

Prep Standard - Chemical Standard Summary

Order ID :	P5283
Test :	рН
Prepbatch ID :	
Sequence ID/Qc Ba	atch ID: LB133961,
Standard ID :	
Chemical ID : W3005,W3071,W30	072,W3093,W3094,W3107,



CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL13850-1 / Buffer Solution, PH2 (500ml)	4212E45	12/31/2024	01/31/2023 / Iwona	01/31/2023 / Iwona	W3005
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14455-3 / buffer solution pH 7 yellow	4308H30	07/31/2025	01/02/2024 / JIGNESH	12/06/2023 / Iwona	W3071
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14940-1 / Buffer Solution, PH12 (500ml)	2310P21	04/30/2025	01/02/2024 / JIGNESH	12/07/2023 / Iwona	W3072
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	566002 / BUFFER PH 7.00 GREEN 1PINT PK6	44001f99	12/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3093
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	1601-1 / PH 10.01 BUFFER,COLOR CD 475ML	4310g83	03/31/2025	04/03/2024 / jignesh	04/02/2024 / jignesh	W3094
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL14055-3 / PH 4 BUFFER SOLUTION	AL14055-3	02/27/2026	09/05/2024 / jignesh	05/13/2024 / jignesh	W3107

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W³07/ Mc 12/6/23 Certificate of Analysis 12

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

Lot Number: 4308H30

Product Number: 1551

Manufacture Date: AUG 09, 2023 Expiration Date: JUL 2025

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

°C pH	0 7.12	5 7.09	$\begin{array}{c} 10 \\ 7.06 \end{array}$	15 7.04	20 7.02	$\begin{array}{c} 25 \\ 7.00 \end{array}$	30 6.99	35 6.98	$\begin{array}{c} 40 \\ 6.98 \end{array}$	45 6.97	50 6.97	

Name	CAS#				
Water	7732-18-5	ACS/ASTM/USP/EP			
Sodium Phosphate Dibasic	7558-79-4	ACS			
Potassium Dihydrogen Phosphate	7778-77-0	ee Doollow-Cell Hill Hall Characteria Constant			
Preservative	Proprietary				
Yellow Dye	Proprietary	1111 B. Luce			
Sodium Hydroxide	1310-73-2				
Test	Specification	Result			
Appearance	Yellow liquid	Passed	*Not a certified value		
Test	Certified Value	Uncertainty	NIST SRM#		
pH at 25°C (Method: SQCP027, SQCP033)	7.002	0.02	186-I-g, 186-II-g, 191d		
Specification	Re	ference			
Commercial Buffer Solutions	AS	TM (D 1293 B)			
Buffer A		TM (D 5464)			
Buffer A		ГМ (D 5128)			

per industributions were periorined in our Batesvine, in laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-2.5	10 L Cubitainer®	24 months
1551-5	20 L Cubitainer®	24 months

Foul Brandon

Paul Brandon (08/09/2023) Production Manager This document is designed to comply with ISO Guide 31 "Reference Materials --Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

RICCA CHEMICAL COMPANY[®] W^{3,072} M^c. (2/01/23) Certificate of Analysis

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

Buffer, Reference Standard, pH 12.00 ± 0.01 at $25^{\circ}C$

Lot Number: 2310P21	Product Number: 1615	Manufacture Date: OCT 24, 2023
Lot Humper: 20101 21	110ddet 14dmber: 1015	Expiration Date: APR 2025

The certified value for this product is confirmed in independent testing by a second qualified chemist.

°C	15	20	25	30	35	40
pН	12.35	12.17	11.99	11.78	11.62	11.46

Name	CAS#	Grade		
Water	7732-18-5	ACS/ASTM/USP/EP		
Potassium Chloride	7447-40-7	ACS	6.00	
Sodium Hydroxide	1310-73-2	Reagent		
Test	Specification	Result		
Appearance	Colorless liquid	Passed *Not a certified va	alue	

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

pH measurements were performed in our Pocomoke City, MD laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.01) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1615-1	4 L natural poly	18 months
1615-16	500 mL clear PET-G	18 months
1615-32	1 L natural poly	18 months
1615-5	20 L Cubitainer®	18 months

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Sharon Travers (10/24/2023) Operations Manager This document is designed to comply with ISO Guide 31 "Reference Materials --Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

	RI			W3	005		ec.	1/31/ 12	23			Batesy //www.ricca 1-88	Lammers Pik ville, IN 4700 achemical.com 88-GO-RICCA achemical.com
	. D. C								S				
Buffer Lot Nu	mber:	4212E	E45	P	roduct	Numb	er: 149	3)EC 20, 2022 æ: DEC 2024
THE IND	L Haceap	e for this le pH val	product is ue is certi	s confirme fied to ±0	ed in indej .01 at 25 °	pendent t °C only. A	esting by a 11 other pl	a second q H values a	ualified of the state of the st	chemist. orresponding temper			
°C pH	10 1.93	15 1.98	20 1.98	$\begin{array}{c} 25\\ 2.00\end{array}$	30 2.01	$\begin{array}{c} 35\\ 2.03\end{array}$	$\begin{array}{c} 40\\ 2.03\end{array}$	$\begin{array}{c} 45\\ 2.04\end{array}$	$50 \\ 2.04$				
Name	ni lok			35.5		CA	AS#	Tr'in T	10	Grade		100	and the second
Water						77	32-18-5	100001		ACS/ASTM/US	SP/EP		
Potassi Hydroc	*******			u tu bee			47-40-7	SIN ILLA		ACS			
*********						/0	47-01-0			ACS	111210		
Test		11-21		<u> 1815</u>			and the second second	cificatio		Result			
Appeara	ance						Colo	orless li	quid	Passed		*Not a c	ertified value.
Test			2012				Cert	ified Va	lue	Uncertain	ty i	NIST SRM#	0-1-4-1-5
comparisor Standard F a normal d before first weights cer regularly w	ements v o Nationa as. The un deference istributio use and tified tra ith a the	were perfo al Institut ncertainty Material, on. Volume recalibrat ceable to rmometer	ormed in o te of Stand y is calcula , and the etric glass ted regula the NIST	our Batesy dards and ated from uncertain sware com rly in acco national	ville, IN la Technolo the uncer ty of the r plies with ordance w mass stan	tainty of neasurem Class A ith ASTM dard. The	the measu ent proces tolerance I E 542 an ermometer	D/IEC 1700 I Reference urement v ss. The un requirem Id NIST P rs and ten	ce Materi ariation : acertainty ents of A rocedure aperature	0.02 ditation (ANAB Cert ial as indicated above from sample to samp y is multiplied by k= STM E 288 and NIS NBSIR 74-461. Bala e probes are calibrat to master document on and testing histor	ificate l e via ar ole, the 2, corre T Circu ances a ed befo	unbroken cha uncertainty in esponding to 95 llar 434; it is ca re calibrated re re first use and	are certified in of the NIST % coverage in librated gularly with recalibrated
Part Nu					and the second s	The second second	age Typ				_	opened Cont	
1493-1 1493-16 1493-32 1493-5 ecommer	•••••••••				500 1 L	natural mL nat natural Cubita	ural pol poly	У.		24 month 24 month 24 month 24 month 24 month	ns ns		

Foul Brandon

Paul Brandon (12/20/2022) Production Manager This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

RICCA CHEMICAL COMPANY[®] 3^{003} 0^{001} Certificate of Analysis 0^{010}

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Manufacture Date: JAN 08, 2024

Expiration Date: DEC 2025

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

Product Number: 1551

°C pH	0 7.12	5 7.09	10 7.06	15 7.04	20 7.02	25 7.00	30 6.99	35 6.98	40 6.98	45 6.97	50 6.97	
Name						CA	S#		1.15	Grade		
Water						77	32-18-5			ACS/AS	STM/USP/I	С Р
Sodium Phosphate Dibasic						758	58-79-4	-		ACS		
Potass	Potassium Dihydrogen Phosphate						78-77-0			ACS		
Preserv	reservative					Pro	prietar	У				
Yellow	Dye				•		prietar					
Sodium	n Hydro	xide					1310-73-2					
Test						1.1	Spec	ification	1	Re	sult	
Appear	ance				LEC.		Yell	ow liqui	d	Pas	ssed	*Not a certified value
<u>Fest</u>	Sec.				54-		Cert	ified Va	lue	Un	certainty	NIST SRM#
pH at 2	5°C (M	ethod: S	QCP02	7, SQCP	033)		7.004	4		0.0	2	186-I-g, 186-II-g, 191d
Specific	ation		1			J.	- 21	- 11	Refe	rence		
Comme	rcial Bu	ffer Sol	utions						ASTN	A (D 1293	B)	
Buffer A										A (D 5464		
Buffer A	1								ASTN	4 (D 5128		

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
1551-1	4 L natural poly	24 months
1551-1CT	4 L Cubitainer®	24 months
1551-2.5	10 L Cubitainer®	24 months
1551-5	20 L Cubitainer®	24 months
Decommonded Steven 1500	0000 (F00T)	

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

Lot Number: 4401F99

Paul Drondon

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

This product was tested in an ISO 17025 Accredited Laboratory

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Certificate of Analysis

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

The cer	umber: tified valu	e for this	product is	confirme	d in inder	Numbe	sting by a	socond a	ualified o]	facture Date: OCT 09, 2023 Expiration Date: MAR 2025 res are accurate to ± 0.05.
°C pH	0 10.31	5 10.23	10 10.17	15 10.11	20 10.05	25 10.00	30 9.95	35 9.91	40 9.87	50 9.81	res are accurate to ± 0.05 .
Name						CA	S#	1 L.		Grade	
Water						773	32-18-5			ACS/ASTM/USP/	EP
Sodiur	n Carbo	nate				497	-19-8			ACS	T
Sodium Bicarbonate			144	-55-8			ACS				
Sodium Hydroxide			1310-73-2				Reagent				
Preser	vative						prietary	v		nougent	
Blue D	ye						prietary	••			
Test							Spec	ification		Result	
Appear	ance						Blue	liquid		Passed	*Not a certified value.
Test							Cert	ified Val	ue	Uncertainty	NIST SRM#
pH at 2	25°C (M	ethod: S	QCP02	7, SQCI	2 033)		10.00)3		0.02	186-I-g, 186-II-g, 191d
Specific	cation			1	y Lite				Refe	rence	
Comme	rcial Bu	ffer Sol	utions							M (D 1293 B)	
Buffer (A (D 5464)	
Buffer (Ç									A (D 5128)	
comparis Standard a normal	ons. The u l Referenc distributi	incertaint e Materia on. Volum	y is calcul l, and the netric glas	ated from uncertain sware con	the unce ty of the provident	rtainty of measurem h Class A	the meas ent proce	d Reference urement v ss. The un	ce Mater ariation certaint	from sample to sample, y is multiplied by k=2, or STM F 288 and NICT (cate L2387.02) and are certified ia an unbroken chain of the uncertainty in the NIST corresponding to 95% coverage in Circular 434; it is calibrated ses are calibrated regularly with

before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured. Part Number

1 dis itumber	Size / Package Type	Shelf Life (Unopened Container)
1601-16	500 mL natural poly	18 months
1601-5	20 L Cubitainer®	18 months
Person and ad Sterrage 1500		•

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Paul Brandon (10/09/2023) Production Manager This document is designed to comply with ISO Guide 31 "Reference Materials --Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory

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Certificate of Analysis

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

Lot Number: 4403F90

Product Number: 1501

Manufacture Date: MAR 09, 2024 Expiration Date: FEB 2026

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

										-	Ŷ .	
°C	0	5	10	15	20	25	30	35	40	45	50	
$_{\rm pH}$	4.00	4.00	4.00	4.00	4.00	4.00	4.01	4.02	4.03	4.04	4.06	

Name	CAS#	Grade		
Water	7732-18-5 ACS/ASTM/USP/EI		ΞP	
Potassium Acid Phthalate	877-24-7	Buffer		
Preservative	Proprietary	ry Commercial		
Red Dye	Proprietary	Purified		
Test	Specification	Result		
Appearance	Red liquid	Passed	*Not a certified value	
Test	Certified Value	Uncertainty	NIST SRM#	
pH at 25°C (Method: SQCP027, SQCP033)	4.000	0.02	185i, 186-I-g, 186-II-g	
Specification	Re	ference		
Commercial Buffer Solutions	ASTM (D 1293 B)			
Buffer B	ASTM (D 5464)			

Buffer B

pH measurements were performed in our Batesville, IN laboratory under ISO/IEC 17025 accreditation (ANAB Certificate L2387.02) and are certified traceable to National Institute of Standards and Technology (NIST) Standard Reference Material as indicated above via an unbroken chain of comparisons. The uncertainty is calculated from the uncertainty of the measurement variation from sample to sample, the uncertainty in the NIST Standard Reference Material, and the uncertainty of the measurement process. The uncertainty is multiplied by k=2, corresponding to 95% coverage in a normal distribution. Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

ASTM (D 5128)

Part Number	Size / Package Type	Shelf Life (Unopened Container) 24 months		
1501-2.5	10 L Cubitainer®			
1501-32	1 L natural poly	24 months		
1501-5	20 L Cubitainer®	24 months		

Foul Brandon

Paul Brandon (03/09/2024) Production Manager This document is designed to comply with ISO Guide 31 "Reference Materials --Contents of Certificates and Labels."

This product was tested in an ISO 17025 Accredited Laboratory