---|---|
| Result Name | Units | Specifications | Test Value |
| APPEARANCE | | REPORT | Clear, colorless liquid |
| COLOR | APHA | <= 5 | <5 |
| IDENTIFICATION | PASS/FAIL | = PASS TEST | PASS TEST |
| NORMALITY | | Inclusive Between 0.0198 - 0.0202 | 0.0200 |
| TRACEABLE TO NIST KHP STD | POT. ACID PHTHALATE | = LOT 84L | SRM 84l |

Harout Sahagian - 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.

W3152 Received on 11/25/24 by IZ

# *Chem-Impex International, Inc.*

**Tel: (630) 766-2112**
**Fax: (630) 766-2218**
**E-mail: sales@chemimpex.com**
**Web site: www.chemimpex.com**
**Shipping and Correspondence:**
935 Dillon Drive
Wood Dale, IL 60191
**Manufacturing site:**
825 Dillon Drive
Wood Dale, IL 60191

## *Certificate of Analysis*

| | |
|---|---|
| **Catalogue Number** | 01237 |
| **Lot Number** | 002126-2019-201 |
| **Product** | **Magnesium chloride hexahydrate** |
| | Magnesium chloride•$6H_2O$ |
| **CAS Number** | 7791-18-6 |
| **Molecular Formula** | $MgCl_2$•$6H_2O$ |
| **Molecular Weight** | 203.3 |

| | |
|---|---|
| **Appearance** | White crystals |
| **Solubility** | 167 g in 100 mL water |
| **Melting Point** | ~ 115 °C |
| **Heavy Metals** | 4.393 ppm |
| **Anion** | Nitrate ($NO_3$) : < 0.001%<br>Phosphate ($PO_4$) : < 5 ppm<br>Sulfate ($SO_4$) : < 0.002% |
| **Cation** | Ammonium ($NH_4$) : < 0.002%<br>Barium (Ba) : 0.005%<br>Calcium (Ca) : 0.01%<br>Iron (Fe) : 4.5 ppm<br>Manganese (Mn) : 0.624 ppm<br>Potassium (K) : 0.004%<br>Sodium (Na) : 0.000003%<br>Strontium (Sr) : 0.005% |
| **Insoluble material** | 0.0021% |
| **Assay by titration** | 100.83% |
| **Grade** | ACS reagent |
| **Storage** | Store at RT |

# *Certificate of Analysis*

**Catalog Number: 01237** **Lot Number: 002126-2019-201**

| | |
|---|---|
| **Remarks** | See material safety data sheet for additional information |
| | For laboratory use only |

**The foregoing is a copy of the Certificate of Analysis as provided by our supplier**

**Bala Kumar**
**Quality Control Manager**

W3163 Rec. on 12/10/24 by IZ

# Certificate of Analysis

| | |
|---|---|
| Material | BDH9284-2.5KG |
| Material Description | BDH SODIUM CARB ANHYD ACS 2.5KG |
| Grade | U S P REAGENT (ACS GRADE) |
| Batch | 24E3156178 |
| Reassay Date | 09/30/2027 |
| CAS Number | 497-19-8 |
| Molecular Formula | Na2CO3 |
| Molecular Mass | 105.99 |
| Date of Manufacture | 09/01/2023 |
| Storage | Room Temperature |

Material is hygroscopic. Protect from Moisture.
Additional Product Description:

| Characteristics | Specifications | Measured Values |
|---|---|---|
| Appearance | Fine white granular powder | Fine white granular powder |
| Calcium | <= 0.03 % | 0.003 % |
| Chloride | <= 0.001 % | 0.0003 % |
| Heavy Metals (as Pb) | <= 0.0005 % | 0.0001 % |
| Insolubles | <= 0.01 % | 0.001 % |
| Iron | <= 0.0005 % | 0.0001 % |
| Loss on Heating | <= 1.0 % | 0.03 % |
| Magnesium | <= 0.005 % | 0.001 % |
| Phosphate | <= 0.001 % | 0.001 % |
| Potassium | <= 0.005 % | 0.003 % |
| Purity | >= 99.5 % | 100.0 % |
| Silica | <= 0.005 % | 0.001 % |
| Sulfur Compounds | <= 0.003 % | 0.002 % |

Extra Description: Meets Reagent Specifications for testing USP/NF monographs

Internal ID #: 710

## Signature

We certify that this batch conforms to the specifications listed above.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

Analysis may have been rounded to significant digits in specification limits

Product meets analytical specifications of the grades listed.

# Certificate of Analysis

# Magnesium Sulfate Heptahydrate

**Material:** 0662

**Grade:** ACS GRADE

**Batch Number:** 24J2856877

Chemical Formula: MgSO4.7H2O
Molecular Weight: 246.48
CAS #: 10034-99-8
Appearance:

White powder

Manufacture Date: 05/29/2023
Reassay Date: 05/29/2027

Storage: Room Temperature

| TEST | SPECIFICATION | ANALYSIS | DISPOSITION |
|---|---|---|---|
| Ammonium | <= 0.002 % | <0.001 % | PASS |
| Calcium | <= 0.02 % | <0.0005 % | PASS |
| Chloride | <= 0.0005 % | 0.0001 % | PASS |
| Heavy Metals (as Pb) | <= 0.0005 % | <0.0001 % | PASS |
| Insolubles | <= 0.005 % | <0.0002 % | PASS |
| Iron | <= 0.0005 % | <0.00001 % | PASS |
| Manganese | <= 0.0005 % | <0.0001 % | PASS |
| Nitrate | <= 0.002 % | <0.001 % | PASS |
| pH (5%, Water) @25C | 5.0 - 8.2 | 6.3 | PASS |
| Potassium | <= 0.005 % | <0.001 % | PASS |
| Purity | 98.0 - 102.0 % | 100.1 % | PASS |
| Sodium | <= 0.005 % | <0.001 % | PASS |
| Strontium | <= 0.005 % | <0.00001 % | PASS |

Internal ID #: 793

## Signature

We certify that this batch conforms to the specifications listed.

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Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

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

Product meets analytical specifications of the grades listed.

# Certificate of Analysis

# Magnesium Sulfate Heptahydrate

**Material:** **0662**

**Grade:** **ACS GRADE**

**Batch Number:** **24J2856877**

| | | | |
|---|---|---|---|
| Chemical Formula: | $MgSO_4.7H_2O$ | Manufacture Date: | 05/29/2023 |
| Molecular Weight: | 246.48 | Reassay Date: | 05/29/2027 |
| CAS #: | 10034-99-8 | | |
| Appearance: | | Storage: | Room Temperature |

White powder

Spec Set: 0662ACS

Internal ID #: 793

## Signature

We certify that this batch conforms to the specifications listed.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

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

Product meets analytical specifications of the grades listed.

# Certificate of Analysis

| | |
|---|---|
| Material | BDH9260-500G |
| Material Description | BDH POTASS HYDRGN PHTHLTE 500G |
| Grade | ACS GRADE |
| Batch | 24H0956262 |
| Reassay Date | 04/28/2026 |
| CAS Number | 877-24-7 |
| Molecular Formula | HOOCC6H4COOK |
| Molecular Mass | 204.22 |
| Date of Manufacture | 04/29/2023 |
| Storage | Room Temperature |

| Characteristics | Specifications | Measured Values |
|---|---|---|
| Appearance | White crystals. | White crystals. |
| Assay (dried basis) | 99.95 - 100.05 % | 99.98 % |
| Chlorine Compounds | <= 0.003 % | <0.003 % |
| Heavy Metals (as Pb) | <= 5 ppm | <5 ppm |
| Insoluble Matter | <= 0.005 % | 0.003 % |
| Iron | <= 5 ppm | <5 ppm |
| pH (0.05M, Water) @25C | 4.00 - 4.02 | 4.00 |
| Sodium | <= 0.005 % | <0.005 % |
| Sulfur Compounds | <= 0.002 % | <0.002 % |

Internal ID #: 322

## Signature

We certify that this batch conforms to the specifications listed above.

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Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

Analysis may have been rounded to significant digits in specification limits

Product meets analytical specifications of the grades listed.

BEANTOWN CHEMICAL

# Certificate of Analysis

| | |
|---|---|
| **Catalog Number** | 212760 |
| **Product Description** | 4-Aminoantipyrine, 97% |
| **CAS Number** | 83-07-8 |
| **Lot Number** | 50107308 |

**Test Results**

| | **Specifications** | **Results** |
|---|---|---|
| **Assay** | ≥97.0% min | 99.61% |
| **Appearance** | Light yellow to tan fine crystals | Conforms |
| **Identification** | To pass test | Passes test |
| **Melting Point** | 107-109°C | 107.5-108.6°C |
| **Sensitivity to phenol** | To pass test | Passes test |
| **Residue after Ignition** | ≤0.10% | 0.09% |
| **Loss on drying** | ≤0.5% | 0.08% |
| **Clarity of solution (1g/20ml water)** | Clear solution | Clear solution |
| **Clarity of solution (1g/20ml EtOH)** | Clear solution | Clear solution |
| **Suggested retest date** | July 2028 | |

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

RICCA CHEMICAL COMPANY®

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

# Certificate of Analysis

W3178 58

## Buffer, Reference Standard, pH 4.00 ± 0.01 at 25°C (Color Coded Red)

**Lot Number:** 2411A93 **Product Number:** 1501 **Manufacture Date:** NOV 04, 2024
**Expiration Date:** OCT 2026

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST Traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

| °C | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.01 | 4.02 | 4.03 | 4.04 | 4.06 |

| Name | CAS# | Grade |
|---|---|---|
| Water | 7732-18-5 | ACS/ASTM/USP/EP |
| Potassium Acid Phthalate | 877-24-7 | Buffer |
| Preservative | Proprietary | Commercial |
| Red Dye | Proprietary | Purified |

| Test | Specification | Result | |
|---|---|---|---|
| Appearance | Red liquid | Passed | *Not a certified value. |

| Test | Certified Value | Uncertainty | NIST SRM# |
|---|---|---|---|
| pH at 25°C (Method: SQCP027, SQCP033) | 4.008 | 0.02 | 185i, 186-I-g, 186-II-g |

| Specification | Reference |
|---|---|
| Commercial Buffer Solutions | ASTM (D 1293 B) |
| Buffer B | ASTM (D 5464) |
| Buffer B | ASTM (D 5128) |

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. 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) |
|---|---|---|
| 1501-16 | 500 mL natural poly | 24 months |
| 1501-2.5 | 10 L Cubitainer® | 24 months |
| 1501-5 | 20 L Cubitainer® | 24 months |

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

INORGANIC VENTURES™
Refine your results. Redefine your industry.

# Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

## 1.0 ACCREDITATION / REGISTRATION

**INORGANIC VENTURES** is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

## 2.0 PRODUCT DESCRIPTION

| | |
|---|---|
| Product Code: | Multi Analyte Ion Chromatography Solution |
| Catalog Number: | 300-CAL-A |
| Lot Number: | V2-MEB742616 |
| Matrix: | H2O |
| Value / Analyte(s): | 150 µg/mL ea:<br>Sulfate,<br>100 µg/mL ea:<br>Bromide,<br>50 µg/mL ea:<br>o-Phosphate as P,<br>30 µg/mL ea:<br>Chloride, Nitrite as N,<br>25 µg/mL ea:<br>Nitrate as N,<br>20 µg/mL ea:<br>Fluoride |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE | CERTIFIED VALUE | ANALYTE | CERTIFIED VALUE |
|---|---|---|---|
| **Bromide, Br** | **100.0 ± 0.5 µg/mL** | **Chloride, Cl** | **30.01 ± 0.13 µg/mL** |
| **Fluoride, F-** | **20.00 ± 0.07 µg/mL** | **Nitrate as N, NNO3-** | **25.00 ± 0.10 µg/mL** |
| **Nitrite as N, NNO2-** | **30.00 ± 0.10 µg/mL** | **o-Phosphate as P, PPO4** | **50.00 ± 0.18 µg/mL** |
| **Sulfate, SO4** | **150.0 ± 0.8 µg/mL** | | |

**Density:** 0.999 g/mL (measured at 20 ± 4 ºC)

**Assay Information:**

| ANALYTE | METHOD | NIST SRM# | SRM LOT# |
|---|---|---|---|
| Br | IC Assay | 3184 | 151130 |
| Br | Fajans | 999c | 999c |
| Cl | IC Assay | 3182 | 190830 |
| Cl | Fajans | 999c | 999c |
| F- | IC Assay | 3183 | 140203 |
| NNO3- | IC Assay | 3185 | 170309 |
| NNO2- | IC Assay | Traceable to 40H | 08228TH-H2 |
| NNO2- | Calculated | 40h | 40h |
| PPO4 | IC Assay | 3186 | 170606 |
| SO4 | IC Assay | 3181 | 080603 |

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

### Characterization of CRM/RM by Two or More Methods

**Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:**

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

$X_i$ = mean of Assay Method i with standard uncertainty $u_{char\ i}$

$w_i$ = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

### Characterization of CRM/RM by One Method

**Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:**

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

$X_a$ = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

**CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$**

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

$u_{bb}$ = bottle to bottle homogeneity standard uncertainty

$u_{lts}$ = long term stability standard uncertainty (storage)

$u_{ts}$ = transport stability standard uncertainty

## 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

## 5.0 CHROMATOGRAM

N/A

## 6.0 INTENDED USE

**6.1** This standard is intended for the calibration of analytical instruments and validation of analytical methods as appropriate. This CRM may be used in connection with EPA Methods 6010, 6020 (all versions), Standard Methods 3120 B and USP <232> / ICH Q3D.

**6.2** For products attaining traceability through Inorganic Ventures' Primary Certified Reference Materials (PCRM™) see the Limited License to Use PCRM™ in the Inorganic Ventures Terms and Conditions of Sale, https://www.inorganicventures.com/terms-and-conditions-sale. The Terms and Conditions contain information on the use of materials traceable to PCRM™ certified reference materials. This Limited License agreement is especially pertinent for laboratories accredited under ISO:17034.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

## 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### 10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

## 11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

**11.1 Certification Issue Date**

April 02, 2024

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.2 Lot Expiration Date**

- **April 02, 2029**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

**11.3 Period of Validity**

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

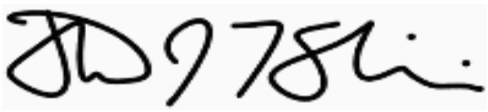
## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:**

Uyen Truong
Custom Processing Supervisor

**Certificate Approved By:**

Thomas Kozikowski
Stock VS Manager



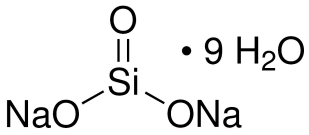
**Certifying Officer:**

Paul Gaines
Chairman / Senior Technical Director

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

# Certificate of Analysis

**Product Name :** **Sodium metasilicate nonahydrate ≥98%**
**Product Number :** **S4392-BULK**
**Batch Number :** **SLCM8472**
CAS Number : 13517-24-3
MDL Number : MFCD00149175
Molecular Formula : $Na_2O_3Si \cdot 9H_2O$
Formula Weight : 284.20 g/mol
Date Retested : 24 Jan 2025
Recommended Retest Date : Jan 2028
Quality Release Date : 14 Mar 2022




| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder | Powder |
| Solubility (Color) | Colorless | Colorless |
| Solubility (Turbidity) | Clear | Clear |
| 50 mg/ml, H2O | | |
| Titration with HCl | ≥ 98 % | 100 % |

J. Yasomanee

Jagodige Yasomanee, Supervisor
Quality Assurance
St. Louis, Dekalb
US

# Certificate of Analysis

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

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

Internal ID #: 793

## Signature

We certify that this batch conforms to the specifications listed above.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

Analysis may have been rounded to significant digits in specification limits

Product meets analytical specifications of the grades listed.

W3190 Received on 3/17/2025 by IZ

# Certificate of Analysis

| Item Number | Product Description | Lot Number |
|---|---|---|
| SX0770-1 | Sodium Sulfide Nonahydrate, ACS Grade, 500GM | 250330 |
| **Formula** | **Molecular Weight** | **CAS Number** |
| $Na_2S \bullet 9H_2O$ | 240.18 g/mol | 1313-84-4 |

**QC TEST/RELEASE DATE:** 02/19/2025 **SUGGESTED RETEST DATE:** 06/30/2026

| S.No | Test | Unit | Specifications | Test Value |
|---|---|---|---|---|
| 1 | Appearance (Color) | | Colorless to Very Faint Yellow and White to Faint Yellow | White |
| 2 | Appearance (Form) | | Crystals or Chunks | Crystals |
| 3 | Titration by $Na_2S_2O_3$ | % | ≥ 98.0 | 98.1 |
| 4 | Ammonium ($NH_4$) | % | ≤ 0.005 | < 0.005 |
| 5 | Assay (Sulfite and Thiosulfate) | % | ≤ 0.1 | 0.08 |
| 6 | Iron (Fe) | | Pass | passed |
| 7 | BSE/TSE Free | | BSE/TSE Free | passed |
| 8 | Grade | | Meets ACS Specifications | passed |
| 9 | Country of Origin | | Ukraine | Ukraine |

Intended for laboratory and manufacturing use only. Not for drug, food, or household use.
This is an electronically generated document and does not require signatures.

Certified By : Joe Schoellkopff,
Quality Control Manager

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation
400 Summit Drive
Burlington, MA 01803
U.S.A

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

W3191 W3191 Receive Date: 03/18/25 JP

# Certificate of Analysis

## Buffer, Reference Standard, pH 10.00 ± 0.01 at 25°C (Color Coded Blue)

**Lot Number:** 2410F80 **Product Number:** 1601 **Manufacture Date:** OCT 09, 2024

**Expiration Date:** MAR 2026

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

| °C | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|
| pH | 10.31 | 10.23 | 10.17 | 10.11 | 10.05 | 10.00 | 9.95 | 9.91 | 9.87 | 9.81 |

| Name | CAS# | Grade |
|---|---|---|
| Water | 7732-18-5 | ACS/ASTM/USP/EP |
| Sodium Carbonate | 497-19-8 | ACS |
| Sodium Bicarbonate | 144-55-8 | ACS |
| Sodium Hydroxide | 1310-73-2 | Reagent |
| Preservative | Proprietary | |
| Blue Dye | Proprietary | |

| Test | Specification | Result | |
|---|---|---|---|
| Appearance | Blue liquid | Passed | *Not a certified value. |

| Test | Certified Value | Uncertainty | NIST SRM# |
|---|---|---|---|
| pH at 25°C (Method: SQCP027, SQCP033) | 10.009 | 0.02 | 186-I-g, 186-II-g, 191d |

| Specification | Reference |
|---|---|
| Commercial Buffer Solutions | |
| Buffer C | ASTM (D 1293 B) |
| Buffer C | ASTM (D 5464) |
| | ASTM (D 5128) |

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. 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) |
|---|---|---|
| 1601-1 | 4 L natural poly | 18 months |
| 1601-16 | 500 mL natural poly | 18 months |
| 1601-1CT | 4 L Cubitainer® | 18 months |
| 1601-2.5 | 10 L Cubitainer® | 18 months |
| 1601-32 | 1 L natural poly | 18 months |
| 1601-5 | 20 L Cubitainer® | 18 months |

W3195 Received on 03/19/2025 by IZ

# Certificate of Analysis

| | |
|---|---|
| Material | BDH9208-500G |
| Material Description | BDH AMMONIUM CHLORIDE ACS 500G |
| Grade | U S P REAGENT (ACS GRADE) |
| Batch | 24L0356561 |
| Reassay Date | 08/31/2027 |
| CAS Number | 12125-02-9 |
| Molecular Formula | NH4Cl |
| Molecular Mass | 53.49 |
| Date of Manufacture | 08/01/2024 |
| Storage | Room Temperature |

| Characteristics | Specifications | Measured Values |
|---|---|---|
| Appearance | White granular powder | White granular powder |
| Calcium | <= 0.001 % | 0.001 % |
| Heavy Metals (as Pb) | <= 0.0005 % | <0.0002 % |
| Insolubles | <= 0.005 % | 0.001 % |
| Iron | <= 0.0002 % | <0.0002 % |
| Magnesium | <= 0.0005 % | 0.0001 % |
| pH (5%, Water) @25C | 4.5 - 5.5 | 4.8 |
| Phosphate | <= 0.0002 % | <0.0002 % |
| Purity | >= 99.5 % | 99.8 % |
| Residue on Ignition | <= 0.01 % | 0.003 % |
| Sulfate | <= 0.002 % | <0.002 % |

Extra Description: Meets Reagent Specifications for testing USP/NF monographs

Internal ID #: 710

## Signature

We certify that this batch conforms to the specifications listed above.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

Analysis may have been rounded to significant digits in specification limits

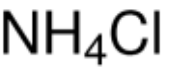
Product meets analytical specifications of the grades listed.

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

W3196 Received on 03/19/2025 by IZ

# Certificate of Analysis

Product Name:
Ammonium chloride - ACS reagent, ≥99.5%



| | |
|---|---|
| **Product Number:** | **213330** |
| **Batch Number:** | **MKCV1009** |
| Brand: | SIGALD |
| CAS Number: | 12125-02-9 |
| MDL Number: | MFCD00011420 |
| Formula: | H4ClN |
| Formula Weight: | 53.49 g/mol |
| Quality Release Date: | 23 OCT 2023 |
| Recommended Retest Date: | SEP 2026 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder or Crystals or Chunk(s) | Crystals |
| Titration by AgNO3 | ≥ 99.5 % | 100.2 % |
| pH @ 25 Deg c (5% Solution) | 4.5 - 5.5 | 4.9 |
| Insoluble Matter 10%, H2O | ≤ 0.005 % | 0.001 % |
| Residue on ignition (Ash) | ≤ 0.01 % | < 0.01 % |
| Calcium (Ca) | ≤ 0.001 % | < 0.001 % |
| Magnesium (Mg) | ≤ 5 ppm | 1 ppm |
| Heavy Metals by ICP | ≤ 5 ppm | < 1 ppm |
| Iron (Fe) | ≤ 2 ppm | < 1 ppm |
| Phosphate (PO4) | ≤ 2 ppm | < 2 ppm |
| Sulfate (SO4) | ≤ 0.002 % | < 0.002 % |
| Meets ACS Requirements | Current ACS Specification | Conforms |
| Recommended Retest Period 3 Years | ---------- | ---------- |

Larry Coers, Director

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 Number:** **213330**
**Batch Number:** **MKCV1009**

---

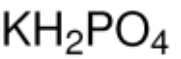
Quality Control
Milwaukee, WI US

W3198 Received on 4/11/2025 by IZ

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 phosphate monobasic - ACS reagent, ≥99.0%



| | |
|---|---|
| **Product Number:** | **P0662** |
| **Batch Number:** | **MKCW6723** |
| Brand: | SIGALD |
| CAS Number: | 7778-77-0 |
| MDL Number: | MFCD00011401 |
| Formula: | H2KO4P |
| Formula Weight: | 136.09 g/mol |
| Quality Release Date: | 16 OCT 2024 |
| Recommended Retest Date: | OCT 2028 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder or Crystals | Crystals |
| Assay | ≥ 99.0 % | 99.8 % |
| Insoluble Matter | ≤ 0.01 % | < 0.01 % |
| Loss on Drying<br>At 105ºC | ≤ 0.2 % | < 0.1 % |
| pH<br>(c = 5%, 25 deg C) | 4.1 - 4.5 | 4.5 |
| Chloride Content | ≤ 0.001 % | < 0.001 % |
| Sulfate (SO4) | ≤ 0.003 % | < 0.003 % |
| Heavy Metals<br>by ICP | ≤ 0.001 % | < 0.001 % |
| Iron (Fe) | ≤ 0.002 % | < 0.001 % |
| Sodium (Na) | ≤ 0.005 % | < 0.001 % |
| Recommended Retest Period<br>4 Years | ---------- | ---------- |

Larry Coers, Director
Quality Control
Milwaukee, WI US

# Certificate of Analysis

W3199 Received on04/11/2025 by IZ

| | |
|---|---|
| Material | BDH9312-2.5KG |
| Material Description | COPPER SULFATE CRYST 2500GM |
| Grade | U S P REAGENT (ACS GRADE) |
| Batch | 24H0956271 |
| Reassay Date | 05/31/2027 |
| CAS Number | 7758-99-8 |
| Molecular Formula | CuSO4.5H2O |
| Molecular Mass | 249.68 |
| Date of Manufacture | 05/01/2024 |
| Storage | Room Temperature |

| Characteristics | Specifications | Measured Values |
|---|---|---|
| Appearance | Blue crystals | Blue crystals |
| Calcium | <= 0.005 % | 0.003 % |
| Chloride | <= 0.001 % | 0.0001 % |
| Insolubles | <= 0.005 % | 0.001 % |
| Iron | <= 0.003 % | 0.001 % |
| Nickel | <= 0.005 % | 0.003 % |
| Nitrogen Compounds (as N) | <= 0.002 % | 0.001 % |
| Potassium | <= 0.01 % | 0.0004 % |
| Purity | 98.0 - 102.0 % | 99.7 % |
| Sodium | <= 0.02 % | 0.003 % |

Extra Description: Meets Reagent Specifications for testing USP/NF monographs

CUSTOMER PART# BDH9312-2.5KG

Internal ID #: 793

## Signature

We certify that this batch conforms to the specifications listed above.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

## Additional Information

Analysis may have been rounded to significant digits in specification limits

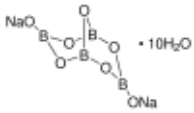
Product meets analytical specifications of the grades listed.

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

W3201 Received on 4/16/25 by IZ

# Certificate of Analysis

Product Name:
Sodium tetraborate decahydrate - ACS reagent, ≥99.5%



| | |
|---|---|
| **Product Number:** | **S9640** |
| **Batch Number:** | **BCCL9613** |
| Brand: | SIGALD |
| CAS Number: | 1303-96-4 |
| Formula: | B4Na2O7 · 10H2O |
| Formula Weight: | 381,37 g/mol |
| Quality Release Date: | 05 JUL 2024 |
| Recommended Retest Date: | MAY 2029 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder or Crystals | Powder |
| Titration with NaOH | 99.5 - 105.0 % | 100.7 % |
| pH | 9.15 - 9.20 | 9.20 |
| 0.01 m Solution at 25 Deg C | | |
| Meets ACS Requirements | Corresponds to Requirements | Corresponds |
| ACS Specifications | Corresponds to Requirements | Corresponds |
| Insoluble Matter <= 0.005% / Heavy | | |
| Metals (As Pb) <= 0.001% | | |
| Calcium (Ca) | ≤ 50 mg/kg | < 50 mg/kg |
| Iron (Fe) | ≤ 5 mg/kg | < 5 mg/kg |
| Total Sulfur | ≤ 50 mg/kg | < 50 mg/kg |
| as SO4 (ICP) | | |
| Chloride (Cl) | ≤ 10 mg/kg | < 10 mg/kg |
| Phosphate (PO4) | ≤ 10 mg/kg | < 10 mg/kg |

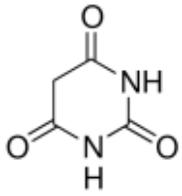
Dr.Reinhold Schwenninger
Quality Assurance
Buchs,Switzerland CH

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:
Barbituric acid - ReagentPlus® , 99%

| | |
|---|---|
| **Product Number:** | **185698** |
| **Batch Number:** | **WXBF3271V** |
| Brand: | SIAL |
| CAS Number: | 67-52-7 |
| Formula: | C4H4N2O3 |
| Formula Weight: | 128,09 g/mol |
| Quality Release Date: | 16 MAY 2024 |



| Test | Specification | Result |
|---|---|---|
| Appearance (Colour) | White to Off-White | White |
| Appearance (Form) | Powder | Powder |
| Infrared spectrum | Conforms to Structure | Conforms |
| Purity (Titration by NaOH) | 98.5 - 101.5 % | 100.4 % |
| GC (area %)<br>VPCT | ≥ 98 % | 100 % |

Kang Chen
Quality Manager
Wuxi , China CN

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

avantor™ | J.T.Baker

LW3204
OPEN: 04/22/2025
38

Material No.: 9262-03
Batch No.: 25C0362005
Manufactured Date: 2025-01-29
Expiration Date:2026-04-30
Revision No.: 0

# Certificate of Analysis

| Test | Specification | Result |
|---|---|---|
| FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL) | <= 5 | 1 |
| ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL) | <= 10 | 6 |
| ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL) | <= 5 | 5 |
| Assay (Total Saturated $C_6$ Isomers) (byGC, corrected for water) | >= 99.5 % | 100.0 % |
| Assay (as n-Hexane) (by GC, correctedfor water) | >= 95 % | 100 % |
| Color (APHA) | <= 10 | 10 |
| Residue after Evaporation | <= 1.0 ppm | 0.1 ppm |
| Substances Darkened by $H_2SO_4$ | Passes Test | Passes Test |
| Water (by KF, coulometric) | <= 0.05 % | <0.01 % |

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

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

J Croak

Jamie Croak
Director Quality Operations, Bioscience Production

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

Avantor Performance Materials LLC

W3205 opue. 04/22/25

# CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

## CERTIFICATE OF ANALYSIS

JB

Date: 4/4/2024

Lot No. 540404

**Acetic Acid, Glacial (ACS)**
Reagent Grade

| TEST | MAXIMUM LIMITS | RESULT |
|---|---|---|
| Appearance | Colorless and free from suspended matter or sediment | Pass |
| Assay | 99.7 min. | 99.99% |
| Color (APHA) | 10 | 5 |
| Dilution Test | Passes Test | Pass |
| Residue after evaporation | 0.001% | 0.0003% |
| Acetic Anhydride | 0.01% | 0.00% |
| Chloride (cl) | 1 ppm | <1 ppm |
| Sulfate ($SO_4$) | 1 ppm | <1 ppm |
| Heavy Metals (as Pb) | 0.5ppm | <0.02 ppm |
| Iron (Fe) | 0.2ppm | <0.1 ppm |
| Sub. Red. Dichromate | Passes Test | Pass |
| Sub. Red. Permanganate | Passes Test | Pass |
| Titratable Base | 0.0004meq/g | <0.0002 meq/g |

DATE OF MFG: 4/2024
RETEST DATE: 4/2026

CORCO CHEMICAL CORPORATION. 299 CEDAR LANE. FAIRLESS HILLS, PA 19030. 215-295-5006. FAX 215-295-0781

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 phosphate monobasic - ACS reagent, ≥99.0%

$KH_2PO_4$

| | |
|---|---|
| **Product Number:** | **P0662** |
| **Batch Number:** | **MKCX1379** |
| Brand: | SIGALD |
| CAS Number: | 7778-77-0 |
| MDL Number: | MFCD00011401 |
| Formula: | H2KO4P |
| Formula Weight: | 136.09 g/mol |
| Quality Release Date: | 27 JAN 2025 |
| Recommended Retest Date: | JAN 2029 |

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder or Crystals | Crystals |
| Assay | ≥ 99.0 % | 99.9 % |
| Insoluble Matter | ≤ 0.01 % | < 0.01 % |
| Loss on Drying<br>At 105ºC | ≤ 0.2 % | < 0.1 % |
| pH<br>(c = 5%, 25 deg C) | 4.1 - 4.5 | 4.5 |
| Chloride Content | ≤ 0.001 % | < 0.001 % |
| Sulfate (SO4) | ≤ 0.003 % | < 0.003 % |
| Heavy Metals<br>by ICP | ≤ 0.001 % | < 0.001 % |
| Iron (Fe) | ≤ 0.002 % | < 0.001 % |
| Sodium (Na) | ≤ 0.005 % | < 0.001 % |
| Recommended Retest Period<br>4 Years | ---------- | ---------- |

Larry Coers, Director
Quality Control
Milwaukee, WI US

N3212 Received on 5/21/25 by 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 132409 • Mfg. Date: 09/2024 • Exp. Date: 09/2026

**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 $4.00 \times 10^9$ cfu/g.

**GLUCOSE/GLUTAMIC-ACID RESULTS:**
Tested results within acceptable range 198 +/- 30.5 mg/L (167.5 - 228.5 mg/L). GGA Lot# 43100020 – Average Test Result: 202.1

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 ensure that the Finished Product conforms to the above specification.

**Signature:** _____ **Date**: 09/13/2024

***Quality Control Department***

POLYSEED.Ref.1.19 Revised Jan 24

InterLab®
International Laboratory Supply

ISO 9002
DNV
DNV Certification, Inc.
REGISTERED FIRM

N3213 Received on 5/21/25 by 12

# Certificate of Analysis

| | |
|---|---|
| Material | BDHVBDH7206-1 |
| Material Description | IODINE SOLUTION 0.025N |
| Lot | 25A2461008 |
| Expires end of | 2029-Jan-20 |
| Molecular mass | 0 |
| Last Quality Control | 2025-Jan-24 |
| Date of manufacture | 2025-Jan-21 |
| Made in | United States |
| Manufacturer Source Batch | MK25A21527 |

Additional infomation

| Characteristics | Specifications | Measured values |
|---|---|---|
| Prepared to formulation on file | Confirmed | Confirmed |
| Appearance | Passes Test | Passes Test |
| Normality, N | 0.0200 - 0.0300 | 0.0268 |

## Signature

We certify that this batch conforms to the specifications listed above.

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

Michelle Bales - Sr. Manager Quality Assurance
Avantor Performance Materials, LLC

RICCA CHEMICAL COMPANY®

W3214 Received on 5/21/25 by IZ

448 West Fork Dr
Arlington, TX 76012
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

# Certificate of Analysis

## Cyanide Standard, 1000 ppm $CN^-$

**Lot Number:** 1505H73 **Product Number:** 2543

**Manufacture Date:** MAY 08, 2025
**Expiration Date:** NOV 2025

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certifiec traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.
Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

| Name | CAS# | Grade |
|---|---|---|
| Water | 7732-18-5 | ACS/ASTM/USP/EP |
| Potassium Cyanide | 151-50-8 | ACS |
| Sodium Hydroxide | 1310-73-2 | Reagent (from ACS) |

| Test | Specification | Result |
|---|---|---|
| Appearance | Colorless liquid | Passed |
| Cyanide ($CN^-$) | 995-1005 ppm | 1000 ppm |

| Specification | Reference |
|---|---|
| Stock Standard Cyanide Solution | APHA (4500-CN- F) |
| Stock Cyanide Solution | APHA (4500-CN- E) |
| Stock Cyanide Solution | APHA (4500-CN- K) |
| Stock Cyanide Solution | APHA (4500-CN- H) |
| Cyanide Reference Solution (1000 mg/L) | EPA (SW-846) (7.3.3.2) |
| Cyanide Calibration Stock Solution (1,000 mg/L CN-) | EPA (SW-846) (9213) |
| Stock Cyanide Solution | EPA (335.3) |
| Stock Cyanide Solution | EPA (335.2) |
| Cyanide Solution Stock | ASTM (D 4282) |
| Simple Cyanide Solution, Stock (1.0 g/L CN) | ASTM (D 4374) |

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) |
|---|---|---|
| 2543-16 | 500 mL amber poly | 6 months |
| 2543-32 | 1 L amber poly | 6 months |
| 2543-4 | 120 mL amber poly | 6 months |

**Recommended Storage:** 2°C - 8°C (36°F - 46°F)

Ernest Mahan (05/08/2025)
Plant Manager

RICCA CHEMICAL COMPANY®

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

# Certificate of Analysis

## Buffer, Reference Standard, pH 7.00 ± 0.01 at 25°C (Color Coded Yellow)

**Lot Number:** 2504D34 **Product Number:** 1551

**Manufacture Date:** APR 03, 2025
**Expiration Date:** MAR 2027

The certified value for this product is confirmed in independent testing by a second qualified chemist.
The NIST traceable pH value is certified to ±0.01 at 25 °C only. All other pH values at their corresponding temperatures are accurate to ± 0.05.

| °C | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| pH | 7.12 | 7.09 | 7.06 | 7.04 | 7.02 | 7.00 | 6.99 | 6.98 | 6.98 | 6.97 | 6.97 |

| Name | CAS# | Grade |
|---|---|---|
| Water | 7732-18-5 | ACS/ASTM/USP/EP |
| Sodium Phosphate Dibasic | 7558-79-4 | ACS |
| Potassium Dihydrogen Phosphate | 7778-77-0 | ACS |
| Preservative | Proprietary | |
| Yellow Dye | Proprietary | |
| Sodium Hydroxide | 1310-73-2 | Reagent (from ACS) |

| Test | Specification | Result | |
|---|---|---|---|
| Appearance | Yellow liquid | Passed | *Not a certified value. |

| Test | Certified Value | Uncertainty | NIST SRM# |
|---|---|---|---|
| pH at 25°C (Method: SQCP027, SQCP033) | 7.003 | 0.02 | 186-I-g, 186-II-g, 191d |

| Specification | Reference |
|---|---|
| Commercial Buffer Solutions | ASTM (D 1293 B) |
| Buffer A | ASTM (D 5464) |
| Buffer A | ASTM (D 5128) |

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. 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) |
|---|---|---|
| 1551-2.5 | 10 L Cubitainer® | 24 months |
| 1551-20 | 20 x 20 mL pack | 24 months |
| 1551-32 | 1 L natural poly | 24 months |
| 1551-5 | 20 L Cubitainer® | 24 months |

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

Jose Pena (04/03/2025)
Operations Manager

## This product was tested in an ISO 17025 Accredited Laboratory

# Certificate of Analysis

| | |
|---|---|
| Material | BDH1133-4LP |
| Material Description | Isopropyl Alcohol |
| Lot | 25C1161072 |
| Expires end of | 2029-Mar-04 |
| CAS Number | 67-63-0 |
| Molecular formula | $(CH_3)_2CHOH$ |
| Molecular mass | 0 |
| Last Quality Control | 2025-Mar-24 |
| Date of manufacture | 2025-Mar-05 |
| Made in | United States |
| Manufacturer Source Batch | US20TK1770 |

Additional infomation

| Characteristics | Specifications | Measured values |
|---|---|---|
| ACS - Assay ($CH_3CHOHCH_3$) | >= 99.5 % | 100.0 % |
| ACS - Color (APHA) | <= 10 | <5 |
| ACS - Residue after Evaporation | <= 0.001 % | <0.001 % |
| ACS - Solubility in $H_2O$ | Passes Test | Passes Test |
| ACS - Titrable Acid or Base (meq/g) | <= 0.0001 | <0.0001 |
| ACS - Water ($H_2O$)(by Karl Fischer titrn) | <= 0.2 % | <0.1 % |
| Appearance (Clear, colorless liquid) | Passes Test | Passes Test |
| Carbonyl Compounds - Acetone | <= 0.002 % | <0.001 % |
| Carbonyl Compounds - Propionaldehyde | <= 0.002 % | <0.001 % |

## Signature

We certify that this batch conforms to the specifications listed above.

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

Michelle Bales - Sr. Manager Quality Assurance
Avantor Performance Materials, LLC

# Certificate Of Analysis

Date of Release: 4/8/2025

Name: **Potassium Hydrogen Phthalate**
ACS

Item No: **PX1476 All Sizes**
Lot / Batch No: **2025040493**
Country of Origin: **USA**

| Item | Specifications | Analysis |
|---|---|---|
| Assay (Dried Basis) | 99.95-100.05% | 99.98% |
| Chlorine compounds (as Cl) | 0.003% max. | <0.003% |
| Color | White | Passes Test |
| Form | Crystals | Passes Test |
| Heavy metals (by ICP-OES) | 5 ppm max. | <5 ppm |
| Insoluble Matter | 0.005% max. | <0.005% |
| Iron (Fe) | 5 ppm max. | <5 ppm |
| pH of a 0.05m solution @ 25.0C | 4.00-4.02 | 4.00 |
| Sodium (Na) | 0.005% max. | <0.005% |
| Sulfur compounds (as S) | 0.002% max. | <0.002% |

Joe Schoellkopff
---
Quality Control Manager

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

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation
400 Summit Drive
Burlington, MA 01803
U.S.A.

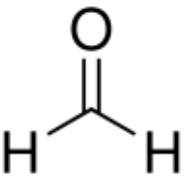
3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

# Certificate of Analysis

Product Name:

Formaldehyde solution - ACS reagent, 37 wt. % in $H_2O$, contains 10-15% Methanol as stabilizer (to prevent polymerization)

| | |
|---|---|
| **Product Number:** | **252549** |
| **Batch Number:** | **MKCW7614** |
| Brand: | SIAL |
| MDL Number: | MFCD00003274 |
| Quality Release Date: | 05 DEC 2024 |
| Recommended Retest Date: | DEC 2026 |



| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | Colorless | Colorless |
| Appearance (Form) | Liquid | Liquid |
| Infrared Spectrum | Conforms to Structure | Conforms |
| Titration by H2SO4 | 36.5 - 38.0 % | 36.6 % |
| Residue on ignition (Ash) | ≤ 0.005 % | 0.004 % |
| Color Test | ≤ 10 APHA | 5 APHA |
| Chloride (Cl) | ≤ 5 ppm | < 5 ppm |
| Iron (Fe) | ≤ 5 ppm | < 1 ppm |
| Heavy Metals by ICP-OES | ≤ 5 ppm | 2 ppm |
| Sulfate (SO4) | < = 0.002% | < = 0.002% |
| Titratable Acid (meq/g) | ≤ 0.006 | < 0.006 |
| Note Stabilized with 10% to 15% Methanol | Confirmed | Conforms |
| Meets ACS Requirements | Current ACS Specification | Conforms |
| Recommended Retest Period 2 Years | ---------- | ---------- |

Larry Coers, Director
Quality Control
Milwaukee, WI US

RICCA CHEMICAL COMPANY®

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Pocomoke City, MD 21851
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customerservice@riccachemical.com

# Certificate of Analysis

## Sodium Hypochlorite Solution, 5% available Chlorine

**Lot Number:** 2506M51 **Product Number:** 7495.5

**Manufacture Date:** JUN 18, 2025
**Expiration Date:** DEC 2025

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) $Cl_2$ | 5.17 % (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 (06/18/2025)
Operations Manager

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

# Certificate of Analysis

## Cyanide Standard 1000 ppm (1ml = 1mg CN)

Product Code: **LC13545**

Manufacture Date: June 25, 2025

Lot Number: **45060288**

Expiration Date: December 24, 2025

| Test | Specification | Result |
|---|---|---|
| Appearance (clarity) | clear solution | clear solution |
| Appearance (color) | colorless | colorless |
| Concentration (CN) | 0.990 - 1.010mg/mL | 1.000mg/mL |
| Concentration (CN) | 990 - 1,010ppm | 1,000ppm |
| Traceable to NIST SRM | Report | 999b |

***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 information 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. Balances, thermometers, and glassware are calibrated before first use and on a regular schedule with references traceable to NIST*

***The suffix of the product code may differ from what is on your product label. The suffix will designate the size and be associated with a numeric digit(s). Visit LabChem.com for more information***

| Suffix | 1 | 2 | 3/3S/36/36S | 4/4C | 5 | 6 | 7 | 8 | 9 | 20 | 44 | 200 | 246 | 486 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | 500mL or g | 1L or 1kg | 2.5L/2.5L Coated/6x2.5L/6x2.5L Coated | 4L | 20L | 10L | 125mL | 25g | 100g | 20x20mL | 4x4L | 200L | 24x6mL | 48x6mL |

Michael Monteleone

*Michael Monteleone*
*Chemistry Supervisor - Quality Control*
2025070315:30:45ahoffman-0-0

*ISO9001:2015 Registration #0306-01*

W 3228
W 3229
W 3230

Rec. on 7/11/25 by 12

environmental express®

2345A Charleston Regional
Charleston, South Carolina 29492
environmentalexpress.com
+1 843.881.6560

May 12, 2025

**CERTIFICATE OF ANALYSIS**

Environmental Express certifies that the following COD Reagent Vials have been rigorously checked against NIST Traceable standards and also compared for conformance to another major brand name product. Environmental Express COD Vial performance is evaluated using bench top spectrophotometers. Acceptance guidelines are strict and ensure dependable, quality results.

Environmental Express further certifies that the COD products listed below are recognized by the United States Environmental Protection Agency (USEPA) as equivalent to an approved Water Pollutant Testing Procedure for COD (Federal Register, Vol. 45, No. 78, Monday, April 20th, 1980, page 26811) and as such can be used for National Pollution Discharge Elimination System (NPDES) reporting.

| Cat. No. | Lot No. | Product Description | Expiration Date |
|---|---|---|---|
| B1010 | 5GE0517 | COD Reagent Vials, 0 - 150 ppm | May-30 |

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

An ISO 9001 Certified Company

# *Certificate of Analysis*

## *This is a Component of 1486266 / LOT A5105*

**PRODUCT:** BOD Nutrient Buffer Pillows

**PRODUCT NUMBER:** 1486227

**LOT NUMBER:** A5105

**MANUFACTURE DATE:** 05/13/2025

**DATE OF ANALYSIS:** 05/27/2025

| TEST | SPECIFICATIONS | RESULTS |
|---|---|---|
| Ammonia Concentration of a diluted pillow | 0.57 to 0.79 ppm | 0.570 |
| Calcium Concentration of a diluted pillow | 0.93 to 1.29 ppm | 0.980 |
| Iron Concentration of a diluted pillow | 0.27 to 0.36 ppm | 0.283 |
| Magnesium Concentration of a diluted pillow | 0.35 to 0.48 ppm | 0.360 |
| Phosphorus Concentration of a diluted pillow | 7.6 to 10.3 ppm | 8.11 |
| pH in a 6 L of DI water | 7.1 to 7.6 ph | 7.31 |
| Five Day Change in Dissolved Oxygen Concentration | -0.2 to 0.2 ppm | 0.03 |
| Sterility | To Pass | Passed |

The expiration date is May 2030

Certified by: Scott Als

Analytical Services Chemist

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# Certificate of Analysis

**Product Name :**
Calcium chloride dihydrate BioReagent, suitable for cell culture, suitable for insect cell culture, suitable for plant cell culture, ≥99.0%

| | |
|---|---|
| **Product Number :** | **C7902-1KG** |
| **Batch Number :** | **0000440940** |
| Source Batch : | 0000419269 |
| CAS Number : | 10035-04-8 |
| MDL Number : | MFCD00149613 |
| Molecular Formula : | $CaCl_2 \cdot 2H_2O$ |
| Formula Weight : | 147.01 g/mol |
| Recommended Retest Date : | Dec 2027 |
| Quality Release Date : | 21 Mar 2025 |

$CaCl_2 \bullet 2H_2O$

| Test | Specification | Result |
|---|---|---|
| Appearance (Color) | White | White |
| Appearance (Form) | Powder | Powder |
| Solubility (Color) | Colorless | Colorless |
| Solubility (Turbidity) | Clear | Clear |
| 294 mg/mL, H2O | | |
| Titration with EDTA | 99.0 - 105.0 % | 101.2 % |
| Cell Culture Test | Pass | Pass |
| Insect Cell Test | Pass | Pass |
| Plant Cell Culture Test | Pass | Pass |

J. Yasomanee

Jagodige Yasomanee, Supervisor
Quality Assurance
St. Louis, Dekalb
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