

## Prep Standard - Chemical Standard Summary

**Order ID :** Q3363

**Test :** Hexavalent Chromium,Percent Solids,TOC

**Prepbatch ID :** PB170150,

**Sequence ID/Qc Batch ID:** LB137582,LB137587,

**Standard ID :**

WP112830,WP112831,WP112903,WP113780,WP113880,WP113881,WP114035,WP114036,WP114037,WP114038,WP  
114039,WP114040,WP114041,WP114310,WP114900,WP115035,WP115168,WP115235,WP115276,WP115277,

**Chemical ID :**

E3979,M6041,M6151,M6158,M6162,W2202,W2651,W2652,W2860,W2979,W3112,W3113,W3152,W3163,W3168,W31  
69,W3206,W3219,

## 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> |
|------------------|---------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 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

| <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> |
|------------------|------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 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



| <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>       |
|----------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------|------------------|------------------------|--------------------|---------------------------|------------------|----------------------------|
| 190                                                                                                            | HEX CHROME PHOSPHATE BUFFER | <a href="#">WP112903</a> | 05/01/2025       | 11/01/2025             | Rubina Mughal      | WETCHEM_SCALE_8 (WC SC-7) | None             | Iwona Zarych<br>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 |                             |                          |                  |                        |                    |                           |                  |                            |

| <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>         |
|------------------|-----------------------------------------------------------------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------------|------------------------|------------------------------|
| 2051             | TOC STOCK STD-SS, 4000PPM                                                                     | <a href="#">WP113780</a> | 07/01/2025       | 01/01/2026             | Iwona Zarych       | WETCHEM_SCALE_5 (WC) | WETCHEM_PIPETTE_3 (WC) | Jignesh Parikh<br>07/02/2025 |
| <u>FROM</u>      | 2.50000ml of W2860 + 4.25600gram of W3219 + 495.00000ml of W3112 = Final Quantity: 500.000 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>           |
|-----------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------------------------|------------------|--------------------------------|
| 1993                                                                                          | HEXAVALENTCHROMIUM STOCK STD 1, 50PPM | <a href="#">WP113880</a> | 07/10/2025       | 01/10/2026             | Rubina Mughal      | WETCHEM_S<br>CALE_5 (WC<br>SC-5) | None             | Iwona Zarych<br><br>07/10/2025 |
| <b><u>FROM</u></b> 0.14140gram of W2651 + 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>           |
|-----------------------------------------------------------------------------------------------|---------------------------------------|--------------------------|------------------|------------------------|--------------------|----------------------------------|------------------|--------------------------------|
| 1994                                                                                          | HEXAVALENTCHROMIUM STOCK STD 2, 50PPM | <a href="#">WP113881</a> | 07/10/2025       | 01/10/2026             | Rubina Mughal      | WETCHEM_S<br>CALE_5 (WC<br>SC-5) | None             | Iwona Zarych<br><br>07/10/2025 |
| <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>         |
|-------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------|------------------|------------------------|--------------------|-------------------------|------------------|------------------------------|
| 2050                                                                                                              | TOC STOCK STD, 4000PPM | <a href="#">WP114035</a> | 07/22/2025       | 01/22/2026             | Iwona Zarych       | WETCHEM_SCALE_5 (WCS-5) | Glass Pipette-A  | Jignesh Parikh<br>07/22/2025 |
| <b><u>FROM</u></b> 5.00000ml of W2860 + 8.51200gram of W3169 + 990.00000ml 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>         |
|----------------------------------------------------------------------|-----------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|------------------------------|
| 304                                                                  | TOC CAL 0.00ppm | <a href="#">WP114036</a> | 07/22/2025       | 07/29/2025             | Iwona Zarych       | None           | None             | Jignesh Parikh<br>07/22/2025 |
| <b><u>FROM</u></b> 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>         |
|--------------------------------------------------------------------------------------------|---------------------|--------------------------|------------------|------------------------|--------------------|----------------|---------------------------|------------------------------|
| 712                                                                                        | TOC SOIL cal 250ppm | <a href="#">WP114037</a> | 07/22/2025       | 07/29/2025             | Iwona Zarych       | None           | WETCHEM_PIPETTE_3<br>(WC) | Jignesh Parikh<br>07/22/2025 |
| <b><u>FROM</u></b> 15.00000ml of W3112 + 1.00000ml of WP114035 = Final Quantity: 16.000 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>         |
|--------------------------------------------------------------------------------------------|---------------------|--------------------------|------------------|------------------------|--------------------|----------------|---------------------------|------------------------------|
| 710                                                                                        | TOC SOIL cal 500ppm | <a href="#">WP114038</a> | 07/22/2025       | 07/29/2025             | Iwona Zarych       | None           | WETCHEM_FIPETTE_3<br>(WC) | Jignesh Parikh<br>07/22/2025 |
| <b><u>FROM</u></b> 14.00000ml of W3112 + 2.00000ml of WP114035 = Final Quantity: 16.000 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>             |
|------------------|---------------------------|--------------------------|------------------|------------------------|--------------------|----------------|--------------------|----------------------------------|
| 3544             | TOC SOIL Cal- CCV 1000PPM | <a href="#">WP114039</a> | 07/22/2025       | 07/29/2025             | Iwona Zarych       | None           | Glass<br>Pipette-A | Jignesh Parikh<br><br>07/22/2025 |

**FROM** 15.00000ml of W3112 + 5.00000ml of WP114035 = 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>             |
|------------------|----------------------|--------------------------|------------------|------------------------|--------------------|----------------|--------------------|----------------------------------|
| 713              | TOC SOIL cal 2000ppm | <a href="#">WP114040</a> | 07/22/2025       | 07/29/2025             | Iwona Zarych       | None           | Glass<br>Pipette-A | Jignesh Parikh<br><br>07/22/2025 |

**FROM** 5.00000ml of W3112 + 5.00000ml of WP114035 = 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>             |
|------------------|-----------------------|--------------------------|------------------|------------------------|--------------------|----------------|--------------------|----------------------------------|
| 2819             | TOC ICV-LCSS, 1000PPM | <a href="#">WP114041</a> | 07/22/2025       | 07/29/2025             | Iwona Zarych       | None           | Glass<br>Pipette-A | Jignesh Parikh<br><br>07/22/2025 |

**FROM** 15.00000ml of W3112 + 5.00000ml of WP113780 = 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>             |
|------------------|-----------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------------------|
| 3354             | Hexchrome Cleaning Solution | <a href="#">WP114310</a> | 08/19/2025       | 11/27/2025             | Rubina Mughal      | None           | None             | Jignesh Parikh<br><br>08/19/2025 |

**FROM** 182.00000ml of M6151 + 727.00000ml of W3112 + 91.00000ml of M6162 = 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>       |
|---------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|------------------|------------------------|--------------------|-------------------------|------------------|----------------------------|
| 148                                                                                                                 | hexchrome digestion fluid | <a href="#">WP114900</a> | 09/25/2025       | 10/25/2025             | Rubina Mughal      | WETCHEM_SCALE_8 (WCS-7) | None             | Iwona Zarych<br>09/26/2025 |
| <b><u>FROM</u></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>         |
|--------------------------------------------------------------------------------------------|-------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|------------------------------|
| 613                                                                                        | Phosphoric acid reagent | <a href="#">WP115035</a> | 10/02/2025       | 01/31/2026             | Iwona Zarych       | None           | None             | Jignesh Parikh<br>10/03/2025 |
| <b><u>FROM</u></b> 150.00000ml of W3112 + 50.00000ml of W2860 = Final Quantity: 200.000 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> |
|------------------|-----------------------------------|--------------------------|------------------|------------------------|--------------------|----------------|------------------|----------------------|
| 2435             | 1:1 PHOSPHORIC ACID FOR TOC SOILS | <a href="#">WP115168</a> | 10/10/2025       | 01/31/2026             | Iwona Zarych       | None           | None             | Sarabjit Jaswal      |
|                  |                                   |                          |                  |                        |                    |                |                  | 10/25/2025           |

**FROM** 50.00000ml of W2860 + 50.00000ml 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> |
|------------------|-----------------------------------|--------------------------|------------------|------------------------|--------------------|----------------------------------|------------------|----------------------|
| 114              | hexavalent chromium color reagent | <a href="#">WP115235</a> | 10/16/2025       | 10/23/2025             | Rubina Mughal      | WETCHEM_S<br>CALE_5 (WC<br>SC-5) | None             | Iwona Zarych         |
|                  |                                   |                          |                  |                        |                    |                                  |                  | 10/16/2025           |

**FROM** 0.25000gram of W2979 + 50.00000ml of E3979 = Final Quantity: 50.000 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>              |
|------------------|---------------------------|--------------------------|------------------|------------------------|--------------------|----------------|--------------------|-----------------------------------|
| 3544             | TOC SOIL Cal- CCV 1000PPM | <a href="#">WP115276</a> | 10/20/2025       | 10/27/2025             | Iwona Zarych       | None           | Glass<br>Pipette-A | Sarabjit Jaswal<br><br>10/25/2025 |

**FROM** 15.00000ml of W3112 + 5.00000ml of WP114035 = 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>              |
|------------------|-----------------------|--------------------------|------------------|------------------------|--------------------|----------------|--------------------|-----------------------------------|
| 2819             | TOC ICV-LCSS, 1000PPM | <a href="#">WP115277</a> | 10/20/2025       | 10/27/2025             | Iwona Zarych       | None           | Glass<br>Pipette-A | Sarabjit Jaswal<br><br>10/25/2025 |

**FROM** 15.00000ml of W3112 + 5.00000ml of WP113780 = Final Quantity: 20.000 ml

## CHEMICAL RECEIPT LOG BOOK

| Supplier         | ItemCode / ItemName                        | Lot #      | Expiration Date | Date Opened / Opened By  | Received Date / Received By | Chemtech Lot # |
|------------------|--------------------------------------------|------------|-----------------|--------------------------|-----------------------------|----------------|
| Seidler Chemical | BA-9254-03 / Acetone, Ultra Resi (cs/4x4L) | 24L1062001 | 10/04/2027      | 10/15/2025 / RITESHKUMAR | 09/29/2025 / Riteshkumar    | E3979          |

| 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 | 02/17/2026      | 02/18/2025 / Sagar      | 01/15/2025 / Sagar          | M6151          |

| Supplier         | ItemCode / ItemName                                   | Lot #      | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|------------------|-------------------------------------------------------|------------|-----------------|-------------------------|-----------------------------|----------------|
| Seidler Chemical | BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L) | 24D1062002 | 10/30/2025      | 03/10/2025 / Eman       | 02/02/2025 / Sagar          | M6158          |

| Supplier         | ItemCode / ItemName                                   | Lot #      | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|------------------|-------------------------------------------------------|------------|-----------------|-------------------------|-----------------------------|----------------|
| Seidler Chemical | BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L) | 24H0162012 | 11/27/2025      | 05/27/2025 / Sagar      | 04/27/2025 / Sagar          | M6162          |

| 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          |

## CHEMICAL RECEIPT LOG BOOK

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

| 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 # |
|------------------|---------------------|---------------------|-----------------|-------------------------|-----------------------------|----------------|
| 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 # |
|-----------------------------|------------------------------------------------------|-----------------|-----------------|-------------------------|-----------------------------|----------------|
| PCI Scientific Supply, Inc. | 01237-10KG / Megnasium Chloride Hexahydrate ACS 10KG | 002126-2019-201 | 11/25/2029      | 11/25/2024 / lwona      | 11/25/2024 / lwona          | W3152          |

| 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. | J3246-1 / POTAS PHOSPHATE, MONO, CRYST, ACS, 500G | MKCX1379 | 01/31/2029      | 04/29/2025 / lwona      | 04/29/2025 / lwona          | W3206          |

| 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 / lwona      | 06/26/2025 / lwona          | 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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**ThermoFisher**  
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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**This document has been electronically generated and does not require a signature.**

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

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

(orthophosphoric acid)



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

## Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

| Test                                                    | Specification  | Result  |
|---------------------------------------------------------|----------------|---------|
| Assay (H <sub>3</sub> PO <sub>4</sub> ) (by acidimetry) | 85.0 – 87.0 %  | 85.8    |
| Calcium (Ca)                                            | <= 0.002 %     | < 0.001 |
| Color (APHA)                                            | <= 10          | 5       |
| Insoluble Matter                                        | <= 0.001 %     | < 0.001 |
| ACS – Magnesium (Mg)                                    | <= 0.002 %     | < 0.002 |
| Sulfate (SO <sub>4</sub> )                              | <= 12 ppm      | < 4     |
| Volatile Acids (as CH <sub>3</sub> COOH)                | <= 0.001 %     | 0.001   |
| Reducing Substances                                     | Passes Test    | PT      |
| Chloride (Cl)                                           | <= 3 ppm       | < 1     |
| Nitrate (NO <sub>3</sub> )                              | <= 5 ppm       | < 2     |
| Trace Impurities – Antimony (Sb)                        | <= 20.000 ppm  | 0.007   |
| Trace Impurities – Arsenic (As)                         | <= 0.500 ppm   | < 0.001 |
| Trace Impurities – Iron (Fe)                            | <= 10.000 ppm  | < 1.000 |
| Heavy Metals (as Pb)                                    | <= 8 ppm       | < 3     |
| Trace Impurities – Manganese (Mn)                       | <= 0.500 ppm   | 0.005   |
| Trace Impurities – Potassium (K)                        | <= 40.000 ppm  | < 0.001 |
| Trace Impurities – Sodium (Na)                          | <= 200.000 ppm | 0.082   |

For Laboratory, Research or Manufacturing Use

Exceeds A.C.S. Specifications

Meets Reagent Specifications for testing USP/NF monographs

Country of Origin: US

Packaging Site: Phillipsburg Mfg Ctr & DC

  
Jamie Ethier  
Vice President Global Quality

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



## Certificate of Analysis

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

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

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

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

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

*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.

Acetone  
BAKER RESI-ANALYZED® Reagent  
For Organic Residue Analysis

 **avantors**™



Material No.: 9254-03

Batch No.: 24L1062001

Manufactured Date: 2024-10-04

Expiration Date: 2027-10-04

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 %     | 99.7 %      |
| Color (APHA)                                                            | <= 10         | 5           |
| Residue after Evaporation                                               | <= 1.0 ppm    | 0.3 ppm     |
| Substances Reducing Permanganate                                        | Passes Test   | Passes Test |
| Titration Acid (µeq/g)                                                  | <= 0.3        | 0.1         |
| Titration Base (µeq/g)                                                  | <= 0.6        | <0.1        |
| Water (H <sub>2</sub> O)                                                | <= 0.5 %      | 0.3 %       |
| FID-Sensitive Impurities (as 2-Octanol) Single Impurity Peak (ng/mL)    | <= 5          | <1          |
| ECD Sensitive Impurities (as Heptachlor Epoxide) Single Peak (pg/mL)    | <= 10         | 1           |

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

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

E3979



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

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

 **avantor™**

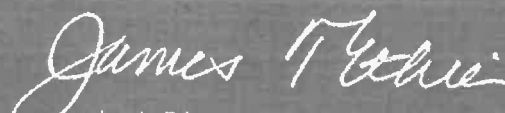


Material No.: 9673-33  
Batch No.: 23D2462010

| 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

 **avantor™**



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 |
|------|---------------|--------|
|------|---------------|--------|

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

 **avantor™**



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

 **avantor™**



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

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

For Microelectronic Use

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



Jamie Croak  
Director Quality Operations, Bioscience Production

Nitric Acid 69%  
CMOS

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



m-6162

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

R. Date :- 04/27/2025

## 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    | < 1.0 ppb   |
| Trace Impurities – Boron (B)      | ≤ 10.0 ppb    | 0.1 ppb     |
| Trace Impurities – Cadmium (Cd)   | ≤ 50 ppb      | < 1 ppb     |
| Trace Impurities – Calcium (Ca)   | ≤ 50.0 ppb    | 0.3 ppb     |
| Trace Impurities – Chromium (Cr)  | ≤ 30.0 ppb    | 0.1 ppb     |
| Trace Impurities – Cobalt (Co)    | ≤ 10.0 ppb    | < 1.0 ppb   |
| Trace Impurities – Copper (Cu)    | ≤ 10.0 ppb    | < 1.0 ppb   |
| Trace Impurities – Gallium (Ga)   | ≤ 10.0 ppb    | < 1.0 ppb   |
| Trace Impurities – Germanium (Ge) | ≤ 20 ppb      | < 1 ppb     |
| Trace Impurities – Gold (Au)      | ≤ 20 ppb      | < 1 ppb     |
| Heavy Metals (as Pb)              | ≤ 100 ppb     | < 50 ppb    |
| Trace Impurities – Iron (Fe)      | ≤ 40.0 ppb    | < 1.0 ppb   |
| Trace Impurities – Lead (Pb)      | ≤ 20.0 ppb    | < 1.0 ppb   |
| Trace Impurities – Lithium (Li)   | ≤ 10.0 ppb    | < 1.0 ppb   |
| Trace Impurities – Magnesium (Mg) | ≤ 20 ppb      | < 1 ppb     |
| Trace Impurities – Manganese (Mn) | ≤ 10.0 ppb    | < 1.0 ppb   |
| Trace Impurities – Nickel (Ni)    | ≤ 20.0 ppb    | < 1.0 ppb   |

>>> Continued on page 2 >>>

Nitric Acid 69%  
CMOS

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

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

>>> Continued on page 3 >>>

Nitric Acid 69%  
CMOS

 **avantor™**



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

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

For Microelectronic Use

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



Jamie Croak  
Director Quality Operations, Bioscience Production

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:

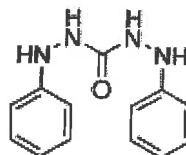
C<sub>13</sub>H<sub>14</sub>N<sub>4</sub>O

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



## 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

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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.

# Chem-Impex International, Inc.

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**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

---

## 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                                |

---

|                           |                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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%<br>Phosphate (PO <sub>4</sub> ) : < 5 ppm<br>Sulfate (SO <sub>4</sub> ) : < 0.002%                                                                                                    |
| <b>Cation</b>             | Ammonium (NH <sub>4</sub> ) : < 0.002%<br>Barium (Ba) : 0.005%<br>Calcium (Ca) : 0.01%<br>Iron (Fe) : 4.5 ppm<br>Manganese (Mn) : 0.624 ppm<br>Potassium (K) : 0.004%<br>Sodium (Na) : 0.000003%<br>Strontium (Sr) : 0.005% |
| <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**

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**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.<br><br>This document has been electronically produced and is valid without a signature.<br><br>Leona Edwardson, Quality Control Sr. Manager - Solon<br>VWR Chemicals, LLC.<br>28600 Fountain Parkway, Solon OH 44139 USA | Analysis may have been rounded to significant digits in specification limits<br><br>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<br/>VWR Chemicals, LLC.<br/>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

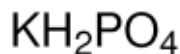
| Signature                                                                                                                                                                                                                                                                                                 | 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<br/>VWR Chemicals, LLC.<br/>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:

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



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

-----  
Quality Control Manager

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

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

EMD Millipore Corporation

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

Form number: 00005624CA, Rev. 2.0