284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900, Fax : 908 789 8922

# Prep Standard - Chemical Standard Summary

**Order ID :** Q1157

**Test :** Residual Chlorine,Turbidity

**Prepbatch ID :**

**Sequence ID/Qc Batch ID:** LB134371,LB134384,

**Standard ID :**
WP111542,WP111543,WP111544,WP111558,WP111559,WP111560,WP111561,WP111562,WP111563,WP111564,WP111565,WP111566,WP111567,WP111568,WP111569,WP111570,WP111571,WP111572,WP111573,WP111574,

**Chemical ID :**
W3078,W3081,W3112,W3116,W3130,W3131,W3147,

284 Sheffield Street, Mountainside, New Jersey 07092, Phone : 908 789 8900,
Fax : 908 789 8922

# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1167 | hydrazine sulfate solution 1 | WP111542 | 01/22/2025 | 02/22/2025 | Niha Farheen Shaik | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 01/28/2025 |

**FROM** 1.00000gram of W3078 + 99.00000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1843 | HEXAMETHYLENETETRAMINE SOLUTION 1 | WP111543 | 01/22/2025 | 02/22/2025 | Niha Farheen Shaik | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 01/28/2025 |

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

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1102 | Formazin turbidity 400 NTU suspension | WP111544 | 01/22/2025 | 02/22/2025 | Niha Farheen Shaik | WETCHEM_SCALE_5 (WCSC-5) | None | Iwona Zarych 01/28/2025 |

**FROM** 90.00000ml of W3112 + 5.00000ml of WP111542 + 5.00000ml of WP111543 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3713 | Turbidity Calibration std, 0NTU | WP111558 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | None | Iwona Zarych 01/28/2025 |

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

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3718 | Turbidity Calibration std, 40NTU | WP111559 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

**FROM** 90.00000ml of W3112 + 10.00000ml of WP111544 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3720 | Turbidity Calibration std, 1NTU | WP111560 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

**FROM** 97.50000ml of W3112 + 2.50000ml of WP111559 = Final Quantity: 100.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3722 | Turbidity Calibration std, 5NTU | WP111561 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

**FROM** 87.50000ml of W3112 + 12.50000ml of WP111559 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3807 | Turbidity Calibration - CCV std, 10 NTU | WP111562 | 01/23/2025 | 02/22/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

**FROM** 97.50000ml of W3112 + 2.50000ml of WP111544 = Final Quantity: 100.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3714 | Turbidity Calibration std, 20NTU | WP111563 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

**FROM** 95.00000ml of W3112 + 5.00000ml of WP111544 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3443 | Residual chlorine std, Intermediate 10PPM | WP111564 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

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

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3444 | Residual chlorine std, Intermediate-SS 10PPM | WP111565 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

**FROM** 42.50000ml of W3112 + 7.50000ml of W3131 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3710 | Chlorine Calibration std, 0.0ppm | WP111566 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | None | Iwona Zarych 01/28/2025 |

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

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3707 | Chlorine Calibration std, 0.1ppm | WP111567 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 01/28/2025 |

**FROM** 49.50000ml of W3112 + 0.50000ml of WP111564 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3708 | Chlorine Calibration std, 0.2ppm | WP111568 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | WETCHEM_PIPETTE_3 (WC) | Iwona Zarych 01/28/2025 |

**FROM** 49.00000ml of W3112 + 1.00000ml of WP111564 = Final Quantity: 50.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3709 | Chlorine Calibration std, 0.8ppm | WP111569 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | None | Iwona Zarych 01/28/2025 |

**FROM** 46.00000ml of W3112 + 4.00000ml of WP111564 = Final Quantity: 50.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3711 | Chlorine Calibration std, 1.6ppm | WP111570 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | None | Iwona Zarych 01/28/2025 |

**FROM** 42.00000ml of W3112 + 8.00000ml of WP111564 = Final Quantity: 50.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3799 | Residual Chlorine Calibration and CCV std, 0.4PPM | WP111571 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | None | Iwona Zarych 01/28/2025 |

**FROM** 96.00000ml of W3112 + 4.00000ml of WP111564 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3452 | Residual chlorine ICV-LCS, 0.4PPM | WP111572 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | None | Iwona Zarych 01/28/2025 |

**FROM** 48.00000ml of W3112 + 2.00000ml of WP111565 = Final Quantity: 50.000 ml

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# Wet Chemistry STANDARD PREPARATION LOG

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 1998 | TURBIDITY LOD STD, 0.5NTU | WP111573 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

**FROM** 5.00000ml of W3116 + 95.00000ml of W3112 = Final Quantity: 100.000 ml

| Recipe ID | NAME | NO. | Prep Date | Expiration Date | Prepared By | ScaleID | PipetteID | Supervised By |
|---|---|---|---|---|---|---|---|---|
| 3739 | Turbidity LOQ std, 1.0NTU | WP111574 | 01/23/2025 | 01/24/2025 | Niha Farheen Shaik | None | Glass Pipette-A | Iwona Zarych 01/28/2025 |

**FROM** 10.00000ml of W3116 + 90.00000ml of W3112 = Final Quantity: 100.000 ml

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# CHEMICAL RECEIPT LOG BOOK

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

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

| Supplier | ItemCode / ItemName | Lot # | Expiration Date | Date Opened / Opened By | Received Date / Received By | Chemtech Lot # |
|---|---|---|---|---|---|---|
| Seidler Chemical | DIW / DI Water | Daily Lab-Certified | 07/03/2029 | 07/03/2024 / Iwona | 07/03/2024 / Iwona | W3112 |

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

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

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

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# CHEMICAL RECEIPT LOG BOOK

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

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

Sigma-Aldrich.

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

# Certificate of Analysis

Product Name:
Hydrazine sulfate salt - ACS reagent, ≥99.0%

$NH_2NH_2 \cdot H_2SO_4$

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

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

Dr.Reinhold Schwenninger
Quality Assurance
Buchs,Switzerland CH

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. 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

ThermoFisher SCIENTIFIC

# Certificate of Analysis

W3081 Recieved on 02/26/2024 by IZ

Product No.: 036462

Product: Hexamethylenetetramine, ACS, 99+%

Lot No.: M02K021

Appearance White solid

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

Retest Date: January 2, 2027

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# *Certificate of Analysis List*

For request number 2018129

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

Total Enclosures: 1

**HACH COMPANY**

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

An ISO 9001 Certified Company

# *Certificate of Analysis*



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

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

The expiration date is May 2026

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

Certified by Scott Als

Scott Als
Analytical Services Chemist

Loveland, CO 80539
(970) 669-3050

An ISO 9001 Certified Company

# *Certificate of Analysis*

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

**PRODUCT NUMBER:** 1426810

**LOT NUMBER:** A4144

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

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

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

The expiration date is Jan 2026

Certified by: Scott Als

Analytical Services Chemist

Loveland, CO 80539
(970) 669-3050

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# *Certificate of Analysis*

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

**PRODUCT NUMBER:** 1426810

**LOT NUMBER:** A4166

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

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

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

The expiration date is Feb 2026

Certified by: Scott Als

Analytical Services Chemist

Loveland, CO 80539
(970) 669-3050

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# *Certificate of Analysis*

**PRODUCT:** DPD Total Chlorine Reagent

**PRODUCT NUMBER:** 1406499

**LOT NUMBER:** A4230

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

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

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

The expiration date is Aug 2029

Certified by: Scott Als

Analytical Services Chemist