

Order ID :	Q2487
Test :	Ammonia,COD,Cyanide,Hexavalent Chromium,Oil and Grease,Paint Filter,Percent Solids,TKN,Trivalent Chromium,TS,TVS
Prepbatch ID :	PB168731,PB168732,PB168749,PB168757,
Sequence ID/Qc Batch ID:	LB136381,LB136383,LB136387,LB136393,LB136397,LB136399,LB136405,LB136408,LB136422,LB136425,LB136427,LB136429,LB136431,LB136433,LB136435,LB136437,LB136439,LB136441,LB136443,LB136445,LB136447,LB136449,LB136451,LB136453,LB136455,LB136457,LB136459,LB136461,LB136463,LB136465,LB136467,LB136469,LB136471,LB136473,LB136475,LB136477,LB136479,LB136481,LB136483,LB136485,LB136487,LB136489,LB136491,LB136493,LB136495,LB136497,LB136499,LB136501,LB136503,LB136505,LB136507,LB136509,LB136511,LB136513,LB136515,LB136517,LB136519,LB136521,LB136523,LB136525,LB136527,LB136529,LB136531,LB136533,LB136535,LB136537,LB136539,LB136541,LB136543,LB136545,LB136547,LB136549,LB136551,LB136553,LB136555,LB136557,LB136559,LB136561,LB136563,LB136565,LB136567,LB136569,LB136571,LB136573,LB136575,LB136577,LB136579,LB136581,LB136583,LB136585,LB136587,LB136589,LB136591,LB136593,LB136595,LB136597,LB136599,LB136601,LB136603,LB136605,LB136607,LB136609,LB136611,LB136613,LB136615,LB136617,LB136619,LB136621,LB136623,LB136625,LB136627,LB136629,LB136631,LB136633,LB136635,LB136637,LB136639,LB136641,LB136643,LB136645,LB136647,LB136649,LB136651,LB136653,LB136655,LB136657,LB136659,LB136661,LB136663,LB136665,LB136667,LB136669,LB136671,LB136673,LB136675,LB136677,LB136679,LB136681,LB136683,LB136685,LB136687,LB136689,LB136691,LB136693,LB136695,LB136697,LB136699,LB136701,LB136703,LB136705,LB136707,LB136709,LB136711,LB136713,LB136715,LB136717,LB136719,LB136721,LB136723,LB136725,LB136727,LB136729,LB136731,LB136733,LB136735,LB136737,LB136739,LB136741,LB136743,LB136745,LB136747,LB136749,LB136751,LB136753,LB136755,LB136757,LB136759,LB136761,LB136763,LB136765,LB136767,LB136769,LB136771,LB136773,LB136775,LB136777,LB136779,LB136781,LB136783,LB136785,LB136787,LB136789,LB136791,LB136793,LB136795,LB136797,LB136799,LB136801,LB136803,LB136805,LB136807,LB136809,LB136811,LB136813,LB136815,LB136817,LB136819,LB136821,LB136823,LB136825,LB136827,LB136829,LB136831,LB136833,LB136835,LB136837,LB136839,LB136841,LB136843,LB136845,LB136847,LB136849,LB136851,LB136853,LB136855,LB136857,LB136859,LB136861,LB136863,LB136865,LB136867,LB136869,LB136871,LB136873,LB136875,LB136877,LB136879,LB136881,LB136883,LB136885,LB136887,LB136889,LB136891,LB136893,LB136895,LB136897,LB136899,LB136901,LB136903,LB136905,LB136907,LB136909,LB136911,LB136913,LB136915,LB136917,LB136919,LB136921,LB136923,LB136925,LB136927,LB136929,LB136931,LB136933,LB136935,LB136937,LB136939,LB136941,LB136943,LB136945,LB136947,LB136949,LB136951,LB136953,LB136955,LB136957,LB136959,LB136961,LB136963,LB136965,LB136967,LB136969,LB136971,LB136973,LB136975,LB136977,LB136979,LB136981,LB136983,LB136985,LB136987,LB136989,LB136991,LB136993,LB136995,LB136997,LB136999,LB137001,LB137003,LB137005,LB137007,LB137009,LB137011,LB137013,LB137015,LB137017,LB137019,LB137021,LB137023,LB137025,LB137027,LB137029,LB137031,LB137033,LB137035,LB137037,LB137039,LB137041,LB137043,LB137045,LB137047,LB137049,LB137051,LB137053,LB137055,LB137057,LB137059,LB137061,LB137063,LB137065,LB137067,LB137069,LB137071,LB137073,LB137075,LB137077,LB137079,LB137081,LB137083,LB137085,LB137087,LB137089,LB137091,LB137093,LB137095,LB137097,LB137099,LB137101,LB137103,LB137105,LB137107,LB137109,LB137111,LB137113,LB137115,LB137117,LB137119,LB137121,LB137123,LB137125,LB137127,LB137129,LB137131,LB137133,LB137135,LB137137,LB137139,LB137141,LB137143,LB137145,LB137147,LB137149,LB137151,LB137153,LB137155,LB137157,LB137159,LB137161,LB137163,LB137165,LB137167,LB137169,LB137171,LB137173,LB137175,LB137177,LB137179,LB137181,LB137183,LB137185,LB137187,LB137189,LB137191,LB137193,LB137195,LB137197,LB137199,LB137201,LB137203,LB137205,LB137207,LB137209,LB137211,LB137213,LB137215,LB137217,LB137219,LB137221,LB137223,LB137225,LB137227,LB137229,LB137231,LB137233,LB137235,LB137237,LB137239,LB137241,LB137243,LB137245,LB137247,LB137249,LB137251,LB137253,LB137255,LB137257,LB137259,LB137261,LB137263,LB137265,LB137267,LB137269,LB137271,LB137273,LB137275,LB137277,LB137279,LB137281,LB137283,LB137285,LB137287,LB137289,LB137291,LB137293,LB137295,LB137297,LB137299,LB137301,LB137303,LB137305,LB137307,LB137309,LB137311,LB137313,LB137315,LB137317,LB137319,LB137321,LB137323,LB137325,LB137327,LB137329,LB137331,LB137333,LB137335,LB137337,LB137339,LB137341,LB137343,LB137345,LB137347,LB137349,LB137351,LB137353,LB137355,LB137357,LB137359,LB137361,LB137363,LB137365,LB137367,LB137369,LB137371,LB137373,LB137375,LB137377,LB137379,LB137381,LB137383,LB137385,LB137387,LB137389,LB137391,LB137393,LB1373

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E3551,E3917,E3949,M6041,M6151,M6158,W2202,W2651,W2652,W2666,W2668,W2700,W2784,W2817,W2858,W2871,W2979,W2983,W3009,W3012,W3019,W3082,W3112,W3113,W3129,W3132,W3133,W3139,W3148,W3152,W3163,W3168,W3169,W3173,W3174,W3186,W3195,W3196,W3199,W3203,W3204,W3206,W3214,W3219,



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3923	Baked Sodium Sulfate	<a href="#">EP2624</a>	06/26/2025	12/04/2025	RUPESHKUMAR SHAH	Extraction_SCALE_2 (EX-SC-2)	None	Riteshkumar Patel  06/26/2025
<b><u>FROM</u></b> 4000.00000gram of E3551 = Final Quantity: 4000.000 gram								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
11	Sodium hydroxide absorbing solution 0.25 N	<a href="#">WP111294</a>	01/07/2025	07/07/2025	Niha Farheen Shaik	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 01/07/2025
<b><u>FROM</u></b> 21.00000L of W3112 + 210.00000gram of W3113 = Final Quantity: 21.000 L								



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1993	HEXAVALENTCHROMIUM STOCK STD 1, 50PPM	<a href="#">WP111315</a>	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 01/09/2025
<b><u>FROM</u></b> 0.14140gram of W2651 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml								

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1994	HEXAVALENTCHROMIUM STOCK STD 2, 50PPM	<a href="#">WP111316</a>	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WC SC-5)	None	Iwona Zarych 01/09/2025
<b><u>FROM</u></b> 0.14140gram of W2652 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1796	NaOH, 0.1N	<a href="#">WP111317</a>	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_SCALE_7 (WC SC-6)	None	Iwona Zarych 01/09/2025
<u>FROM</u>	4.00000gram of W3113 + 996.00000ml of W3112 = Final Quantity: 1000.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1471	NaOH Solution, 6N	<a href="#">WP111318</a>	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_SCALE_7 (WCS-6)	None	Iwona Zarych 01/09/2025
<b><u>FROM</u></b> 240.00000gram of W3113 + 760.00000ml of W3112 = Final Quantity: 1000.000 ml								



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1494	BORATE BUFFER	<a href="#">WP111325</a>	01/09/2025	07/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 01/09/2025
<u>FROM</u>	100.00000L of W3112 + 9.50000gram of W2700 + 88.00000ml of WP111317 = Final Quantity: 100.000 L							

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290	Phenol reagent for Ammonia	<a href="#">WP111385</a>	01/13/2025	07/13/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCS-7)	None	Iwona Zarych 01/13/2025
<b><u>FROM</u></b> 3.20000gram of W3113 + 8.30000gram of W2858 + 88.80000ml of W3112 = Final Quantity: 100.000 ml								



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635	EDTA BUFFER FOR AMMONIA	<a href="#">WP111660</a>	01/28/2025	07/28/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCS-7)	None	Iwona Zarych 01/28/2025
<b><u>FROM</u></b> 5.50000gram of W3113 + 50.00000gram of W3132 + 950.00000ml of W3112 = Final Quantity: 1000.000 ml								

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289	Sodium Hypochlorite for Ammonia	<a href="#">WP111745</a>	02/03/2025	07/31/2025	Rubina Mughal	None	None	Iwona Zarych 02/03/2025
<b><u>FROM</u></b> 50.00000ml of W3112 + 50.00000ml of W3174 = Final Quantity: 100.000 ml								



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1338	TKN DISTILLING BUFFER	<a href="#">WP112079</a>	02/27/2025	08/27/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCS-7)	None	Iwona Zarych 02/27/2025
<b><u>FROM</u></b> 0.47500L of W3112 + 25.00000gram of W3148 + 500.00000gram of W3113 = Final Quantity: 1.000 L								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
153	Ammonia Stock Std. (1000 ppm)	<a href="#">WP112611</a>	04/07/2025	10/07/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych 04/07/2025
<b><u>FROM</u></b> 3.81900gram of W3196 + 996.18100ml of W3112 = Final Quantity: 1000.000 ml								



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1895	Ammonia Stock Std, 1000PPM-SS	<a href="#">WP112612</a>	04/07/2025	10/07/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	None	Iwona Zarych  04/07/2025
<u>FROM</u>	3.81900gram of W3195 + 996.18100ml of W3112 = Final Quantity: 1000.000 ml							

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539	CN BUFFER	<a href="#">WP112643</a>	04/09/2025	10/09/2025	Niha Farheen Shaik	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych  04/09/2025
<u>FROM</u>	138.00000gram of W2668 + 862.00000ml of W3112 = Final Quantity: 1000.000 ml							



## Wet Chemistry STANDARD PREPARATION LOG

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229	1:1 HCL	<a href="#">WP112782</a>	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

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3931	Spiking std for 9071B	<a href="#">WP112785</a>	04/22/2025	10/03/2025	Jignesh Parikh	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych
								04/22/2025

**FROM** 1.00000gram of W2817 + 1.00000gram of W2871 + 1000.00000ml of E3917 = Final Quantity: 1000.000 ml



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3873	Spiking solution for 9071B - SS	<a href="#">WP112786</a>	04/22/2025	10/03/2025	Jignesh Parikh	WETCHEM_SCALE_8 (WCS-7)	None	Iwona Zarych 04/22/2025
<u>FROM</u>	1.00000gram of W3009 + 1.00000gram of W3082 + 1000.00000L of E3917 = Final Quantity: 1000.000 ml							

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1714	Sulfuric Acid, 50% (v/v)	<a href="#">WP112826</a>	04/25/2025	10/25/2025	Rubina Mughal	None	None	Iwona Zarych 04/25/2025
<b><u>FROM</u></b> 1000.00000ml of M6041 + 1000.00000ml of W3112 = Final Quantity: 2000.000 ml								



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3214	Magnesium Chloride For Cyanide 2.5M(51%W/V)	<a href="#">WP112827</a>	04/25/2025	10/25/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych 04/25/2025
<b><u>FROM</u></b> 500.00000ml of W3112 + 510.00000gram of W3152 = Final Quantity: 1000.000 ml								

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1597	0.04 N H2SO4	<a href="#">WP112828</a>	04/25/2025	10/25/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 04/25/2025
<u>FROM</u>	1.00000ml of M6041 + 999.00000ml of W3112 = Final Quantity: 1000.000 ml							

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1836	HNO3 Hex-Chrome, 5M	<a href="#">WP112830</a>	04/25/2025	10/25/2025	Rubina Mughal	None	None	Iwona Zarych
								04/25/2025

**FROM** 320.00000ml of M6158 + 680.00000ml of W3112 = Final Quantity: 1000.000 ml

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126	5N sulfuric acid	<a href="#">WP112831</a>	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



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607	PYRIDINE-BARBITURIC ACID	<a href="#">WP112900</a>	05/01/2025	08/18/2025	Rubina Mughal	WETCHEM_S CALE_8 (WC SC-7)	Glass Pipette-A	Iwona Zarych  05/01/2025
<u>FROM</u>	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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190	HEX CHROME PHOSPHATE BUFFER	<a href="#">WP112903</a>	05/01/2025	11/01/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCS-7)	None	Iwona Zarych 05/01/2025
<b><u>FROM</u></b> 0.84500L of W3112 + 68.04000gram of W3206 + 87.09000gram of W3168 = Final Quantity: 1.000 L								

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3371	Cyanide LCS Spike Solution, 5PPM	<a href="#">WP112995</a>	05/07/2025	07/07/2025	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Jignesh Parikh 05/07/2025

**FROM** 1.00000ml of W3173 + 199.00000ml of WP111294 = Final Quantity: 200.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3354	Hexchrome Cleaning Solution	<a href="#">WP113087</a>	05/15/2025	08/18/2025	Rubina Mughal	None	None	Iwona Zarych 05/15/2025

**FROM** 182.00000ml of M6151 + 727.00000ml of W3112 + 91.00000ml of M6158 = Final Quantity: 1000.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
619	TKN digestion solution	<a href="#">WP113135</a>	05/20/2025	11/20/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych 05/20/2025
<b><u>FROM</u></b>	134.00000gram of W2983 + 134.00000ml of M6041 + 7.30000gram of W3199 + 725.00000ml of W3112 = Final Quantity: 1000.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2456	COD Stock std, 1000ppm	<a href="#">WP113231</a>	05/28/2025	06/04/2025	Iwona Zarych	WETCHEM_S CALE_5 (WC SC-5)	None	Jignesh Parikh  05/28/2025
<u>FROM</u>	0.08500gram of W2784 + 100.00000ml of W3112 = Final Quantity: 100.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2457	COD Stock std-SS, 1000ppm	<a href="#">WP113232</a>	05/28/2025	06/04/2025	Iwona Zarych	WETCHEM_S CALE_5 (WC SC-5)	None	Jignesh Parikh  05/28/2025
<u>FROM</u>	0.08500gram of W3169 + 100.00000ml of W3112 = Final Quantity: 100.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
139	COD calibration std. 0 ppm	<a href="#">WP113233</a>	05/28/2025	06/04/2025	Iwona Zarych	None	None	Jignesh Parikh 05/28/2025
<b><u>FROM</u></b> 10.00000ml of W3112 = Final Quantity: 10.000 ml								





<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
138	COD calibration std. 10 ppm	<a href="#">WP113234</a>	05/28/2025	06/04/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 05/28/2025
<u>FROM</u>	9.90000ml of W3112 + 0.10000ml of WP113231 = Final Quantity: 10.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
137	COD calibration std. 50 ppm	<a href="#">WP113235</a>	05/28/2025	06/04/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 05/28/2025
<u>FROM</u>	9.50000ml of W3112 + 0.50000ml of WP113231 = Final Quantity: 10.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4161	COD calibration std. 75 ppm	<a href="#">WP113236</a>	05/28/2025	06/04/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 05/28/2025
<b><u>FROM</u></b> 9.25000ml of W3112 + 0.75000ml of WP113231 = Final Quantity: 10.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
136	COD calibration std. 100 ppm	<a href="#">WP113237</a>	05/28/2025	06/04/2025	Iwona Zarych	None	WETCHEM_FIPETTE_3 (WC)	Jignesh Parikh 05/28/2025
<b><u>FROM</u></b> 9.00000ml of W3112 + 1.00000ml of WP113231 = Final Quantity: 10.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
135	COD calibration std. 150 ppm	<a href="#">WP113238</a>	05/28/2025	06/04/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 05/28/2025
<u>FROM</u>	8.50000ml of W3112 + 1.50000ml of WP113231 = Final Quantity: 10.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2459	COD ICV-LCS std, 50ppm	<a href="#">WP113240</a>	05/28/2025	06/04/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 05/28/2025
<u>FROM</u>	9.50000ml of W3112 + 0.50000ml of WP113232 = Final Quantity: 10.000 ml							

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<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1639	Ammonia Intermediate Std-Second source, 50PPM	<a href="#">WP113449</a>	06/09/2025	07/09/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 06/10/2025
<b><u>FROM</u></b> 95.00000ml of W3112 + 5.00000ml of WP112612 = Final Quantity: 100.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1322	Ammonia Intermediate Std, 50PPM	<a href="#">WP113450</a>	06/09/2025	07/09/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 06/10/2025
<b><u>FROM</u></b> 95.00000ml of W3112 + 5.00000ml of WP112611 = Final Quantity: 100.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
148	hexchrome digestion fluid	<a href="#">WP113608</a>	06/23/2025	07/23/2025	Rubina Mughal	WETCHEM_SCALE_8 (WC SC-7)	None	Iwona Zarych 06/23/2025
<b>FROM</b> 120.00000gram of W3163 + 4.00000L of W3112 + 80.00000gram of W3113 = Final Quantity: 4000.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3456	Cyanide Intermediate Working Std, 5PPM	<a href="#">WP113822</a>	07/07/2025	07/07/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych 07/07/2025
<b><u>FROM</u></b> 0.25000ml of W3214 + 49.75000ml of WP111294 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4	Calibration standard 500 ppb	<a href="#">WP113823</a>	07/07/2025	07/07/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<p>(WC)</p> <p><b>FROM</b> 45.00000ml of WP111294 + 5.00000ml of WP113822 = Final Quantity: 50.000 ml</p>								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
3761	Calibration-CCV CN Standard 250 ppb	<a href="#">WP113824</a>	07/07/2025	07/07/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 07/07/2025
<b><u>FROM</u></b> 2.50000ml of WP113822 + 47.50000ml of WP111294 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
6	Calibration Standard 100 ppb	<a href="#">WP113825</a>	07/07/2025	07/07/2025	Rubina Mughal	None	WETCHEM_FIPETTE_3 (WC)	Iwona Zarych 07/07/2025
<u>FROM</u>	1.00000ml of WP113822 + 48.00000ml of WP111294 = Final Quantity: 50.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
7	Calibration Standard 50 ppb	<a href="#">WP113826</a>	07/07/2025	07/07/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 07/07/2025
<u>FROM</u>	0.50000ml of WP113822 + 49.50000ml of WP111294 = Final Quantity: 50.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
8	Calibration Standard 10 ppb	<a href="#">WP113827</a>	07/07/2025	07/07/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<p><b>FROM</b> 1.00000ml of WP113823 + 49.00000ml of WP111294 = Final Quantity: 50.000 ml</p>								





<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
9	Calibration Standard 5 ppb	<a href="#">WP113828</a>	07/07/2025	07/07/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<p>(WC)</p> <p><b>FROM</b> 0.50000ml of WP113823 + 49.50000ml of WP111294 = Final Quantity: 50.000 ml</p>								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
167	0 ppb CN calibration std	<a href="#">WP113829</a>	07/07/2025	07/07/2025	Rubina Mughal	None	None	Iwona Zarych 07/07/2025
<b><u>FROM</u></b> 50.00000ml of WP111294 = Final Quantity: 50.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
1582	Chloramine T solution, 0.014M	<a href="#">WP113831</a>	07/07/2025	07/08/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	Glass Pipette-A	Iwona Zarych 07/07/2025
<u>FROM</u>	0.08000gram of W3139 + 20.00000ml of W3112 = Final Quantity: 20.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
295	TKN Calibration Std (10 ppm)	<a href="#">WP113832</a>	07/07/2025	07/14/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3	Iwona Zarych
<b>FROM</b> 49.50000ml of W3112 + 0.50000ml of WP112611 = Final Quantity: 50.000 ml <div></div>								

## Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
297	TKN CCV STD 5 ppm	<a href="#">WP113833</a>	07/07/2025	07/14/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych  07/07/2025
<b>FROM</b> 49.75000ml of W3112 + 0.25000ml of WP112611 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
296	TKN ICV STD 5 ppm	<a href="#">WP113834</a>	07/07/2025	07/14/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych  07/07/2025
<b>FROM</b> 49.75000ml of W3112 + 0.25000ml of WP112612 = Final Quantity: 50.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
298	TKN LCS STD 5 ppm	<a href="#">WP113835</a>	07/07/2025	07/14/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 07/07/2025
<b><u>FROM</u></b> 49.75000ml of W3112 + 0.25000ml of WP112612 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
114	hexavalent chromium color reagent	<a href="#">WP113840</a>	07/08/2025	07/15/2025	Rubina Mughal	WETCHEM_S CALE_5 (WC SC-5)	None	Iwona Zarych  07/08/2025
<b><u>FROM</u></b> 0.25000gram of W2979 + 50.00000ml of E3949 = Final Quantity: 50.000 ml								



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2456	COD Stock std, 1000ppm	<a href="#">WP113841</a>	07/08/2025	07/15/2025	Iwona Zarych	WETCHEM_SCALE_7 (WC SC-6)	None	Jignesh Parikh 07/09/2025
<u>FROM</u>	0.08500gram of W3219 + 100.00000ml of W3112 = Final Quantity: 100.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2457	COD Stock std-SS, 1000ppm	<a href="#">WP113842</a>	07/08/2025	07/15/2025	Iwona Zarych	WETCHEM_SCALE_7 (WC SC-6)	None	Jignesh Parikh 07/09/2025
<b><u>FROM</u></b>	0.08500gram of W3169 + 100.00000ml of W3112 = Final Quantity: 100.000 ml							



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2458	COD CCV std, 50ppm	<a href="#">WP113843</a>	07/08/2025	07/15/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 07/09/2025
<u>FROM</u>	9.50000ml of W3112 + 0.50000ml of WP113841 = Final Quantity: 10.000 ml							

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
2459	COD ICV-LCS std, 50ppm	<a href="#">WP113844</a>	07/08/2025	07/15/2025	Iwona Zarych	None	WETCHEM_PIPETTE_3 (WC)	Jignesh Parikh 07/09/2025
<u>FROM</u>	9.50000ml of W3112 + 0.50000ml of WP113842 = Final Quantity: 10.000 ml							

## Wet Chemistry STANDARD PREPARATION LOG

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
4162	RL CHECK	<a href="#">WP113845</a>	07/08/2025	07/15/2025	Iwona Zarych	None	WETCHEM_F IPETTE_3 (WC)	Jignesh Parikh  07/09/2025

**FROM** 9.90000ml of W3112 + 0.10000ml of WP113841 = Final Quantity: 10.000 ml

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
275	Ammonia Calibration Std. (2 ppm)	<a href="#">WP113849</a>	07/09/2025	07/09/2025	Rubina Mughal	None	WETCHEM_F IPETTE_3 (WC)	Iwona Zarych  07/09/2025

**FROM** 48.00000ml of W3112 + 2.00000ml of WP113450 = Final Quantity: 50.000 ml



<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
285	Ammonia CCV Std. (1 ppm)	<a href="#">WP113850</a>	07/09/2025	07/09/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 07/09/2025
<b><u>FROM</u></b> 49.00000ml of W3112 + 1.00000ml of WP113450 = Final Quantity: 50.000 ml								

<u>Recipe ID</u>	<u>NAME</u>	<u>NO.</u>	<u>Prep Date</u>	<u>Expiration Date</u>	<u>Prepared By</u>	<u>ScaleID</u>	<u>PipetteID</u>	<u>Supervised By</u>
740	sodium nitroferricyanide for ammonia	<a href="#">WP113852</a>	07/09/2025	08/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCS-5)	None	Iwona Zarych 07/09/2025
<b><u>FROM</u></b> 0.05000gram of W2666 + 99.95000ml of W3112 = Final Quantity: 100.000 ml								



## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19631-100 / SODIUM SULFATE, ANHYDROUS, PEST GRADE, 1	313201	12/04/2025	01/03/2024 / Rajesh	07/20/2023 / Rajesh	E3551

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-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)	24H2762008	04/18/2027	07/08/2025 / RITESHKUMAR	07/03/2025 / RUPESH	E3949

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	08/16/2024 / mohan	08/16/2024 / mohan	M6041

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	08/18/2025	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-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	03/10/2025 / Eman	02/02/2025 / Sagar	M6158

## CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA14125-36 / LEAD (II) CHROMATE, ACS, 500G	U19B018	01/23/2027	01/23/2017 / apatel	01/23/2017 / apatel	W2202

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.	87683 / Sodium Nitroferrocyanide 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, CRYST, 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.	J3568-1 / Sodium Borate, 500 gms	2019111354	04/23/2025	04/23/2020 / apatel	03/11/2020 / apatel	W2700

## CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	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 #
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.	31390 / 1,5-Diphenylcarbazine	MKCR6636	12/09/2027	12/09/2022 / lwona	12/09/2022 / lwona	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 / lwona	11/21/2022 / lwona	W2983

## 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%	SHBP8192	02/27/2028	02/27/2023 / lwona	02/27/2023 / lwona	W3009

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 / lwona	02/20/2020 / lwona	W3012

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 / lwona	04/03/2023 / lwona	W3019

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 / lwona	02/26/2024 / lwona	W3082

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 / lwona	07/03/2024 / lwona	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 / lwona	07/08/2024 / lwona	W3113

## CHEMICAL RECEIPT LOG BOOK

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	13821	10/31/2027	06/16/2025 / lwona	07/25/2024 / lwona	W3129

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 / lwona	07/26/2024 / lwona	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 / lwona	08/22/2024 / lwona	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 / lwona	09/09/2024 / lwona	W3139

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 / lwona	10/07/2024 / lwona	W3148

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

## 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 / lwona	12/10/2024 / lwona	W3163

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3252-1 / POTAS PHOSPHATE, DIBASIC PWD, ACS, 500G	24H0856239	04/19/2028	01/03/2025 / lwona	01/03/2025 / lwona	W3168

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 / lwona	01/03/2025 / lwona	W3169

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	45010168	07/17/2025	01/24/2025 / lwona	01/24/2025 / lwona	W3173

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	2501J28	07/31/2025	01/24/2025 / lwona	01/24/2025 / lwona	W3174

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 / lwona	03/10/2025 / lwona	W3186

## 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	24L0356561	08/31/2027	03/19/2025 / lwona	03/19/2025 / lwona	W3195

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 / lwona	03/19/2025 / lwona	W3196

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 / lwona	04/11/2025 / lwona	W3199

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	WXBFB3271V	05/16/2029	04/21/2025 / lwona	04/21/2025 / lwona	W3203

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.	J3246-1 / POTAS PHOSPHATE, MONO, CRYST, ACS, 500G	MKCC1379	01/31/2029	04/29/2025 / lwona	04/29/2025 / lwona	W3206

### CHEMICAL RECEIPT LOG BOOK

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

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



# Certificate of analysis

Product No. 14125  
Product: Lead(II) chromate, ACS, 98%  
Lot No.: U19B018

Test	Limits	Results
Assay	98.0 % min	99.3 %
Soluble matter	0.15 % max	< 0.02 %
Carbon compounds	0.01 % max	< 0.01 %

Traceable to NIST? Yes

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S C I E N T I F I C

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 %

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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 ( $\text{CH}_3(\text{CH}_2)_{14}\text{CH}_3$ ) (by GC)	$\geq 99.0 \%$	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

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

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	40.5°C min	40.5 °C
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

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W2666 Recived on 02/10/2020 by AP

Product No.: 87683

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

Lot No.: W12F013

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

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

---

**CAS Number:** 57-11-4  
**Molecular Formula:** C<sub>18</sub>H<sub>36</sub>O<sub>2</sub>  
**Molecular Weight:** 284.48  
**InChI Key:** QIQXTHQIDYTRH-UHFFFAOYSA-N  
**SMILES:** CCCCCCCCCCCCCCCC(O)=O  
**Synonym:** stearic acid acide steorique hydrofol acid 1855 hydrofol acid 1655 industrene 5016  
stearic acid, ion(1-) (8Cl) glycon TP glycon DP acidum stearinicum 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

---

**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.*

~~112778~~ W2983  
Rec. 11/21/22 12

Product Name:

**Certificate of Analysis****Potassium sulfate - ReagentPlus® , ≥99.0%**

**Product Number:** P0772  
**Batch Number:** SLCM9788  
**Brand:** SIGALD  
**CAS Number:** 7778-80-5  
**MDL Number:** MFCD00011388  
**Formula:** K<sub>2</sub>O<sub>4</sub>S  
**Formula Weight:** 174.26 g/mol  
**Quality Release Date:** 03 MAR 2022



Test	Specification	Result
Appearance (Color)	White	White
Appearance (Form)	Powder	Powder
Solubility (Color)	Colorless	Colorless
Solubility (Turbidity)	Clear	Clear
10 g plus 150 mL, H <sub>2</sub> O		
Titration with NaOH	≥ 99.0 %	99.2 %



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

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



W3009  
rec. 2/27/2023 12

Product Name:

Hexadecane - ReagentPlus®, 99%

## Certificate of Analysis

Product Number:

H6703

Batch Number:

SHBP8192

 $\text{CH}_3(\text{CH}_2)_{14}\text{CH}_3$ 

Brand:

SIAL

CAS Number:

544-76-3

MDL Number:

MFCD00008998

Formula:

C16H34


Formula Weight:

226.44 g/mol

Quality Release Date:

04 AUG 2022

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

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W3019  
rec 4/3/23

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: [www.sigmaaldrich.com](http://www.sigmaaldrich.com)Email USA: [techserv@sial.com](mailto:techserv@sial.com)Outside USA: [eurtechserv@sial.com](mailto: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:

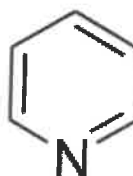
C<sub>5</sub>H<sub>5</sub>N

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 warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



# Certificate Of Analysis



Date of Release: 11/14/2019

W2700 Recived by AP on 3/11/2020

Name: **Sodium Borate, Decahydrate**  
ACS

Item No: **SX0355 All Sizes**

Lot / Batch No: **2019111354**

Country of Origin: **India**

Item	Specifications	Analysis
Assay (Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> • 10H <sub>2</sub> O)	99.5 - 105.0%	101.7%
Calcium (Ca)	0.005% max.	0.003%
Chloride (Cl)	0.001% max.	<0.001%
Color	White	Passes Test
Form	Crystals	Passes Test
Heavy Metals (as Pb)	0.001% max.	<0.001%
Insoluble Matter	0.005% max.	0.002%
Iron (Fe)	5 ppm max.	<5 ppm
pH of a 0.01 M solution at 25C	9.15 - 9.20	9.17
Phosphate (PO <sub>4</sub> )	0.001% max.	<0.001%
Sulfate (SO <sub>4</sub> )	0.005% max.	<0.005%

Joe Schoellkopf

-----  
Quality Control Manager

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

EMD Millipore Corporation

400 Summit Drive  
Burlington, MA 01803  
U.S.A.

Form number: 00005624CA, Rev. 2.0



## Certificate of Analysis

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

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

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Catalog Number	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

*Jerusa Bailey-Wyche*

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

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

\*Based on suggested storage condition.

Certificate of Analysis

**ThermoFisher**  
SCIENTIFIC

## Certificate of Analysis

1 Reagent Lane

Fair Lawn, NJ 07410

201.796.7100 tel

201.796.1329 fax

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Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

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

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



Julian Burton - 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.



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

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

## CERTIFICATE OF ANALYSIS

PRODUCT :	SODIUM SULFATE CRYSTALS ANHYDROUS		
QUALITY :	ACS (CODE RMB3375)	FORMULA :	Na <sub>2</sub> SO <sub>4</sub>
SPECIFICATION NUMBER :	6399	RELEASE DATE:	ABR/21/2023
LOT NUMBER :	313201		

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na <sub>2</sub> SO <sub>4</sub> )	Min. 99.0%	99.7 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.1
Insoluble matter	Max. 0.01%	0.005 %
Loss on ignition	Max. 0.5%	0.1 %
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (as N)	Max. 5 ppm	<5 ppm
Phosphate (PO <sub>4</sub> )	Max. 0.001%	<0.001 %
Heavy metals (as Pb)	Max. 5 ppm	<5 ppm
Iron (Fe)	Max. 0.001%	<0.001 %
Calcium (Ca)	Max. 0.01%	0.002 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.003 %
Extraction-concentration suitability	Passes test	Passes test
Appearance	Passes test	Passes test
Identification	Passes test	Passes test
Solubility and foreign matter	Passes test	Passes test
Retained on US Standard No. 10 sieve	Max. 1%	0.1 %
Retained on US Standard No. 60 sieve	Min. 94%	97.3 %
Through US Standard No. 60 sieve	Max. 5%	2.5 %
Through US Standard No. 100 sieve	Max. 10%	0.1 %

### COMMENTS

QC: PhC Irma Belmares

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

Recd. by R3 on 7/24/23 E 3551

RC-02-01, Ed. 3

Acetone

BAKER RESI-ANALYZED® Reagent  
For Organic Residue Analysis

avantor™



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 <sub>3</sub> ) <sub>2</sub> CO) (by GC, corrected for water)	>= 99.4 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.0 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (μeq/g)	<= 0.3	0.2
Titration Base (μeq/g)	<= 0.6	<0.1
Water (H <sub>2</sub> O)	<= 0.5 %	<0.1 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	1

For Laboratory, Research, or Manufacturing Use

MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States

Packaging Site: Phillipsburg Mfg Ctr & DC

Recd by RP on 03/31/25

E3917

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

Acetone

BAKER RESI-ANALYZED® Reagent  
For Organic Residue Analysis

Avantor™



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 <sub>3</sub> ) <sub>2</sub> CO) (by GC, corrected for water)	>= 99.4 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.0 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titration Acid (µeq/g)	<= 0.3	0.2
Titration Base (µeq/g)	<= 0.6	<0.1
Water (H <sub>2</sub> O)	<= 0.5 %	<0.1 %
FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)	<= 10	1

For Laboratory, Research, or Manufacturing Use

MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States

Packaging Site: Phillipsburg Mfg Ctr & DC

Reed on 7/2/25

E3949

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



R: 02/20/20  
53

Instructions for QATS Reference Material: *Inorganic ICV Solutions*

For ICP-MS use: dilute the ICV1 concentrate 50-fold with 1% (v/v) nitric acid; pipet 2 mL of the 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: dilute the ICV5 concentrate 100-fold with 2% (v/v) nitric acid; pipet 1 mL of the 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: dilute the ICV6 concentrate 100-fold with Type II water; pipet 1 mL of the 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	2520	504
Sb	1010	202
As	997	199
Ba	518	104
Be	514	103
Cd	514	103
Ca	10000	2000
Cr	517	103
Co	521	104
Cu	505	101
Fe	10100	2020
Pb	1030	206
Mg	5990	1198
Mn	524	105
Ni	525	105
K	9940	1988
Se	1030	206
Ag	252	50
Na	10100	2020
Tl	1040	208
V	504	101
Zn	1010	202

ICV5-0415		ICV6-0400	
Element	Concentration (µg/L) (after 100-fold dilution)	Analyte	Concentration (µg/L) (after 100-fold dilution)
Hg	4.0	CN <sup>-</sup>	99

W3011  
W3012  
W3013  
W3014  
W3015



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

avantor™



M 6041-4b  
MS

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 <sub>2</sub> SO <sub>4</sub> )	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 SO <sub>2</sub> )	≤ 2 ppm	< 2 ppm
Ammonium (NH <sub>4</sub> )	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO <sub>3</sub> )	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO <sub>4</sub> )	≤ 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

 **avantorsm**



Material No.: 9673-33  
Batch No.: 23D2462010

Test	Specification	Result
Trace Impurities - Sodium (Na)	$\leq 500.0$ ppb	5.4 ppb
Trace Impurities - Strontium (Sr)	$\leq 5.0$ ppb	< 0.2 ppb
Trace Impurities - Tin (Sn)	$\leq 5.0$ ppb	< 0.8 ppb
Trace Impurities - Zinc (Zn)	$\leq 5.0$ ppb	0.4 ppb

For Laboratory, Research, or Manufacturing Use

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

  
Jamie Ethier  
Vice President Global Quality

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

 **avantor™**



M6151

R → 11/15/25

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 <sub>2</sub> )	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO <sub>4</sub> )	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO <sub>4</sub> )	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO <sub>3</sub> )	≤ 0.8 ppm	0.3 ppm
Ammonium (NH <sub>4</sub> )	≤ 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

 **avantorsm**



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



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

Test	Specification	Result
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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

A handwritten signature in cursive script that reads 'Jamie Ethier'.  
Jamie Ethier  
Vice President Global Quality

Nitric Acid 69%  
CMOS

avantor™



R- 0210212025

m - 6158

Material No.: 9606-03  
Batch No.: 24D1062002  
Manufactured Date: 2024-03-26  
Retest Date: 2029-03-25  
Revision No.: 0

## Certificate of Analysis

Test	Specification	Result
Assay (HNO <sub>3</sub> )	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 <sub>4</sub> )	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO <sub>4</sub> )	≤ 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	< 10.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities – Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities – Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities – Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities – Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities – Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%  
CMOS

 **avantors<sup>TM</sup>**



Material No.: 9606-03  
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%  
CMOS

 **avantors<sup>TM</sup>**



Material No.: 9606-03  
Batch No.: 24D1062002

Test	Specification	Result
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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 ( $\text{NaH}_2\text{PO}_4 \cdot \text{H}_2\text{O}$ )	98.0 – 102.0 %	99.5
pH of 5% Solution at 25°C	4.1 – 4.5	4.3
Insoluble Matter	$\leq 0.01$ %	$< 0.01$
Chloride (Cl)	$\leq 5$ ppm	$< 5$
ACS – Sulfate ( $\text{SO}_4$ )	$\leq 0.003$ %	$< 0.003$
Calcium (Ca)	$\leq 0.005$ %	$< 0.005$
Potassium (K)	$\leq 0.01$ %	$< 0.01$
Heavy Metals (as Pb)	$\leq 0.001$ %	$< 0.001$
Trace Impurities – Iron (Fe)	$\leq 0.001$ %	$< 0.001$

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

W 2979

Rec: 12/09/22

exp. 12/09/27

Product Name:

1,5-Diphenylcarbazide - ACS reagent

Product Number:

259225

Batch Number:

MKCR6636

Brand:

SIAL

CAS Number:

140-22-7

MDL Number:

MFCD00003013

Formula:

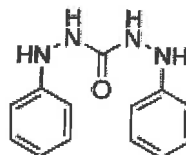
C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O

Formula Weight:

242.28 g/mol


Quality Release Date:

02 JUN 2022



## Certificate of Analysis

Test	Specification	Result
Appearance (Color)	Conforms to Requirements	Pink
Off-White to Pink, Light Purple or Tan		
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)	≤ 0.05 %	0.01 %
15 minutes, 800 Degrees Celsius		
Solubility	Pass	Pass
Sensitivity Test	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms



Larry Coers, Director  
Quality Control  
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



# 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.

Order our products online [www.alfa.com](http://www.alfa.com)

**ThermoFisher**  
S C I E N T I F I C



# 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:

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

Storage: Room Temperature

Pellets

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.



## Sodium Hydroxide (Pellets)

**Material:** 0583  
**Grade:** ACS GRADE  
**Batch Number:** 23B1556310

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

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

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.

W3127 rec. 7/25/24 12  
W3128 exp. 10/31/27  
W3129

**ENVIRONMENTAL EXPRESS**  
Charleston, SC USA  
[www.envexp.com](http://www.envexp.com)  
(800) 343-5319

October 27, 2022

**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 20<sup>th</sup>, 1980, page 26811) and as such can be used for National Pollution Discharge Elimination System (NPDES) reporting.

<u>Cat. No.</u>	<u>Lot No.</u>	<u>Product Description</u>
B1010	13821	COD Reagent Vials, 0 - 150 ppm

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 <sub>2</sub> ) <sub>3</sub> N]		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.



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](https://thermofisher.com/chemicals)

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

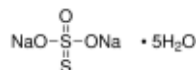
Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

## 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:** Na<sub>2</sub>O<sub>3</sub>S<sub>2</sub> · 5H<sub>2</sub>O  
**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	Confirmed	Confirmed
Confirms Sodium and Sulfur Components		
Titration by Iodine	99.5 - 101.0 %	100.2 %
pH	6.0 - 8.4	6.1
c = 5%; Water; At 25 Deg C		
Insoluble Matter	≤ 0.005 %	< 0.001 %
c = 10%; Water		
Nitrogen Compounds	≤ 0.002 %	< 0.002 %
Sulfate & Sulfite (as SO <sub>4</sub> )	≤ 0.1 %	< 0.1 %
Sulfide	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms
Recommended Retest Period	-----	-----
5 Years		



Larry Coers, Director  
Quality Control  
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



# *Chem-Impex International, Inc.*

---

**Tel: (630) 766-2112****E-mail: sales@chemimpex.com****Shipping and Correspondence:**

935 Dillon Drive

Wood Dale, IL 60191

**Fax: (630) 766-2218****Web site: www.chemimpex.com****Manufacturing site:**

825 Dillon Drive

Wood Dale, IL 60191

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## *Certificate of Analysis*

<b>Catalogue Number</b>	01237
<b>Lot Number</b>	002126-2019-201
<b>Product</b>	<b>Magnesium chloride hexahydrate</b>

Magnesium chloride•6H<sub>2</sub>O

<b>CAS Number</b>	7791-18-6
<b>Molecular Formula</b>	MgCl <sub>2</sub> •6H <sub>2</sub> O

<b>Molecular Weight</b>	203.3
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<b>Appearance</b>	White crystals
<b>Solubility</b>	167 g in 100 mL water
<b>Melting Point</b>	~ 115 °C
<b>Heavy Metals</b>	4.393 ppm
<b>Anion</b>	Nitrate (NO <sub>3</sub> ) : < 0.001% Phosphate (PO <sub>4</sub> ) : < 5 ppm Sulfate (SO <sub>4</sub> ) : < 0.002%
<b>Cation</b>	Ammonium (NH <sub>4</sub> ) : < 0.002% Barium (Ba) : 0.005% Calcium (Ca) : 0.01% Iron (Fe) : 4.5 ppm Manganese (Mn) : 0.624 ppm Potassium (K) : 0.004% Sodium (Na) : 0.000003% Strontium (Sr) : 0.005%
<b>Insoluble material</b>	0.0021%
<b>Assay by titration</b>	100.83%
<b>Grade</b>	ACS reagent
<b>Storage</b>	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**

A handwritten signature in black ink, appearing to read 'Bala Kumar', with a stylized flourish at the end.

**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 Na<sub>2</sub>CO<sub>3</sub>  
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	Additional Information
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	Analysis may have been rounded to significant digits in specification limits  Product meets analytical specifications of the grades listed.



Material	BDH9266-500G
Material Description	BDH POTASS PHOSPHAT DBSC 500GM
Grade	ACS GRADE
Batch	24H0856239
Reassay Date	04/19/2028
CAS Number	7758-11-4
Molecular Formula	K <sub>2</sub> HPO <sub>4</sub>
Molecular Mass	174.18
Date of Manufacture	04/19/2024
Storage	Room Temperature

Characteristics	Specifications	Measured Values
Appearance	Fine white crystalline powder	Fine white crystalline powder
Chloride	<= 0.003 %	0.002 %
Heavy Metals (as Pb)	<= 0.0005 %	<0.0005 %
Insolubles	<= 0.01 %	<0.01 %
Iron	<= 0.001 %	<0.001 %
Loss on Drying	<= 1.0 %	<0.5 %
Nitrogen Compounds	<= 0.001 %	<0.001 %
pH (5%, Water) @25C	8.5 - 9.6	8.8
Purity	>= 98.0 %	99.1 %
Sodium	<= 0.05 %	<0.05 %
Sulfate	<= 0.005 %	<0.002 %
CUSTOMER PART # BDH9266-500G		

Internal ID #: 793

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



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	HOCC6H4COOK
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	Additional Information
<p>We certify that this batch conforms to the specifications listed above.</p> <p>This document has been electronically produced and is valid without a signature.</p> <p>Leona Edwardson, Quality Control Sr. Manager - Solon VWR Chemicals, LLC. 28600 Fountain Parkway, Solon OH 44139 USA</p>	<p>Analysis may have been rounded to significant digits in specification limits</p> <p>Product meets analytical specifications of the grades listed.</p>



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: January 16, 2025

Lot Number: **45010168**

Expiration Date: July 17, 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](http://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 org	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  
2025011610:36:11bsturges-0-0

ISO9001:2015 Registration #0306-01



# Certificate of Analysis

## Sodium Hypochlorite Solution, 5% available Chlorine

**Lot Number:** 2501J28**Product Number:** 7495.5**Manufacture Date:** JAN 17, 2025**Expiration Date:** JUL 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) $\text{Cl}_2$	5.17 % (w/w) $\text{Cl}_2$	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
7495.5-8	250 mL amber poly	6 months

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

Jose Pena (01/17/2025)  
Operations Manager

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.



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	SiO <sub>2</sub>
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	Additional Information
<p>We certify that this batch conforms to the specifications listed above.</p> <p>This document has been electronically produced and is valid without a signature.</p> <p>Leona Edwardson, Quality Control Sr. Manager - Solon VWR Chemicals, LLC. 28600 Fountain Parkway, Solon OH 44139 USA</p>	<p>Analysis may have been rounded to significant digits in specification limits</p> <p>Product meets analytical specifications of the grades listed.</p>

# 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	NH <sub>4</sub> Cl
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

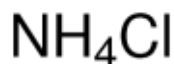
Signature	Additional Information
<p>We certify that this batch conforms to the specifications listed above.</p> <p>This document has been electronically produced and is valid without a signature.</p> <p>Leona Edwardson, Quality Control Sr. Manager - Solon VWR Chemicals, LLC. 28600 Fountain Parkway, Solon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

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 AgNO <sub>3</sub>	≥ 99.5 %	100.2 %
pH	4.5 - 5.5	4.9
@ 25 Deg c (5% Solution)		
Insoluble Matter	≤ 0.005 %	0.001 %
10%, H <sub>2</sub> O		
Residue on ignition (Ash)	≤ 0.01 %	< 0.01 %
Calcium (Ca)	≤ 0.001 %	< 0.001 %
Magnesium (Mg)	≤ 5 ppm	1 ppm
Heavy Metals	≤ 5 ppm	< 1 ppm
by ICP		
Iron (Fe)	≤ 2 ppm	< 1 ppm
Phosphate (PO <sub>4</sub> )	≤ 2 ppm	< 2 ppm
Sulfate (SO <sub>4</sub> )	≤ 0.002 %	< 0.002 %
Meets ACS Requirements	Current ACS Specification	Conforms
Recommended Retest Period	-----	-----
3 Years		



Larry Coers, Director

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



## Certificate of Analysis

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

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Quality Control  
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.





Material  
Material Description  
Grade

BDH9312-2.5KG  
COPPER SULFATE CRYST 2500GM  
U S P REAGENT (ACS GRADE)

Batch  
Reassay Date  
CAS Number  
Molecular Formula  
Molecular Mass

24H0956271  
05/31/2027  
7758-99-8  
CuSO<sub>4</sub>.5H<sub>2</sub>O  
249.68

Date of Manufacture  
Storage

05/01/2024  
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

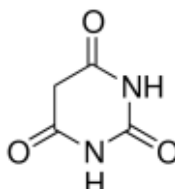
Signature	Additional Information
<p>We certify that this batch conforms to the specifications listed above.</p> <p>This document has been electronically produced and is valid without a signature.</p> <p>Leona Edwardson, Quality Control Sr. Manager - Solon VWR Chemicals, LLC. 28600 Fountain Parkway, Solon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

## Certificate of Analysis

Product Name:

Barbituric acid - ReagentPlus®, 99%

Product Number: 185698  
Batch Number: WXBFB3271V  
Brand: SIAL  
CAS Number: 67-52-7  
Formula: C<sub>4</sub>H<sub>4</sub>N<sub>2</sub>O<sub>3</sub>  
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 %)	≥ 98 %	100 %
VPCT		



Kang Chen  
Quality Manager  
Wuxi, China CN

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



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

avantor™



W3204  
084K: 09/22/2025  
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)	$\leq 5$	1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	$\leq 10$	6
ECD-Sensitive Impurities (as EthyleneDibromide) - Single Impurity Peak (ng/mL)	$\leq 5$	5
Assay (Total Saturated C <sub>6</sub> Isomers) (by GC, corrected for water)	$\geq 99.5 \%$	100.0 %
Assay (as n-Hexane) (by GC, corrected for water)	$\geq 95 \%$	100 %
Color (APHA)	$\leq 10$	10
Residue after Evaporation	$\leq 1.0 \text{ ppm}$	0.1 ppm
Substances Darkened by H <sub>2</sub> SO <sub>4</sub>	Passes Test	Passes Test
Water (by KF, coulometric)	$\leq 0.05 \%$	$< 0.01 \%$

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

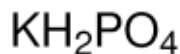


## Certificate of Analysis

Product Name:

Potassium phosphate monobasic - ACS reagent, ≥99.0%

**Product Number:** P0662  
**Batch Number:** MKCX1379  
**Brand:** SIGALD  
**CAS Number:** 7778-77-0  
**MDL Number:** MFCD00011401  
**Formula:** H<sub>2</sub>KO<sub>4</sub>P  
**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	≤ 0.2 %	< 0.1 %
At 105°C		
pH	4.1 - 4.5	4.5
(c = 5%, 25 deg C)		
Chloride Content	≤ 0.001 %	< 0.001 %
Sulfate (SO <sub>4</sub> )	≤ 0.003 %	< 0.003 %
Heavy Metals	≤ 0.001 %	< 0.001 %
by ICP		
Iron (Fe)	≤ 0.002 %	< 0.001 %
Sodium (Na)	≤ 0.005 %	< 0.001 %
Recommended Retest Period	-----	-----
4 Years		



Larry Coers, Director  
Quality Control  
Milwaukee, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



# Certificate of Analysis

## Cyanide Standard, 1000 ppm CN<sup>-</sup>

**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 certified 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 <sup>-</sup> )	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 <sup>-</sup> )	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 <sup>-</sup> )	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

This test report shall not be reproduced, except in full, without the written approval of Ricca Chemical Company.

# 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 Schoellkopf

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Quality Control Manager

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

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EMD Millipore Corporation

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