

# CONTRATO Y AÑO	166/2020	Acta N.º	1	1. VALOR INICIAL (incluido IVA)	136.569.374
				2. VALOR ADICIÓN (+)	
CONTRATISTA	PROFINAS S.A.S			3. VALOR TOTAL (1+2)	136.569.374
NIT O CC:	800.246.805-0			4. VALOR ACTAS ANTERIORES (-)	0
CDP (#, rubro y fecha)	00483 DEL 18 MAYO 2020			5. VALOR PRESENTE ACTA (-)	73.683.705
RP (#, rubro y fecha)	000585 DEL 6 JULIO 2020			6. VALOR NO EJECUTADO (3 - 4 - 5)	62.885.669
OBJETO DEL CONTRATO: SUMINISTRO DE REACTIVOS PARA LABORATORIO PARA LAS 20 PLANTAS DE TRATAMIENTO DE EMPOCALDAS S.A. E.S.P.					
TIPO DE RECURSOS	PROPIOS	CENTRO DE COSTOS y PROCEDIMIENTO	Ver distribución de costos 1305120 TRATAMIENTO DE AGUA CRUDA		

PAQUETE 1 - DOCUMENTOS CON DESTINO A SECCIÓN SUMINISTROS	✓
1- Copia de la Factura (Régimen Común) o Factura equivalente (régimen simplificado).	X
2- Certificación recibo de bienes. Formato F-GF-19	X
3- Distribución por centro de costos - cantidades. Formato F-GF-33.	X

Nota: Se debe presentar los tres paquetes con la información establecida en la presente lista de chequeo a la Sección Suministros, quien expide el informe de recibo de almacén (IRA) y devuelve los paquetes 2 y 3 al Supervisor correspondiente.

Vanessa Cortaño

NOMBRE DE QUIEN RECIBE

FIRMA

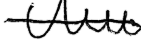
PAQUETE 2 - DOCUMENTO VERIFICADOS - SECRETARIA GENERAL	✓	# FOLIOS
1- Acta parcial o final del contrato.	X	
2- Autoliquidaciones en Salud, Pensiones y Riesgos profesionales del personal y del contratista (Personas naturales) o Certificado de Cumplimiento del Artículo 50 de la Ley 789/02 (Personas jurídicas)	X	
3- Copia de la Factura (Régimen Común) o Factura equivalente (régimen simplificado).	X	
4- Informe del Supervisor.	X	
5- Evaluación del Supervisor Formato F-GC-17 (Solo aplica para el acta final)		
6- Informe de recibo de almacén (IRA).	X	
7- Certificado de calidad del producto.	X	
8- Trazabilidad de la tubería (Aportado por el Proveedor de acuerdo con lo estipulado en el numeral 2.5.2 del Análisis de Conveniencia y Oportunidad)		

Nota: Si pasados tres (3) días después del recibo de esta documentación el Supervisor del contrato no presenta correcciones, quedará en firme y será subida al SECOP.

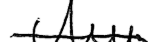
Secretaría General CERTIFICA que el Supervisor del Contrato entregó la documentación para ser archivada en la carpeta correspondiente.

Junio 2020

LISTA CHEQUEO PAGO DE ACTAS - CONTRATO SUMINISTROS



NOMBRE DE QUIEN RECIBE

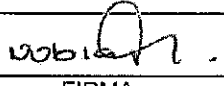


FIRMA

PAQUETE 3 - DOCUMENTOS CON DESTINO A SECCIÓN TESORERÍA		✓
1- Acta parcial o final del contrato		X
2- Factura (Régimen Común) o Factura equivalente (régimen simplificado) - (Original)		X
3- Evaluación del Supervisor Formato F-CG-17 (Solo aplica para el acta final).		
4- Autoliquidaciones en Salud, Pensiones y Riesgos profesionales del personal y del contratista (Personas naturales) o Certificado de Cumplimiento del Artículo 50 de la Ley 789/02 (Personas jurídicas).		X
5- Certificado cuenta bancaria del contratista (Aplica para el acta 1 o por cambio de cuenta a solicitud del proveedor)		
6- Distribución por centro de costos. Formato F-GF-32 - Copia de este formato se debe entregar en Planeación y Proyectos _____ (firma de recibido)		X
7- Copia del registro presupuestal		X

Fecha de presentación

29/07/2020

DATOS DEL SUPERVISOR		
NUBIA JANETH GALVIS GONZALEZ	JEFE SECCIÓN TÉCNICA Y OPERATIVA	
NOMBRE	CARGO	FIRMA

DATOS PARA LA TRANSFERENCIA DE PAGOS		
45600125383	BANCOLOMBIA	CORRIENTE
CUENTA	BANCO	TIPO DE CUENTA



INFORME RECIBO DE ALMACEN

IRA

Documento No. **M0011813**
 Proveedor **PROFINAS S.A.S.**
800246805

Fecha: **20200729**
 Seccional
 Elaborado por **LUZ AYDE PATIÑO MART**

SISTEMA FORTUNER DSI, S.A www.dsi.com.co Tel. 8873113

ITEM	CODIGO	DESCRIPCION	U. MEDIDA	CANTIDAD	Vr. UNITARIO	VR. TOTAL
1	1151811006596	DPD FREE BOLSILLOS HACH	UNIDA	2.0	1215100.000	2891938.000
2	1151811006596	DPD FREE BOLSILLOS HACH	UNIDA	1.0	1215100.000	1445969.000
3	1151811000102	FENOLFTALEINA	FRASC	1.0	110900.000	131971.000
4	1151811007450	FILTRO DE MEMBRANA CON PAD	CAJA	41.0	143500.000	7001365.000
5	1151811011669	FOSFATO DISODICO ANHIDRO	KILOG	2.0	221800.000	527884.000
6	5511114003519	JABON NEUTRO	GALON	5.0	141400.000	841330.000
7	1151811006605	KIT DE HIERRO MACHEREY NAGEL	UNIDA	2.0	452700.000	1077426.000
8	1151811006605	KIT DE HIERRO MACHEREY NAGEL	UNIDA	5.0	452700.000	2693565.000
9	1151811000140	MERCURIO CLORURO	UNIDA	1.0	411100.000	489209.000
10	7750201000095	DIETIL-P-FENILENDIAMINA	UNIDA	1.0	346000.000	411740.000
11	5511155006648	PAÑO ABSORBENTE WYPALL	UNIDA	40.0	31200.000	1485120.000
12	1151811015138	PATRON SOLUCION CLORURO	UNIDA	1.0	185500.000	220745.000
13	7750202014937	SOLUCION STANDAR DE CONDUCTIVIDAD	FRASC	8.0	137500.000	1309000.000
14	7750201000148	NITRATO DE PLATA	FRASC	6.0	332100.000	2371194.000
15	7750201000073	CLORURO DE POTASIO	KILO	6.0	96500.000	579000.000
16	1151811011269	REACTIVOS COT	PAQUE	1.0	3012100.000	3584399.000
17	5511190000180	ROJO DE METILO INDICADOR	UNIDA	1.0	259200.000	308448.000
18	1151811015141	SODIO CLORURO VOLUMETRIC STANDAR	GALON	1.0	327900.000	390201.000
19	1151811000194	SODIO HIDROXIDO EN LENTEJAS	UNIDA	1.0	48700.000	57953.000
20	1151811000131	HIDROXIDO DE SODIO 1 N	FRASC	4.0	43700.000	208012.000
21	1151811000221	TIOSULFATO DE SODIO	UNIDA	5.0	100700.000	599165.000
22	1151811015132	SOLUCION TAMPON PH 10.00	LITRO	20.0	45600.000	1085280.000
23	7750201000196	SOLUCION BUFFER PH 4	UNIDA	14.0	43100.000	718046.000
24	7750201000197	SOLUCION BUFFER PH 7	UNIDA	6.0	43100.000	307734.000
25	1151811015134	STERIKOM AMPOLLAS BIOINDIC ESTERIL	CAJA	1.0	539100.000	641529.000
26	1151811015135	SULFAVER SOBRES DE REACTIVO EN POLVO	CAJA	23.0	219500.000	6007715.000
27	1151811015135	SULFAVER SOBRES DE REACTIVO EN POLVO	CAJA	2.0	219500.000	522410.000
28	1165511000222	TITRIPLEX SOLUCION A	UNIDA	2.0	263300.000	626654.000
29	1151811006597	EDTA ACIDO ETILENDIAMINOTETRACETICO	UNIDA	2.0	145500.000	346290.000
30	7750201000073	CLORURO DE POTASIO	KILO	8.0	40100.000	320800.000
31	7750201000073	CLORURO DE POTASIO	KILO	4.0	40100.000	160400.000

OBSERVACIONES:

ACTA 1 DEL CONTRATO 0166/20, SUMINISTRO DE REACTIVOS PARA PLANTAS DE LABORATORIO
 CDP483, RP585, FRAS 3760-3985-4212-PROFINAS. CERTIFICACIONES Y F-GF-33 ADJUNTO.

JEFE SUMINISTROS

DUÑO DEL PROCESO



INFORME RECIBO DE ALMACEN

IRA

Documento No. **M0011813**
 Proveedor **PROFINAS S.A.S.**
800246805

Fecha: **20200729**
 Seccional
 Elaborado por **LUZ AYDE PATIÑO MART**

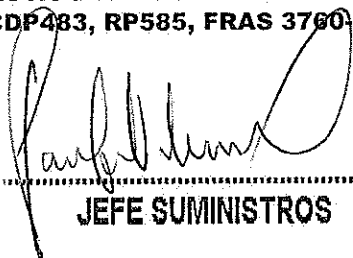
SISTEMA FORTLINER DSI S.A www.dsi.com.co Tel. 6873113

ITEM	CODIGO	DESCRIPCION	U. MEDIDA	CANTIDAD	Vr. UNITARIO	VR. TOTAL
32	7750201000073	CLORURO DE POTASIO	KILO	3.0	40100.000	120300.000
33	1151811000167	KIT REACTIVOS DE ALUMINO	UNIDA	1.0	506800.000	603092.000
34	7750202014929	MEDIO DE CULTIVO NMPX100	CAJA	4.0	688800.000	3278688.000
35	1151811000074	CROMATO DE POTASIO	FRASC	2.0	766100.000	1823318.000
36	1165511000222	TITRIPLEX SOLUCION A	UNIDA	6.0	263300.000	1879962.000
37	7750201000073	CLORURO DE POTASIO	KILO	6.0	40100.000	240600.000
38	1151811006602	SOLUCION ESTANDAR DE COLOR	UNIDA	3.0	509300.000	1818201.000
39	1151811007269	M-COLIBLUE CALDO DE CULTIVO	UNIDA	40.0	307500.000	14637000.000
40	1151811006596	DPD FREE BOLSILLOS HACH	UNIDA	2.0	1215100.000	2891938.000
41	1151811000093	DIHIDROGENOFOSFATO DE POTASIO	KILOG	7.0	99700.000	830501.000
42	1151811000191	SODIO CARBONATO	UNIDA	1.0	359700.000	428043.000
43	1151811000131	HIDROXIDO DE SODIO 1 N	FRASC	9.0	101500.000	1087065.000
44	1151811000048	ALCOHOL IMPOTABLE PARA LABORATORIO	UNIDA	15.0	123500.000	2204475.000
45	1151812000024	ACIDO ACETICO	BOTEL	4.0	115200.000	664922.000
46	7750201000026	ACIDO NITRICO	FRASC	5.0	156500.000	931175.000
47	1151811015131	ACIDO SULFURICO 95-97%	LITRO	4.0	108300.000	515508.000
48	1151811006595	ACIDO SULFURICO 1N	UNIDA	5.0	71500.000	366425.000

TOTAL DOCUMENTO 73,683,705

OBSERVACIONES:

ACTA 1 DEL CONTRATO 0166/20, SUMINISTRO DE REACTIVOS PARA PLANTAS DE LABORATORIO CDP483, RP585, FRAS 3760-3985-4212-PROFINAS. CERTIFICACIONES Y F-GF-33 ADJUNTO.


 JEFE SUMINISTROS

.....
 DUEÑO DEL PROCESO

ACTA DE PAGO No. 1

CONTRATO	Nº 0166 de 2020
CONTRATISTA	PROFINAS S.A.S.
OBJETO	SUMINISTRO DE REACTIVOS PARA LABORATORIO PARA LAS 20 PLANTAS DE TRATAMIENTO DE EMPOCALDAS S.A. E.S.P.
VALOR TOTAL	\$136.559.374 IVA INCLUIDO
VALOR ACTA 1	\$ 73.683.705 IVA INCLUIDO
VALOR POR EJECUTAR	\$ 62.875.669 IVA INCLUIDO

En la ciudad de Manizales el 29 de julio de 2020 se reunieron MARIA LUISA JIMENEZ MONTOYA representante legal de la Empresa PROFINAS S.A.S. como contratista y NUBIA JANETH GALVIS GONZALEZ Jefe Sección Técnica y Operativa de Empocaldas en calidad de Supervisora, con el fin de suscribir el acta de pago No. 1 del contrato en mención.

No siendo otro el motivo de la presente acta se firma por los que en ella intervinieron.



MARIA LUISA JIMENEZ MONTOYA.
Representante legal
PROFINAS S.A.S.



NUBIA JANETH GALVIS G.
Jefe Sección Técnica y Operativa
Empocaldas S.A. E.S.P
Supervisora



PROFINAS S.A.S
 NIT.: 800246805-0
 Carrera 40 No. 14-09 Urbanizacion Acopi
 YUMBO
 Tel: 6644320-6644489 Fax: 6647315
 CIUU: 4664



FACTURA DE VENTA ELECTRONICA
 Numero: PR3760
 Fecha : 2020-JUL-09 10:19 AM
 Pagina: 01 de 05

Cliente : EMPOCALDAS S A ESP	Forma de Pago: CREDITO	Fecha de Vencimiento
Contacto :	Plazo: Credito a 60 Dias	2020-SEP-09
NIT. : 890803239-9 Codigo: 890803239		
Direccion : CR 23 75 82 BARRIO MILAN MANIZAL	Vendedor: 33815724	SEGOVIA CRUZ ELSY CLARENA
Ciudad : MANIZALES		
Telefono : 886 7080	OC.Nro	OV.Nro
Fax :	166	135681
	Decto.Alt	Remisiones
		151211
		Moneda
		PESOS

Referencia	Descripcion	Mo	Cantidad	U.M	Precio_Unit.	Descuento	Valor_Total	Impto
1000632500	ACIDO ACETICOx2.5LT 100% ANHIDRO MERCK	01	4	UND	115,200.00	0.00	460,800.00	19.00
	Lote : K51921263 Vcto.: 2024/10/31							
1004562510	ACIDO NITRICOx2.5LT 65% MERCK	01	5	UND	156,500.00	0.00	782,500.00	19.00
	Lote : K50980056 Vcto.: 2022/01/31							
1018332500	PC-ACIDO SULFURICOx2.5LT MERCK	01	4	UND	108,300.00	0.00	433,200.00	19.00
	Lote : K51900933 Vcto.: 2021/09/30							
1090721000	PC-ACIDO SULFURICO 1NxLT MERCK	01	5	UND	71,500.00	0.00	357,500.00	19.00
	Lote : HC00984772 Vcto.: 2023/02/28							
182-5G	ALCOHOL ETILICO 96% x5GALONES	01	15	UND	123,500.00	0.00	1,852,500.00	19.00
	Lote : 06920603 Vcto.: 2022/05/01							
555	GARRAFA PLASTICA 5 GALONES	02	15	UND	0.00	0.00	0.00	19.00
1054322500	PC-AMONIACOx2.5LT 25% MERCK	01	9	UND	101,500.00	0.00	913,500.00	19.00
	Lote : K52167932 Vcto.: 2025/01/31							
1024050080	PC-SODIO CARBONATOx80GR MERCK	01	1	UND	359,700.00	0.00	359,700.00	19.00
	Lote : 192405R Vcto.: 2024/03/31							
1048731000	POTASIO FOSFATO MBxKILO MERCK	01	7	UND	99,700.00	0.00	697,900.00	19.00
	Lote : AM1358573 Vcto.: 2023/10/31							
21055-28	HACH CLORO LIBRE PQx1000UND 2105528	01	2	UND	1,215,100.00	0.00	2,430,200.00	19.00

* P A S A *

TOTAL_BRUTO	DSCTO x LINEA	DSCTO_GLOBAL 0.00%	SUB-TOTAL	VALOR_IVA	RETENCIONES	T O T A L
0.00	0.00	0.00	0.00	0.00	0.00	0.00

Valor Letras :

[D E T A L L E D E V A L O R E S]

%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO
19	8,287,800	1,574,682	100	0	0	100	0	0	100	0	0
100	0	0	100	0	0	100	0	0	100	0	0

RTE FUENTE : RTE IVA: RTE ICA: RTE CREE:

IMPOCONSUMO:

Observacion: CONTRATO #00166 VENCE AGOSTO 23

Autorretenedores de Renta Res 8748 Nov 19/2012 Autorretenedores ICA en Yumbo Res 008 Mar 04/2014

REGIMEN COMUN

Despues de vencida esta Factura cobraremos Interes de Mora del 0.00% Mensual

Autorizacion Numeracion De Facturacion 18763003724661 vigente de ENE-28-2020

hasta JUL-28-2021 Numeracion Autorizada PRL al PR30000 Vigencia: 18 MESES

Factura Generada por Software de Sistemas de Informacion Empresarial S.A. NIT 890.319.193-3 (Firma y Sello)

Cufe:44971cafa67172715ccbcab1b27897d7d4dc5655d5eeae8d7b13a8f5c797101ccb8f3cf755ccb5cc3532187c0644b09d5

Fecha de certificacion: 2020-07-09T10:29:23.

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PROFINAS S.A.S
 NIT.: 800246805-0
 Carrera 40 No. 14-09 Urbanizacion Acopi
 YUMBO
 Tel: 6644320-6644489 Fax: 6647315
 CIUU: 4664



FACTURA DE VENTA ELECTRONICA
 Numero: PR3760
 Fecha : 2020-JUL-09 10:19 AM
 Pagina: 02 de 05

Cliente : EMPOCALDAS S A ESP	Forma de Pago: CREDITO	Fecha de Vencimiento
Contacto :	Plazo: Credito a 60 Dias	2020-SEP-09
NIT. : 890803239-9 Codigo: 890803239		
Direccion : CR 23 75 82 BARRIO MILAN MANIZAL	Vendedor: 33815724	SEGOVIA CRUZ ELSY CLARENA
Ciudad : MANIZALES		
Telefono : 886 7080	OC.Nro	OV.Nro
Fax :	166	135681
	Decto.Alt	Remisiones
		151211
		Moneda
		PESOS

Referencia	Descripcion	Mo	Cantidad	U.M	Precio_Unit.	Descuento	Valor_Total	Impto
* V I E N E *								
	Lote : A0050	Vcto.: 2025/02/28						
21055-28	HACH CLORO LIBRE PQx1000UND 2105528	01	2	UND	1,215,100.00	0.00	2,430,200.00	19.00
	Lote : A0069	Vcto.: 2025/03/30						
21055-28	HACH CLORO LIBRE PQx1000UND 2105528	01	1	UND	1,215,100.00	0.00	1,215,100.00	19.00
	Lote : A0072	Vcto.: 2025/03/30						
1072330100	FENOLFTALEINAx100GR MERCK	01	1	UND	110,900.00	0.00	110,900.00	19.00
	Lote : K51745333	Vcto.: 2024/08/31						
A045F047A	MEMBRANA 0.45x47MM C/PADS CAJAx100 M.F.S 01		41	UND	143,500.00	0.00	5,883,500.00	19.00
	Lote : 91015102	Vcto.: 2022/10/30						
1065861000	SODIO FOSFATO DB ANHIDROxKILO MERCK	01	2	UND	221,800.00	0.00	443,600.00	19.00
	Lote : F2094186	Vcto.: 2024/10/31						
CO175535000	EXTRAN NEUTROx5LITROS MERCK	01	5	UND	141,400.00	0.00	707,000.00	19.00
	Lote : 19Q53508	Vcto.: 2025/04/30						
1144030001	AQUAQUANT HIERROx300DT MERCK	01	2	UND	452,700.00	0.00	905,400.00	19.00
	Lote : HC738784	Vcto.: 2020/10/31						
1144030001	AQUAQUANT HIERROx300DT MERCK	01	5	UND	452,700.00	0.00	2,263,500.00	19.00
	Lote : HC996427	Vcto.: 2022/05/31						

* P A S A *								
TOTAL_BRUTO	DSCTO x LINEA	DSCTO_GLOBAL 0.00%	SUB-TOTAL	VALOR_IVA	RETENCIONES	T O T A L		
0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Valor Letras :

[D E T A L L E D E V A L O R E S]								
%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO
19	22,247,000	4,226,930	100	0	0	100	0	0
100	0	0	100	0	0	100	0	0
RTE FUENTE :		RTE IVA:		RTE ICA:		RTE CREE:		
IMPOCONSUMO:								

Observacion: CONTRATO #00166 VENCE AGOSTO 23

Autorretenedores de Renta Res 8748 Nov 19/2012 Autorretenedores ICA en Yumbo Res 008 Mar 04/2014
 REGIMEN COMUN
 Despues de vencida esta Factura cobraremos Interes de Mora del 0.00% Mensual
 Autorizacion Numeracion De Facturacion 18763003724661 vigente de ENE-28-2020
 hasta JUL-28-2021 Numeracion Autorizada PRL al PR30000 Vigencia: 18 MESES
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Cufe:44971cafa67172715ccbcab1b27897d7d4dc5655d5eeae8d7b13a8f5c797101ccb8f3cf755ccb5cc3532187c0644b09d5

Fecha de certificacion: 2020-07-09T10:29:23.

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PROFINAS S.A.S
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 Carrera 40 No. 14-09 Urbanizacion Acopi
 YUMBO
 Tel: 6644320-6644489 Fax: 6647315
 CIUU: 4664



FACTURA DE VENTA ELECTRONICA
 Numero: PR3760
 Fecha : 2020-JUL-09 10:19 AM
 Pagina: 03 de 05

Cliente : EMPOCALDAS S A ESP	Forma de Pago: CREDITO	Fecha de Vencimiento
Contacto :	Plazo: Credito a 60 Dias	2020-SEP-09
NIT. : 890803239-9 Codigo: 890803239		
Direccion : CR 23 75 82 BARRIO MILAN MANIZAL	Vendedor: 33815724	SEGOVIA CRUZ ELSY CLARENA
Ciudad : MANIZALES		
Telefono : 886 7080	OC.Nro	OV.Nro
Fax :	166	135681
	Decto.Alt	Remisiones
		151211
		Moneda
		PESOS

Referencia	Descripcion	Mo	Cantidad	U.M	Precio_Unit.	Descuento	Valor_Total	Impto
* V I E N E *								
1044190050	MERCURIO CLORUROxFCO MERCK	01	1	UND	411,100.00	0.00	411,100.00	19.00
	Lote : K50571119 Vcto.: 2023/08/31							
1031210100	DPD-DIETILFENILENDIAMINA SULFx100G MERCK	01	1	UND	346,000.00	0.00	346,000.00	19.00
	Lote : N019006921 Vcto.: 2021/03/31							
WYPALL X-70	PAPEL WYPALL X-70 ROLLO 88 HOJAS 42x28CM	01	40	UND	31,200.00	0.00	1,248,000.00	19.00
1198970500	PATRON CLORUROx500CC MERCK	01	1	UND	185,500.00	0.00	185,500.00	19.00
	Lote : HC99985197 Vcto.: 2022/06/30							
14400-49	HACH PATRON COND. 1000US/CMx500ML	01	8	UND	137,500.00	0.00	1,100,000.00	19.00
	Lote : A0037 Vcto.: 2025/02/28							
1015120025	CI-PLATA NITRATOx25GR MERCK	01	6	UND	332,100.00	0.00	1,992,600.00	19.00
	Lote : K51628912 Vcto.: 2022/07/31							
1049361000	POTASIO CLORUROxKILO MERCK	01	6	UND	96,500.00	0.00	579,000.00	0.00
	Lote : K51302936 Vcto.: 2024/04/30							
27603-45	KIT REACT/P/PRUEBA CARBON/ORG B/RAN HACH	01	1	UND	3,012,100.00	0.00	3,012,100.00	19.00
	Lote : A0119 Vcto.: 2021/09/30							
1060760025	ROJO DE METILOx25GR INDICADOR MERCK	01	1	UND	259,200.00	0.00	259,200.00	19.00
	Lote : K49594476 Vcto.: 2022/10/31							

* P A S A *

TOTAL_BRUTO	DSCTO x LINEA	DSCTO_GLOBAL 0.00%	SUB-TOTAL	VALOR_IVA	RETENCIONES	T O T A L
0.00	0.00	0.00	0.00	0.00	0.00	0.00

Valor Letras :

[D E T A L L E D E V A L O R E S]

%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO
19	30,801,500	5,852,285	100	0	0	100	0	0	100	0	0
100	0	0	100	0	0	100	0	0	100	0	0

RTE FUENTE : RTE IVA: RTE ICA: RTE CREE:

IMPOCONSUMO:

Observacion: CONTRATO #00166 VENCE AGOSTO 23

Autorretenedores de Renta Res 8748 Nov 19/2012 Autorretenedores ICA en Yumbo Res 008 Mar 04/2014
 REGIMEN COMUN
 Despues de vencida esta Factura cobraremos Interes de Mora del 0.00% Mensual
 Autorizacion Numeracion De Facturacion 18763003724661 vigente de ENE-28-2020
 hasta JUL-28-2021 Numeracion Autorizada PRL al PR30000 Vigencia: 18 MESES
 Factura Generada por Software de Sistemas de Informacion Empresarial S.A. NIT 890.319.193-3 (Firma y Sello)

Cufe:44971cafa67172715ccbcab1b27897d7d4dc5655d5eeae8d7b13a8f5c797101ccb8f3cf755ccb5cc3532187c0644b09d5

Fecha de certificacion: 2020-07-09T10:29:23.

Firma digital: X7cHcoEJQKtTcTUSo4J2JE70h084dIsYRaTUKXP1BN/UA/Pj951X1cF1H7Ek6oWf7V1+q2DC13gqdsxvt2A1AmopGG1nE2KPUfTHWrqNjKP2Xy8rBd19HdHP97vyTGcBPp5EBeGrjMnSTH12+mz+mpm1A9ogC3M9tgMGD5xQ3QyZeltAWz4ofPK1PTXs5RN1+j/wZf+/j+2PemmydKkwq4I3zfFboeEjDlX70mjCeDJRWt6k1CDxeDFm+Y5y1+CR/t1tY4863RK11cFOEwfnx6FNHJZT1Ijub75u8cEQhHT

PROFINAS S.A.S
 NIT.: 800246805-0
 Carrera 40 No. 14-09 Urbanizacion Acopi
 YUMBO
 Tel: 6644320-6644489 Fax: 6647315
 CIIU: 4664



FACTURA DE VENTA ELECTRONICA
 Numero: PR3760
 Fecha : 2020-JUL-09 10:19 AM
 Pagina: 04 de 05

Cliente : EMPOCALDAS S A ESP	Forma de Pago: CREDITO	Fecha de Vencimiento
Contacto :	Plazo: Credito a 60 Dias	2020-SEP-09
NIT. : 890803239-9 Codigo: 890803239		
Direccion : CR 23 75 82 BARRIO MILAN MANIZAL	Vendedor: 33815724	SEGOVIA CRUZ ELSY CLARENA
Ciudad : MANIZALES		
Telefono : 886 7080	OC.Nro	OV.Nro
Fax :	166	135681
	Decto.Alt	Remisiones
		151211
		Moneda
		PESOS

Referencia	Descripcion	Mo	Cantidad	U.M	Precio_Unit.	Descuento	Valor_Total	Impto
* V I E N E *								
1024060080	SODIO CLORUROx80GR MERCK	01	1	UND	327,900.00	0.00	327,900.00	19.00
	Lote : 192406T Vcto.: 2024/12/31							
1064981000	PC-SODIO HIDROXIDOxKILO MERCK	01	1	UND	48,700.00	0.00	48,700.00	19.00
	Lote : B1784698 Vcto.: 2023/01/31							
1091371000	PC-SODIO HIDROXIDO 1NxLT MERCK	01	4	UND	43,700.00	0.00	174,800.00	19.00
	Lote : HC99675837 Vcto.: 2022/07/31							
1065161000	SODIO TIOSULFATOxKILO MERCK	01	5	UND	100,700.00	0.00	503,500.00	19.00
	Lote : AM1443916 Vcto.: 2022/05/31							
1094000500	T.SOLUCION PH 10 FCOx500CC MERCK	01	20	UND	45,600.00	0.00	912,000.00	19.00
	Lote : HC99046300 Vcto.: 2022/04/30							
1094750500	T.SOLUCION PH 4 FCOx500CC MERCK	01	14	UND	43,100.00	0.00	603,400.00	19.00
	Lote : HC99926875 Vcto.: 2022/06/30							
1094770500	T.SOLUCION PH 7 FCOx500CC MERCK	01	6	UND	43,100.00	0.00	258,600.00	19.00
	Lote : HC01099077 Vcto.: 2023/01/31							
1102740002	STERIKONx100AMP MERCK	01	1	UND	539,100.00	0.00	539,100.00	0.00
	Lote : Z0572574 Vcto.: 2021/05/07							
21067-69	HACH SULFAVER 4 PQx100UND	01	23	UND	219,500.00	0.00	5,048,500.00	19.00

* P A S A *								
TOTAL_BRUTO	DSCTO x LINEA	DSCTO_GLOBAL 0.00%	SUB-TOTAL	VALOR_IVA	RETENCIONES	T O T A L		
0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Valor Letras :

[D E T A L L E D E V A L O R E S]

%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO
19	38,678,900	7,348,991	100	0	0	100	0	0	100	0	0
100	0	0	100	0	0	100	0	0	100	0	0

RTE FUENTE : RTE IVA: RTE ICA: RTE CREE:

IMPOCONSUMO:

Observacion: CONTRATO #00166 VENCE AGOSTO 23

Autorretenedores de Renta Res 8748 Nov 19/2012 Autorretenedores ICA en Yumbo Res 008 Mar 04/2014

REGIMEN COMUN

Despues de vencida esta Factura cobraremos Interes de Mora del 0.00% Mensual

Autorizacion Numeracion De Facturacion 18763003724661 vigente de ENE-28-2020

hasta JUL-28-2021 Numeracion Autorizada PR1 al PR30000 Vigencia: 18 MESES

Factura Generada por Software de Sistemas de Informacion Empresarial S.A. NIT 890.319.193-3 (Firma y Sello)

Cufe:44971cafa67172715ccbcab1b27897d7d4dc5655d5eeae8d7b13a8f5c797101ccb8f3cf755ccb5cc3532187c0644b09d5

Fecha de certificacion: 2020-07-09T10:29:23.

Firma digital: X7cHcoEJQKtTcTUSo4J2JE70h084dIsYRaTUKXP1BN/UA/Pj951X1cF1H7Ek6oWf7V1+q2DC13gqdsxvt2A1AmopGG1nE2KPUfTHWrqNjKP2Xy8rBd19HdHP97vyTGcBPp5EBeGrjMnSTH12+mz+mpm1W9ogC3M9tgMGD5xQ3QyZeltAWz4ofPk1PTXs5RN1+j/wZf+/j+2PemmydKkwqai3zfFboeEjDlX70mJCeDJRWt6kiCDxeDFm+Y5y1+CR/t1tY4863RK11cFOEwfnx6FNHJZT1Ijub75u8cEqhHT

PROFINAS S.A.S
 NIT.: 800246805-0
 Carrera 40 No. 14-09 Urbanizacion Acopi
 YUMBO
 Tel: 6644320-6644489 Fax: 6647315
 CIUU: 4664



FACTURA DE VENTA ELECTRONICA
 Numero: PR3760
 Fecha : 2020-JUL-09 10:19 AM
 Pagina: 05 de 05

Cliente : EMPOCALDAS S A ESP	Forma de Pago: CREDITO	Fecha de Vencimiento
Contacto :	Plazo: Credito a 60 Dias	2020-SEP-09
NIT. : 890803239-9 Codigo: 890803239		
Direccion : CR 23 75 82 BARRIO MILAN MANIZAL	Vendedor: 33815724	SEGOVIA CRUZ ELSY CLARENA
Ciudad : MANIZALES		
Telefono : 886 7080	OC.Nro	OV.Nro
Fax :	166	135681
	Decto.Alt	Remisiones
		151211
		Moneda
		PESOS

Referencia	Descripcion	Mo	Cantidad	U.M	Precio_Unit.	Descuento	Valor_Total	Impto
* V I E N E *								
	Lote : A0031 Vcto.: 2024/02/28							
21067-69	HACH SULFAVER 4 PQx100UND	01	2	UND	219,500.00	0.00	439,000.00	19.00
	Lote : A0058 Vcto.: 2024/02/28							
1084191000	TITRIPLEX SOLUCION AxLT MERCK	01	2	UND	263,300.00	0.00	526,600.00	19.00
	Lote : HC86226519 Vcto.: 2021/05/31							
1084180100	TITRIPLEX IIIx100GR MERCK 2H2O	01	2	UND	145,500.00	0.00	291,000.00	19.00
	Lote : K51097418 Vcto.: 2024/02/29							
V7316	T.POTASIO CLORURO 3.0Mx300 MOL LABS	01	8	UND	40,100.00	0.00	320,800.00	19.00
	Lote : 12-03-20 Vcto.: 2023/03/12							
V7316	T.POTASIO CLORURO 3.0Mx300 MOL LABS	01	4	UND	40,100.00	0.00	160,400.00	19.00
	Lote : 03.02.20 Vcto.: 2023/05/03							
V7316	T.POTASIO CLORURO 3.0Mx300 MOL LABS	01	3	UND	40,100.00	0.00	120,300.00	19.00
	Lote : 26-05-20 Vcto.: 2023/05/26							

TOTAL_BRUTO	DSCTO x LINEA	DSCTO_GLOBAL 0.00%	SUB-TOTAL	VALOR_IVA	RETENCIONES	T O T A L
41,655,100.00	0.00	0.00	41,655,100.00	7,702,030.00	1,155,305.00	48,201,825.00

Valor Letras : CUARENTA Y OCHO MILLONES DOSCIENTOS UN MIL OCHOCIENTOS VEINTICINCO PESOS MCTE.

[D E T A L L E D E V A L O R E S]												
%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	
19	40,537,000	7,702,030	100	0	0	100	0	0	100	0	0	
100	0	0	100	0	0	100	0	0	100	0	0	
RTE FUENTE :		0.00	RTE IVA:		1,155,305.00	RTE ICA:		0.00	RTE CREE:			0.00
IMPOCONSUMO:		0.00										

Observacion: CONTRATO #00166 VENCE AGOSTO 23

Autorretenedores de Renta Res 8748 Nov 19/2012 Autorretenedores ICA en Yumbo Res 008 Mar 04/2014
 REGIMEN COMUN

Despues de vencida esta Factura cobraremos Interes de Mora del 0.00% Mensual

Autorizacion Numeracion De Facturacion 18763003724661 vigente de FNE-28-2020
 CUIE: 449710a1a6712150cbca1b27897d7d4c5b53d5eeae897b13a810c97101cc8f3cf705ccb5cc3532187c06444b09d5
 hasta JUL-28-2021 Numeracion Autorizada PRI al PR30000 Vigencia: 18 MESES
 Fecha de certificacion: 2020-07-09T10:29:23.

Factura Generada por Software de Sistemas de Informacion Empresarial S.A. NIT 890.319.193-3 (Firma y Sello)
 Firma digital: X7c802JmKtU504J2UE70h084d1sYrA1URMPlBN7UA/P195IX1cPLH7E60W17V1+q2DC13gqdsxvt2A1AmopGGInEZKPUfTHW:gnJkP2Xy8rBd19HdHP97vyTgcBpP5EBeGfJmRSTh12+mq+mpm1W9ogC3M9tgMGD
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PROFINAS S.A.S
 NIT.: 800246805-0
 Carrera 40 No. 14-09 Urbanizacion Acopi
 YUMBO
 Tel: 6644320-6644489 Fax: 6647315
 CIUU: 4664



FACTURA DE VENTA ELECTRONICA
 Numero: PR3985
 Fecha : 2020-JUL-17 10:23 AM
 Pagina: 01 de 01

Cliente : EMPOCALDAS S A ESP	Forma de Pago: CREDITO	Fecha de Vencimiento
Contacto :	Plazo: Credito a 60 Dias	2020-SEP-17
NIT. : 890803239-9 Codigo: 890803239		
Direccion : CR 23 75 82 BARRIO MILAN MANIZAL	Vendedor: 33815724	SEGOVIA CRUZ ELSY CLARENA
Ciudad : MANIZALES		
Telefono : 886 7080	OC.Nro	OV.Nro
Fax :	166	135681
	Decto.Alt	Remisiones
		151464
		Moneda
		PESOS

Referencia	Descripcion	Mo	Cantidad	U.M	Precio_Unit.	Descuento	Valor_Total	Impto
1144130001	AQUAQUANT ALUMINIOx185DT MERCK Lote : HC014850 Vcto.: 2023/02/28	01	1	UND	506,800.00	0.00	506,800.00	19.00
9851	M.COLITAG CJx100UND NEOGEN Lote : 111716B Vcto.: 2020/12/31	01	4	UND	688,800.00	0.00	2,755,200.00	19.00
1049521000	POTASIO CROMATOxKILO MERCK Lote : S7839252 Vcto.: 2024/09/30	01	2	UND	766,100.00	0.00	1,532,200.00	19.00
1084191000	TITRIPLEX SOLUCION AxLT MERCK Lote : HC86226519 Vcto.: 2021/05/31	01	6	UND	263,300.00	0.00	1,579,800.00	19.00
V7316	T.POTASIO CLORURO 3.0Mx300 MOL LABS Lote : 06-07-20 Vcto.: 2023/07/06	01	6	UND	40,100.00	0.00	240,600.00	19.00
CLR500-1LT	PATRON COLORxLITRO SIGMA Lote : LRAC4300 Vcto.: 2022/09/30	01	3	UND	509,300.00	0.00	1,527,900.00	19.00

TOTAL_BRUTO	DSCTO x LINEA	DSCTO_GLOBAL 0.00%	SUB-TOTAL	VALOR_IVA	RETENCIONES	T O T A L
8,142,500.00	0.00	0.00	8,142,500.00	1,547,075.00	232,061.00	9,457,514.00

Valor Letras : NUEVE MILLONES CUATROCIENTOS CINCUENTA Y SIETE MIL QUINIENTOS CATORCE PESOS MCTE.

[D E T A L L E D E V A L O R E S]

%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO
19	8,142,500	1,547,075	100	0	0	100	0	0	100	0	0
100	0	0	100	0	0	100	0	0	100	0	0
RTE FUENTE :	0.00	RTE IVA:	232,061.00	RTE ICA:	0.00	RTE CREE:	0.00				
IMPOCONSUMO:	0.00										

Observacion: CONTRATO VENCE AGOSTO 23

Autorretenedores de Renta Res 8748 Nov 19/2012 Autorretenedores ICA en Yumbo Res 008 Mar 04/2014
 REGIMEN COMUN

Despues de vencida esta Factura cobraremos Interes de Mora del 0.00% Mensual
 Autorizacion Numeracion De Facturacion 18763003724661 vigente de ENE-28-2020

hasta JUL-28-2021 Numeracion Autorizada PR1 al PR30000 Vigencia: 18 MESES
 Cufe: b013ab12f65c2e00b18b09e558215e8d1b338a920a333d8ed68c68a649f5d8c956246ac4545e087c7fe863fbd30545
 Factura Generada por Software de Sistemas de Informacion Empresarial S.A. NIT 890.319.193-3 (Firma y Sello)
 Fecha de certificacion: 2020-07-17T10:33:41.

Firma digital: FytJU63DyFTd+B0M2CnpLPE2WTBqZztLG1cczt5yZSYE02A1En+m31T14HqcyqXecD/iyV1GteXZf6fCzPhg2gKa0Ij342HwLVU38yfcMjMOI+q7Cd06gC+aM5z6T21G12u3nIcmsx0t0p0cVpkHbVzzIb0hsAk7axgv
 cTF8WxreKQv711gN5HRuZ01nwtJpdJF1c3gmm1bjwJW14s3SAs66NuKhQ1W06QUbp4kfw04nJ7V4gVgvsz8h2WJ2D79F3N/Qm010j23yLz27bW6uvEvvG85gcsrD8y+HezNT8v

Yo, **PEDRO FRANCISCO CASSETTA VALLEJO**, identificado con cédula de ciudadanía No. 94.415.417 de Cali, con Tarjeta Profesional No. 76912-T, en mi calidad de Revisor Fiscal de **PROFINAS S.A.S.** con NIT **800.246.805 - 0**.

CERTIFICO

Que la empresa como persona jurídica está obligada a tener Revisor Fiscal de acuerdo con el artículo 13, parágrafo 2 de la Ley 43 de 1990.

Que **PROFINAS S.A.S.**, se encuentra a paz y salvo con el pago de obligaciones al Sistema Integral de Seguridad Social, por el período de doce (12) meses comprendidos desde Julio de 2019 a Julio de 2020, este último mes, incluye salud al mes de Julio de 2020; pensión, riesgos profesionales, aportes a Caja de Compensación, concerniente a las autoliquidaciones de Junio de 2020, cancelados con planilla SOI N° 7756682351 del primero (01) de Julio de 2020.

Que de acuerdo con el Art. 20 de la ley 1607 de 2012, **PROFINAS S.A.S.**, es sujeto pasivo del impuesto sobre la renta para la Equidad (CREE) y en vigencia del decreto 862 del 26 de Abril de 2013 se encuentra exonerada del pago de aportes parafiscales a favor del Servicio Nacional de Aprendizaje (SENA) y el Instituto Colombiano de Bienestar Familiar (ICBF).

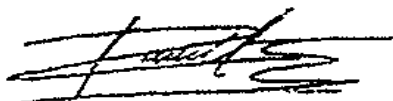
Igualmente certifico que se encuentra al día en el cumplimiento de la obligación de contratación de aprendices.

La presente certificación se expide, para dar cumplimiento al artículo 50 de la Ley 789 de diciembre 27 de 2002.

Para constancia de lo anterior, se firma en Santiago de Cali, el primer (01) días del mes de Julio de 2020.

Esta certificación está vigente hasta el tercer día hábil del mes siguiente al de expedición.

Cordialmente,



PEDRO FRANCISCO CASSETTA VALLEJO
Revisor Fiscal T.P. 76912-T
Designado de **CPAAI Cabrera International S.A.**

UNIDAD
ADMINISTRATIVA
ESPECIAL

**JUNTA CENTRAL
DE CONTADORES**



Certificado No:

A D I B A E 0 1 4 9 0 3 A 0 0 4

**LA REPUBLICA DE COLOMBIA
MINISTERIO DE COMERCIO, INDUSTRIA Y TURISMO
UNIDAD ADMINISTRATIVA ESPECIAL
JUNTA CENTRAL DE CONTADORES**

**CERTIFICA A:
QUIEN INTERESE**

Que el contador público **PEDRO FRANCISCO CASSETTA VALLEJO** identificado con CÉDULA DE CIUDADANÍA No 94415417 de CALI (VALLE DEL CAUCA) Y Tarjeta Profesional No 76912-T SI tiene vigente su inscripción en la Junta Central de Contadores y desde la fecha de Inscripción.

NO REGISTRA ANTECEDENTES DISCIPLINARIOS *****

Dado en BOGOTÁ a los 12 días del mes de Mayo de 2020 con vigencia de (3) Meses, contados a partir de la fecha de su expedición.

DIRECTOR GENERAL

ESTE CERTIFICADO DIGITAL TIENE PLENA VALIDEZ DE CONFORMIDAD CON LO ESTABLECIDO EN EL ARTICULO 2 DE LA LEY 527 DE 1999, DECRETO UNICO REGLAMENTARIO 1074 DE 2015 Y ARTICULO 6 PARAGRAFO 3 DE LA LEY 962 DEL 2005

Para confirmar los datos y veracidad de este certificado, lo puede consultar en la página web www.jcc.gov.co digitando el número del certificado

PROFINAS S.A.S
 NIT.: 800246805-0
 Carrera 40 No. 14-09 Urbanizacion Acopi
 YUMBO
 Tel: 6644320-6644489 Fax: 6647315
 CIUU: 4664
 ventas@profinas.info



FACTURA DE VENTA ELECTRONICA
 numero: PR4212
 fecha : 2020-JUL-28 01:45 PM
 pagina: 01 de 01

Clientel : EMPOCALDAS S A ESP	Forma de Pago: CREDITO	Fecha de Vencimiento
Contacto :	Plazo: Credito a 60 Dias	2020-SEP-28
NIT. : 890803239-9 Codigo: 890803239		
Direccion : CR 23 75 82 BARRIO MILAN MANIZAL	Vendedor: 33815724	SEGOVIA CRUZ ELSY CLARENA
Ciudad : MANIZALES		
Telefono : 886 7080 Fax:	OC.Nro	OV.Nro
Email : facturacionelectronica@empocaldas.com.co	166	135681
	Dcto.Alt	Remisiones
		151705
		Moneda
		PESOS

Referencia	Descripcion	Mo	Cantidad	U.M	Precio_Unit.	Descuento	Valor_Total	Impto
M00PMCB24	M.COLIBLUE 24 PAQx50UND MILLIPORE	01	40	UND	307,500.00	0.00	12,300,000.00	19.00
	Lote : A20127 Vcto.: 2021/04/23							

TOTAL_BRUTO	DSCTO x LINEA	DSCTO_GLOBAL 0.00%	SUB-TOTAL	VALOR_IVA	RETENCIONES	TOTAL
12,300,000.00	0.00	0.00	12,300,000.00	2,337,000.00	350,550.00	14,286,450.00

Valor Letras : CATORCE MILLONES DOSCIENTOS OCHENTA Y SEIS MIL CUATROCIENTOS CINCUENTA PESOS MCTE.

[D E T A L L E D E V A L O R E S]

%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO	%	BASE	VLR_IMPUESTO
19	12,300,000	2,337,000	100	0	0	100	0	0	100	0	0
100	0	0	100	0	0	100	0	0	100	0	0
RTE FUENTE :	0.00	RTE IVA:	350,550.00	RTE ICA:	0.00	RTE CREE:	0.00				
IMPOCONSUMO:	0.00										

Observacion: CONTRATO VENCE AGOSTO 23

Autorretenedores de Renta Res 8748 Nov 19/2012 Autorretenedores ICA en Yumbo Res 008 Mar 04/2014
 REGIMEN COMUN

Despues de vencida esta factura cobraremos intereses de mora a la maxima tasa legal permitida.
 Autorizacion Numeracion De Facturacion 18763003724661 vigente de ENE-28-2020
 hasta JUL-28-2021 Numeracion Autorizada PRI al PR30000 Vigencia: 18 MESES
 Factura Generada por Software de Sistemas de Informacion Empresarial S.A. NIT 890.319.193-3 (Firma y Sello)

República de Colombia
Ministerio de Educación Nacional


**JUNTA CENTRAL DE CONTADORES
TARJETA PROFESIONAL
DE CONTADOR PUBLICO**

76912-T

PEDRO FRANCISCO
CASSETTA VALLEJO
C.C. 94715417
RESOLUCION INSCRIPCION 30
UNIVERSIDAD SANTIAGO DE CALI

FECHA 15/03/01

PRESIDENTE *[Signature]* 07208
JAIRO A. FERNANDEZ




C 1000 SA 04/2001-25034

[Signature]

FIRMA DEL TITULAR 07208

Esta tarjeta es el único documento que lo acredita como
CONTADOR PUBLICO de acuerdo con lo establecido en
la ley 43 de 1990.
Agradecemos a quien encuentre esta tarjeta devolverla
al Ministerio de Educación Nacional - Junta Central de
Contadores.



INFORME SUPERVISOR

LA SUSCRITA
JEFE SECCIÓN TÉCNICA Y OPERATIVA DE EMPOCALDAS S.A. E.S.P.

EN CALIDAD DE SUPERVISORA
DEL CONTRATO NÚMERO 0166 DE 2020

CERTIFICA QUE

El contratista PROFINAS S.A.S. identificado con NIT 800.246.805-0 realizo la entrega de reactivos según factura.

Manizales, 29 de julio de 2020



Nubia Janeth Galvis Gonzalez
Jefe Sección Técnica y Operativa
Empocaldas S.A. E.S.P.
Supervisora



REPUBLICA DE COLOMBIA
IDENTIFICACION PERSONAL
CEDULA DE CIUDADANIA

NUMERO **94.415.417**

CASSETTA VALLEJO

APELLIDOS

PEDRO FRANCISCO

NOMBRES


FIRMA





INDICE DERECHO

FECHA DE NACIMIENTO **04-OCT-1974**

PASTO
(NARIÑO)

LUGAR DE NACIMIENTO

1.75 **B+** **M**
ESTATURA G.S. RH SEXO

30-NOV-1992 CALI

FECHA Y LUGAR DE EXPEDICION *Carlos Ariel Sánchez Torres*
REGISTRADOR NACIONAL
CARLOS ARIEL SÁNCHEZ TORRES



R-3100100-00209840-M-0094415417-20100120 0020158610A 1 5020178334



Certificate of Analysis

1.00063.2500 Acetic acid (glacial) 100% anhydrous for analysis EMSURE® ACS,ISO,
Reag. Ph Eur
Batch K51921263

	Spec. Values		Batch Values	
Assay (alkalimetric)	≥ 99.8	%	99.9	%
Identity	passes test		passes test	
Color	≤ 10	Hazen	< 5	Hazen
Acetaldehyde	≤ 2	ppm	< 2	ppm
Acetic anhydride	≤ 100	ppm	41	ppm
Titrateable base	≤ 0.0004	meq/g	< 0.0004	meq/g
Solidification temperature	≥ 16.3	°C	16.4	°C
Chloride (Cl)	≤ 0.4	ppm	< 0.2	ppm
Phosphate (PO ₄)	≤ 0.4	ppm	< 0.1	ppm
Heavy metals (as Pb)	≤ 0.5	ppm	< 0.5	ppm
Sulfate (SO ₄)	≤ 0.4	ppm	< 0.4	ppm
Ag (Silver)	≤ 0.005	ppm	< 0.005	ppm
Al (Aluminium)	≤ 0.020	ppm	< 0.010	ppm
As (Arsenic)	≤ 0.010	ppm	< 0.005	ppm
Au (Gold)	≤ 0.010	ppm	< 0.005	ppm
B (Boron)	≤ 0.100	ppm	< 0.010	ppm
Ba (Barium)	≤ 0.010	ppm	< 0.005	ppm
Be (Beryllium)	≤ 0.005	ppm	< 0.005	ppm
Bi (Bismuth)	≤ 0.050	ppm	< 0.010	ppm
Ca (Calcium)	≤ 0.100	ppm	< 0.020	ppm
Cd (Cadmium)	≤ 0.020	ppm	< 0.010	ppm
Co (Cobalt)	≤ 0.010	ppm	< 0.005	ppm
Cr (Chromium)	≤ 0.020	ppm	< 0.010	ppm
Cu (Copper)	≤ 0.010	ppm	< 0.005	ppm
Fe (Iron)	≤ 0.050	ppm	< 0.040	ppm
Ga (Gallium)	≤ 0.050	ppm	< 0.010	ppm
Ge (Germanium)	≤ 0.020	ppm	< 0.010	ppm
Hg (Mercury)	≤ 0.005	ppm	< 0.005	ppm
In (Indium)	≤ 0.050	ppm	< 0.050	ppm
K (Potassium)	≤ 0.100	ppm	< 0.050	ppm
Li (Lithium)	≤ 0.010	ppm	< 0.005	ppm
Mg (Magnesium)	≤ 0.050	ppm	< 0.010	ppm
Mn (Manganese)	≤ 0.010	ppm	< 0.005	ppm
Mo (Molybdenum)	≤ 0.010	ppm	< 0.005	ppm
Na (Sodium)	≤ 0.200	ppm	< 0.010	ppm
Ni (Nickel)	≤ 0.020	ppm	< 0.010	ppm
Pb (Lead)	≤ 0.010	ppm	< 0.005	ppm
Pt (Platinum)	≤ 0.100	ppm	< 0.050	ppm
Sn (Tin)	≤ 0.050	ppm	< 0.010	ppm
Sr (Strontium)	≤ 0.010	ppm	< 0.005	ppm
Ti (Titanium)	≤ 0.050	ppm	< 0.010	ppm

Certificate of Analysis

1.00063.2500 Acetic acid (glacial) 100% anhydrous for analysis EMSURE® ACS,ISO,
Reag. Ph Eur

Batch K51921263

TI (Thallium)	≤ 0.020	ppm	< 0.010	ppm
V (Vanadium)	≤ 0.010	ppm	< 0.005	ppm
Zn (Zinc)	≤ 0.030	ppm	< 0.010	ppm
Zr (Zirconium)	≤ 0.050	ppm	< 0.010	ppm
Substances reducing potassium dichromate	passes test		passes test	
Substances reducing potassium permanganate	≤ 20	ppm	< 20	ppm
Evaporation residue	≤ 5	ppm	< 5	ppm
Water	≤ 0.2	%	0.05	%
Dilution test	passes test		passes test	

Minimum shelf life: see product label

Date of examination (DD.MM.YYYY) 09.10.2019

Dr. Reiner Vogt

Responsible laboratory manager quality control

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Certificate of Analysis

1.00456.2510 Nitric acid 65% for analysis EMSURE® Reag. Ph Eur,ISO
Batch K50980056

	Spec. Values		Batch Values	
Assay (alkalimetric)	≥ 65.0	%	65.2	%
Identity	passes test		passes test	
Appearance	passes test		passes test	
Color (Hazen)	≤ 10	Hazen	< 10	Hazen
Density (d 20/20)	1.384 - 1.416		1.395	
Chloride (Cl)	≤ 0.2	ppm	< 0.2	ppm
Phosphate (PO ₄)	≤ 0.2	ppm	< 0.1	ppm
Sulfate (SO ₄)	≤ 0.5	ppm	< 0.5	ppm
Heavy metals (as Pb)	≤ 0.2	ppm	< 0.1	ppm
Ag (Silver)	≤ 0.010	ppm	< 0.005	ppm
Al (Aluminium)	≤ 0.050	ppm	< 0.010	ppm
As (Arsenic)	≤ 0.010	ppm	< 0.002	ppm
Au (Gold)	≤ 0.050	ppm	< 0.005	ppm
Ba (Barium)	≤ 0.010	ppm	< 0.005	ppm
Be (Beryllium)	≤ 0.010	ppm	< 0.005	ppm
Bi (Bismuth)	≤ 0.020	ppm	< 0.010	ppm
Ca (Calcium)	≤ 0.100	ppm	< 0.050	ppm
Cd (Cadmium)	≤ 0.010	ppm	< 0.005	ppm
Co (Cobalt)	≤ 0.010	ppm	< 0.005	ppm
Cr (Chromium)	≤ 0.020	ppm	< 0.005	ppm
Cu (Copper)	≤ 0.010	ppm	< 0.005	ppm
Fe (Iron)	≤ 0.100	ppm	< 0.020	ppm
Ga (Gallium)	≤ 0.050	ppm	< 0.010	ppm
Ge (Germanium)	≤ 0.020	ppm	< 0.010	ppm
In (Indium)	≤ 0.020	ppm	< 0.010	ppm
K (Potassium)	≤ 0.100	ppm	< 0.010	ppm
Li (Lithium)	≤ 0.010	ppm	< 0.010	ppm
Mg (Magnesium)	≤ 0.050	ppm	< 0.010	ppm
Mn (Manganese)	≤ 0.010	ppm	< 0.005	ppm
Mo (Molybdenum)	≤ 0.010	ppm	< 0.005	ppm
Na (Sodium)	≤ 0.200	ppm	< 0.200	ppm
Ni (Nickel)	≤ 0.020	ppm	< 0.010	ppm
Pb (Lead)	≤ 0.010	ppm	< 0.010	ppm
Pt (Platinum)	≤ 0.100	ppm	< 0.010	ppm
Sr (Strontium)	≤ 0.010	ppm	< 0.010	ppm
Ti (Titanium)	≤ 0.020	ppm	< 0.010	ppm
Tl (Thallium)	≤ 0.020	ppm	< 0.020	ppm
V (Vanadium)	≤ 0.010	ppm	< 0.010	ppm
Zn (Zinc)	≤ 0.020	ppm	< 0.010	ppm
Zr (Zirconium)	≤ 0.020	ppm	< 0.020	ppm
Residue on ignition (as SO ₄)	≤ 3	ppm	< 3	ppm
Tested by the dithizone	passes test		passes test	

Certificate of Analysis

1.00456.2510 Nitric acid 65% for analysis EMSURE® Reag. Ph Eur,ISO
Batch K50980056

Date of expiry: see product label
ISO-reagent

Date of release (DD.MM.YYYY) 04.01.2019

Dr. Reiner Vogt

Responsible laboratory manager quality control

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Certificate of Analysis

1.00732.2500 Sulfuric acid 95-97% for analysis (max. 0.005 ppm Hg) EMSURE® ACS,
ISO, Reag. Ph Eur

Batch K51411332

	Spec. Values		Batch Values	
Assay (alkalimetric)	95.0 - 97.0	%	96.4	%
Identity	passes test		passes test	
Color	≤ 10	Hazen	≤ 10	Hazen
Appearance	passes test		passes test	
Density (d 20/20)	1.834 - 1.837		1.836	
Chloride (Cl)	≤ 0.1	ppm	≤ 0.1	ppm
Nitrate (NO ₃)	≤ 0.2	ppm	≤ 0.2	ppm
Phosphate (PO ₄)	≤ 0.5	ppm	≤ 0.5	ppm
Heavy metals (as Pb)	≤ 1	ppm	≤ 1	ppm
Ag (Silver)	≤ 0.02	ppm	≤ 0.02	ppm
Al (Aluminium)	≤ 0.05	ppm	< 0.02	ppm
As (Arsenic)	≤ 0.01	ppm	≤ 0.01	ppm
Ba (Barium)	≤ 0.05	ppm	< 0.02	ppm
Be (Beryllium)	≤ 0.01	ppm	≤ 0.01	ppm
Bi (Bismuth)	≤ 0.1	ppm	< 0.01	ppm
Ca (Calcium)	≤ 0.2	ppm	< 0.1	ppm
Cd (Cadmium)	≤ 0.02	ppm	≤ 0.02	ppm
Co (Cobalt)	≤ 0.01	ppm	≤ 0.01	ppm
Cr (Chromium)	≤ 0.05	ppm	< 0.02	ppm
Cu (Copper)	≤ 0.01	ppm	≤ 0.01	ppm
Fe (Iron)	≤ 0.1	ppm	< 0.01	ppm
Ge (Germanium)	≤ 0.05	ppm	≤ 0.05	ppm
Hg (Mercury)	≤ 0.005	ppm	< 0.003	ppm
K (Potassium)	≤ 0.1	ppm	< 0.01	ppm
Li (Lithium)	≤ 0.01	ppm	≤ 0.01	ppm
Mg (Magnesium)	≤ 0.05	ppm	< 0.02	ppm
Mn (Manganese)	≤ 0.01	ppm	≤ 0.01	ppm
Mo (Molybdenum)	≤ 0.05	ppm	≤ 0.05	ppm
NH ₄ (Ammonium)	≤ 2	ppm	≤ 2	ppm
Na (Sodium)	≤ 0.5	ppm	< 0.2	ppm
Ni (Nickel)	≤ 0.02	ppm	≤ 0.02	ppm
Pb (Lead)	≤ 0.02	ppm	≤ 0.02	ppm
Sr (Strontium)	≤ 0.02	ppm	≤ 0.02	ppm
Ti (Titanium)	≤ 0.1	ppm	< 0.01	ppm
Tl (Thallium)	≤ 0.05	ppm	≤ 0.05	ppm
V (Vanadium)	≤ 0.01	ppm	≤ 0.01	ppm
Zn (Zinc)	≤ 0.05	ppm	≤ 0.05	ppm
Zr (Zirconium)	≤ 0.1	ppm	< 0.01	ppm
Substances reducing potassium permanganate (as SO ₂)	≤ 2	ppm	≤ 2	ppm
Residue on ignition	≤ 5	ppm	≤ 5	ppm

Certificate of Analysis

1.00732.2500 Sulfuric acid 95-97% for analysis (max. 0.005 ppm Hg) EMSURE® ACS,
ISO, Reag. Ph Eur

Batch K51411332

Date of expiry: see product label

Date of release (DD.MM.YYYY) 22.05.2019

Dr. Reiner Vogt

Responsible laboratory manager quality control

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Certificate of Analysis

1.09072.1000 Sulfuric acid $c(\text{H}_2\text{SO}_4) = 0.5 \text{ mol/l}$ (1 N) Titripur® Reag. Ph Eur, Reag. USP
Batch HC00984772

	Spec. Values		Batch Values	
Form	liquid		liquid	
Amount-of-substance concentration	0.4975-0.5025	mol/l	0.5000	mol/l
Measurement uncertainty	+/- 0.0015	mol/l	+/- 0.0015	mol/l
Traceability	NIST SRM		723E	

The concentration is determined by volumetric titration and refers to 20°C.

The certified value is traceable to a primary standard from the National Institute of Standards and Technology USA (NIST SRM 723 Trishydroxymethylaminomethane) by means of volumetric standard Trishydroxymethylaminomethane (Art. 1.02408), certified by the accredited calibration laboratory of Merck KGaA, Darmstadt, Germany according to DIN EN ISO 17025.

The uncertainty is expressed as expanded measurement uncertainty with a coverage factor $k=2$ covering a confidence level of 95%. All measurements are carried out in the laboratory of Merck KGaA, Darmstadt, Germany.

Note: The titer is a correction factor to correct for variations of the volumetric solution, the titration equipment, the temperature and other laboratory conditions. For correct titration results it is recommended to determine a titer with the laboratory specific equipment and under laboratory specific conditions directly after opening a new bottle and at regular time intervals.

Date of release (DD.MM.YYYY) 18.02.2020

Minimum shelf life (DD.MM.YYYY) 28.02.2023

Ayfer Yildirim

Responsible laboratory manager quality control

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Certificado de Análisis

Código 2D5K20.P111G0

Lote 03760303

Producto ALCOHOL ETILICO RECTIFICADO DESNATURALIZADO, LQ, ID, 200 L
Proveedor MITSUBISHI

Fecha de Vencimiento 28-FEB-2022

Fecha de Emisión 03-ABR-2020

Análisis	Unidad	Resultados	Mínimo	Máximo	Especificación
Apariencia		cumple			Líquido translucido, libre de partículas en suspensión
Densidad a 20 °C	g/mL	.8119	.801	.8157	
Olor		cumple			Característico
Metanol	mg/l	50		500	
Acidez		4		200	
Título alcoholímetro (v/v)	%	95.6	95		
Contenido desnaturalizante (DEP) (v/v)	v/v °GL	.5	.5	.7	
Fecha de Manufactura		29/02/2020			

Observaciones:

Los anteriores resultados están basados en la información suministrada por nuestro proveedor y algunos han sido verificados en nuestro laboratorio

"El presente certificado de análisis no exonera al cliente de realizar las pruebas de calidad correspondientes. Brenntag no será responsable por ningún defecto de calidad que no sea advertido antes de utilizar este producto en la producción."

ROSAURA ZAMBRANO
 JEFE NAL, CONTROL CALIDAD

KATHERINE LOZANO
 ANALISTA CONTROL CALIDAD



Certificate of Analysis

1.05432.2500 Ammonia solution 25% for analysis EMSURE® ISO, Reag. Ph Eur
Batch K52167932

	Spec. Values		Batch Values	
Assay (acidimetric, NH ₃)	25.0 - 30.0	%	26.4	%
Identity	passes test		passes test	
Appearance of solution	passes test		passes test	
Density (20/20°C)	0.892 - 0.910		0.905	
Carbonate (as CO ₂)	≤ 10	ppm	< 10	ppm
Chloride (Cl)	≤ 0.5	ppm	< 0.5	ppm
Phosphate (PO ₄)	≤ 0.5	ppm	< 0.5	ppm
Silicon (as SiO ₂)	≤ 10	ppm	< 1	ppm
Sulfate (SO ₄)	≤ 2	ppm	< 2	ppm
Sulphide (S)	≤ 0.2	ppm	< 0.2	ppm
Pyridine and related substances	≤ 2	ppm	< 2	ppm
Ag (Silver)	≤ 0.020	ppm	< 0.010	ppm
Al (Aluminium)	≤ 0.500	ppm	< 0.200	ppm
Au (Gold)	≤ 0.100	ppm	< 0.020	ppm
Ba (Barium)	≤ 0.050	ppm	< 0.020	ppm
Bi (Bismuth)	≤ 0.100	ppm	< 0.050	ppm
Ca (Calcium)	≤ 0.500	ppm	< 0.200	ppm
Cd (Cadmium)	≤ 0.050	ppm	< 0.020	ppm
Co (Cobalt)	≤ 0.050	ppm	< 0.020	ppm
Cr (Chromium)	≤ 0.050	ppm	< 0.020	ppm
Cu (Copper)	≤ 0.100	ppm	< 0.020	ppm
Fe (Iron)	≤ 0.100	ppm	< 0.050	ppm
Ga (Gallium)	≤ 0.020	ppm	< 0.010	ppm
In (Indium)	≤ 0.020	ppm	< 0.020	ppm
K (Potassium)	≤ 0.500	ppm	< 0.200	ppm
Li (Lithium)	≤ 0.020	ppm	< 0.010	ppm
Mg (Magnesium)	≤ 0.100	ppm	< 0.050	ppm
Mn (Manganese)	≤ 0.050	ppm	< 0.020	ppm
Mo (Molybdenum)	≤ 0.050	ppm	< 0.020	ppm
Na (Sodium)	≤ 0.500	ppm	< 0.200	ppm
Ni (Nickel)	≤ 0.050	ppm	< 0.020	ppm
Pb (Lead)	≤ 0.050	ppm	< 0.020	ppm
Pt (Platinum)	≤ 0.100	ppm	< 0.020	ppm
Sn (Tin)	≤ 0.100	ppm	< 0.020	ppm
Sr (Strontium)	≤ 0.100	ppm	< 0.100	ppm
Ti (Titanium)	≤ 0.100	ppm	< 0.050	ppm
Tl (Thallium)	≤ 0.050	ppm	< 0.010	ppm
Zn (Zinc)	≤ 0.100	ppm	< 0.050	ppm
Oxidizable substances	passes test		passes test	
Substances reducing potassium permanganate (as O)	≤ 5	ppm	< 5	ppm
Residue on ignition (as SO ₄)	≤ 10	ppm	< 10	ppm

Certificate of Analysis

1.05432.2500 Ammonia solution 25% for analysis EMSURE® ISO,Reag. Ph Eur
Batch K52167932

Non volatile matter ≤ 10 ppm < 10 ppm

Date of release (DD.MM.YYYY) 21.01.2020
Minimum shelf life (DD.MM.YYYY) 31.01.2025

Dr. Reiner Vogt
Responsible laboratory manager quality control

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Certificate of Analysis – Certified Reference Material

Certipur® Sodium carbonate

Product no.: 1.02405.0080
Lot no.: 192405R
Description of CRM: Sodium carbonate
Expiry date: 2024/03/31
Storage: +15°C to +25°C tightly closed in the original container and protect from light and moisture
Composition: Sodium carbonate



Analyte	Certified value as mass fraction	Associated uncertainty, $U=k \cdot u$ ($k=2$) as mass fraction
Mass fraction	99.90 %	±0.08%

Metrological traceability: Directly traceable to the suitable primary standard NIST SRM Tris(hydroxymethyl)-aminomethane 723e.

Measurement method: The certified mass fraction was determined by potentiometric titration with hydrochloric acid as titration solution. The certified value is based on a molecular mass $M = 105.989$ g/mol dried substance.

Intended use: This volumetric standard is intended for standardisation of volumetric solutions related to the chapter reagents of the Pharmacopoeia.

Instructions for handling and correct use: The volumetric standard Sodium carbonate must be dried at 300 °C for 2 hours before use. By within-unit homogeneity studies a minimum weigh-in quantity of 100 mg was determined.

Accreditation: Merck KGaA, Darmstadt, Germany is accredited by the German accreditation authority DAkkS as registered reference material producer D-RM-15185-01-00 in accordance with ISO 17034 and registered calibration laboratory D-K-15185-01-00 according to DIN EN ISO/IEC 17025.

Certificate issue date: July 31, 2019



ISO 17034



ISO/IEC 17025

Dipl.-Ing. Ayfer Yildirim
(Responsible QC Laboratory Manager)



Health and safety information:

Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Certification process details:

Certipur® Volumetric standards are prepared from high purity salts. Characterisation of Certipur® Volumetric standards is carried out by the accredited quality control (QC) laboratory at Merck KGaA, Darmstadt, Germany according to DIN EN ISO / IEC 17025 by measuring the mass fraction by potentiometric titration.

Homogeneity and stability studies are performed with the material according to the requirements of ISO 17034 and ISO Guide 35.

Associated uncertainty:

The associated uncertainty U_{CRM} reported with the certified values is calculated as combined expanded uncertainty $U_{CRM}=k \cdot u_{CRM}$ in accordance with GUM and EA-4/02, with $k=2$ as the coverage factor for a 95% coverage probability.

The combined uncertainty u_{CRM} is derived from combination of the squared uncertainty contributions:

$$u_{CRM} = \sqrt{u^2_{\text{Characterisation}} + u^2_{\text{Homogeneity}} + u^2_{\text{Stability}}}$$

$u_{\text{characterisation}}$: is the uncertainty in accordance with DIN EN ISO/IEC 17025 which includes the contributions of the primary reference material and the measuring system.

$u_{\text{homogeneity}}$: is the between-bottle variation in accordance with ISO 17034. The assessment of homogeneity is performed by analysis of a representative number of systematically chosen sample units.

$u_{\text{stability}}$: is the uncertainty obtained from short-term and long-term stability in accordance with ISO 17034. The stability studies are the basis for the quantification of the expiry date of this volumetric standard for the unopened bottle.

For more detailed information please read the certification report on our website.

Certificate of analysis revision history:

Certificate version	Date	Reason for version
01	July 31, 2019	Initial version



3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.com

Email USA: techserv@sial.com

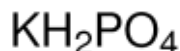
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:

Potassium phosphate monobasic - buffer substance, anhydrous, puriss. p.a., ACS reagent, reagent, ISO, reagent, Ph. Eur., 99.5-100.5%

Product Number: 60220
 Batch Number: MKCM1696
 Brand: SIGALD
 CAS Number: 7778-77-0
 MDL Number: MFCD00011401
 Formula: H₂KO₄P
 Formula Weight: 136.09 g/mol
 Quality Release Date: 20 MAY 2020
 Recommended Retest Date: MAR 2023



Test	Specification	Result
Titration with NaOH alk., calc. to dried subst.	99.5 - 100.5 %	99.9 %
Loss on Drying 105 deg C	≤ 0.2 %	< 0.2 %
pH 5%, 25 deg C	4.2 - 4.5	4.3
Water Insoluble Matter	≤ 0.005 %	0.003 %
Chloride (Cl)	≤ 5 mg/kg	< 5 mg/kg
Sulfate (SO ₄)	≤ 30 mg/kg	< 30 mg/kg
Total Nitrogen	≤ 10 mg/kg	< 10 mg/kg
Solubility (Color)	Colorless to Light Yellow	Colorless
Solubility (Turbidity) 0.5g in 10mL, Water	Clear	Clear
Arsenic (As)	≤ 0.00005 %	0.00001 %
Calcium (Ca)	≤ 0.001 %	< 0.001 %
Cadmium (Cd)	≤ 0.0005 %	< 0.0001 %
Cobalt (Co)	≤ 0.0005 %	< 0.0005 %
Chromium (Cr)	≤ 0.0015 %	< 0.0015 %
Copper (Cu)	≤ 0.0005 %	< 0.0001 %
Iron (Fe)	≤ 0.001 %	< 0.001 %
Magnesium (Mg)	≤ 0.0005 %	< 0.0005 %
Manganese (Mn)	≤ 0.0005 %	< 0.0005 %

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 slip for additional terms and conditions of sale.

3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.com

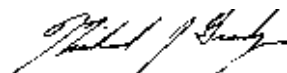
Email USA: techserv@sial.com

Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Number: 60220
Batch Number: MKCM1696

Test	Specification	Result
Nickel (Ni)	≤ 0.0005 %	< 0.0005 %
Sodium (Na)	≤ 0.005 %	0.004 %
Lead (Pb)	≤ 0.0005 %	< 0.0001 %
Zinc (Zn)	≤ 0.0005 %	< 0.0005 %
Heavy Metals (by ICP-OES)	≤ 10 mg/kg	1 mg/kg
Recommended Retest Period 60 months	-----	-----
Note Identity, assay and impurities are complying to the monographs of the above mentioned pharmacopeias/codices.	Note	



Michael Grady, Manager
 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. 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 List

For request number 1253971

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
2105528	0078	N/A	N/A	DPD Free Chlorine Reagent

Total Enclosures: 1



An ISO 9001 Certified Company

Certificate of Analysis

Page 1

COMMODITY: **DPD Free Chlorine Reagent**COMMODITY NUMBER: **2105528**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A0078****3/26/2020****3/26/2020**

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
Percent recovery for a 2.5 ppm standard. Chlorine concentration determined using DPD compared to the actual concentration.	93 to 107 %	103.3 %
pH of the reagent in solution	6.2 to 6.5	6.43
Hardness Reagent Blank: Absorbance of a 1000 ppm as CaCO ₃ 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 Mar 2025

Certified by _____

Scott Als
Analytical Services Chemist



Certificate of Analysis

1.07233.0100 Phenolphthalein indicator ACS, Reag. Ph Eur
Batch K51745333

	Spec. Values	Batch Values
Identity (UV/VIS-Spectrum)	passes test	passes test
Appearance	White to yellowish white powder	passes test
Clarity of the alcoholic solution (10 g/l ethanol)	passes test	passes test
Absorption maximum λ_{\max} . (buffer pH 9.8)	551 - 554 nm	551 - 554 nm
Spec. Absorptivity A 1%/1cm (λ_{\max} ; 0.01 g/l; buffer pH 9.8; calculated on dried substance)	700 - 750	720
Transition range	pH 8.2 - pH 9.8 almost colorless - red-violet	passes test
Transition range (according to ACS)	passes test	passes test
Transition interval (according Reag. Ph Eur)	passes test	passes test
Loss on drying (105 °C)	≤ 1 %	< 1 %

Date of release (DD.MM.YYYY) 16.08.2019
Minimum shelf life (DD.MM.YYYY) 31.08.2024

Dr. Ralf Burgert
Responsible laboratory manager quality control

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Certificate of Analysis

1.06586.1000 di-Sodium hydrogen phosphate anhydrous for analysis EMSURE® ACS,
Reag. Ph Eur
Batch F2094186

	Spec. Values		Batch Values	
Assay (alkalimetric)	≥ 99.0	%	99.9	%
Insoluble matter	≤ 0.01	%	≤ 0.01	%
pH-value (5 %; water, 25 °C)	8.7 - 9.3		8.9	
Chloride (Cl)	≤ 0.002	%	≤ 0.002	%
Sulfate (SO ₄)	≤ 0.005	%	≤ 0.005	%
Heavy metals (ACS)	≤ 0.001	%	≤ 0.001	%
Cu (Copper)	≤ 0.0003	%	≤ 0.0003	%
Fe (Iron)	≤ 0.001	%	≤ 0.001	%
K (Potassium)	≤ 0.01	%	≤ 0.01	%
Pb (Lead)	≤ 0.001	%	≤ 0.001	%
Loss on Drying (105 °C)	≤ 0.2	%	< 0.2	%

Corresponds to ACS, Reag. Ph Eur

Date of release (DD.MM.YYYY) 04.11.2019
Minimum shelf life (DD.MM.YYYY) 31.10.2024

Claudia Wiegand
Responsible laboratory manager quality control

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CERTIFICADO DE CONTROL ANALÍTICO
EXTRAN MA 02 NEUTRO

PRODUCTO EXTRAN MA 02 NEUTRO	PRESENTACIÓN: 5 LITROS	FECHA FABRICACIÓN: 2019 / 01 / 25
	TAMAÑO LOTE: 3000 L	LOTE: 19Q530501

DESCRIPCIÓN PRODUCTO	CARACTERÍSTICAS EXIGIDAS	CARACTERÍSTICAS REALES
ASPECTO	LÍQUIDO TRANSPARENTE LIGERAMENTE TURBIO	CUMPLE
COLOR	INCOLORO O LEVEMENTE AMARILLO	CUMPLE
OLOR	CARACTERISTICO	CUMPLE
SOLUBILIDAD	EN AGUA - SOLUBLE EN CUALQUIER PROPORCION	CUMPLE
pH 5% V/V	6 - 8	7.41 5% V/V
DENSIDAD	1.057 - 1.067 G/ML	1.057 g/ml
CONTENIDO Fe	NEGATIVO	CUMPLE
CONTENIDO FOSFATO	7.0 - 7.1 %	7.0 %
ALCALINIDAD LIBRE	0.17 - 0.19 %	0.18%
IDENTIDAD P Y Na	CUMPLE	CUMPLE
VOLUMEN DE ESPUMA: 15 ML DE SOL AL 5% AGITADO EN PROBETA DE 100 ML 1 MIN Y DEJAR EN REPOSO 1 MIN Y LEER VOLUMEN	MINIMO 80 ML	CUMPLE
FECHA VENCIMIENTO	31/ENERO/ 2024	
OBSERVACIONES:		



ANALIZADO POR: José María Pizarro

FECHA ANÁLISIS ENERO/28/ 2019



Certificate of Analysis

1.14403.0001 Iron Test Method: colorimetric with color card and comparator block with long test tubes 0.01 - 0.02 - 0.03 - 0.04 - 0.06 - 0.08 - 0.10 - 0.15 - 0.20 mg/ I Fe MQuant®
Batch HC996427

Batch Values

Application test conforms

Date of release (DD.MM.YYYY) 17.05.2019
Minimum shelf life (DD.MM.YYYY) 31.05.2022

Tom Kupfer
Responsible laboratory manager quality control

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Certificate of Analysis

1.14413.0001 Aluminium Test Method: colorimetric with color card and comparator block
with short test tubes 0.07 - 0.12 - 0.20 - 0.35 - 0.50 - 0.65 - 0.80 mg/l Al
MColortest™
Batch HC873269

Batch Values

Application test conforms

Date of release (DD.MM.YYYY) 12.10.2018
Minimum shelf life (DD.MM.YYYY) 30.09.2021

Tom Kupfer
Responsible laboratory manager quality control

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Certificate of Analysis

1.18463.0002 Nitrite Test Refill pack for 114774, 114424, 114408 MColorTest™
Batch HC991408

Batch Values

Application test conforms

Date of release (DD.MM.YYYY) 12.06.2019
Minimum shelf life (DD.MM.YYYY) 31.05.2022

Tom Kupfer
Responsible laboratory manager quality control

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EMD Millipore Corporation
Billerica, MA 01821

www.emdmillipore.com

Certificate of Analysis

Page 1

COMMODITY: **m-ColiBlue24 Broth**

COMMODITY NUMBER: **2749950**

LOT NUMBER: **A20099**

MANUFACTURE DATE:

3/31/2020

DATE OF ANALYSIS:

4/6/2020

TEST

SPECIFICATIONS

RESULTS

Color of solution is blue.	To Pass	Passed
Typical bacterial growth. Blue-purple colonies formed by <i>Escherichia coli</i> and red colonies formed by <i>Enterobacter cloacae</i> . 20-80 colonies per plate and all plates within 20% of average.	To Pass	Passed
Recovery of standard bacterial cultures in comparison to a prior lot (<i>E. coli</i> colonies, ATCC# 25922).	80 to 120 %	102.0 %
Recovery of standard bacterial cultures in comparison to a prior lot(<i>Enterobacter cloacae</i> colonies, ATCC# 23355).	80 to 120 %	104.0 %
Recovery of standard bacterial cultures in comparison to a prior lot (<i>Klebsiella</i> colonies, ATCC#13883).	80 to 120 %	87.0 %
Poor or no growth of <i>Pseudomonas aeruginosa</i> , ATCC# 27853.	To Pass	Passed
pH of the solution	6.8 to 7.2	7.04
Sterile, no viable bacteria are present.	To Pass	Passed



EMD Millipore Corporation
Billerica, MA 01821

www.emdmillipore.com

Certificate of Analysis

Page 2

COMMODITY: **m-ColiBlue24 Broth**

COMMODITY NUMBER: **2749950**

LOT NUMBER: **A20099**

MANUFACTURE DATE:

3/31/2020

DATE OF ANALYSIS:

4/6/2020

TEST

SPECIFICATIONS

RESULTS

The expiration date is Mar 2021

Certified by _____

Scott Als
Analytical Services Chemist

Certificate of Analysis



Colitag™
Catalog No. 9851

Lot No.: 111716B
Exp. Date: DEC.31.2020

PHYSICAL CHARACTERISTICS

<u>SPECIFICATION</u>	<u>EXPECTED RESULTS</u>	<u>ACTUAL RESULTS</u>
Appearance:	Granular to coarse powder, free flowing	Granular to coarse powder, free flowing
Rehydrated:	Colorless to Pale straw	Pale straw
Weight of media:	1.2 -1.4g	Conforms
pH	6.6-7.0	6.95


CULTURAL RESPONSE

The medium was weighed out for 100 ml samples, rehydrated with sterile, processed water and inoculated with the organisms listed below. Cultures were incubated aerobically at 35 ± 0.5°C and examined for growth and reactions after 16-48 hours of incubation.

<u>SAMPLE</u>	<u>ATCC</u>	<u>APPROX. INOCULUM CFU</u>	<u>EXPECTED RESULTS</u>			<u>ACTUAL RESULTS</u>
			<u>Growth</u>	<u>Fluorescence (MUG)</u>	<u>Color Change (ONPG)</u>	
<i>Media Blank</i>	NA	NA	None	-	-	Meets Expected Result
<i>Citrobacter freundii</i>	8090	10-100	Good	-	+	Meets Expected Result
<i>Escherichia coli</i>	25922	10-100	Good	+	+	Meets Expected Result
<i>Pseudomonas aeruginosa</i>	10145	>10e6	None to Poor	-	-	Meets Expected Result

The product has been gamma irradiated in accordance with FDA, QSR, ISO 9001 and EN 46001 guidelines. Neogen certifies that the material listed above received the specified targeted dose according to a dosimetry monitoring system

Product was tested in compliance to the regulation noted above. Where a regulation is not referenced, Neogen Corporation standard test methods were observed. Variances in data may occur. External factors such as adverse storage conditions or contamination of product may cause loss in performance. Neogen Corporation certifies that this lot met all quality control specifications for this product.


Mike Anderson
Quality Control
Supervisor

Monday, November 25, 2019





TECNOLOGIAS OROZCO TORRES SAS
NIT: 830.138.376-9

APRECIADO CLIENTE

Con la presente informamos que el producto COLITAG Ref 9871 producido por la compañía Neogen Corporation de USA, tiene un vencimiento corto (8 meses) ya que es un medio de cultivo preparado y listo para sus uso, por lo cual hemos anexado el certificado de calidad del que actualmente tenemos en stock para la comercialización en Colombia.

VICTOR A OROZCO
GERENTE



Certificate of Analysis

1.04419.0050 Mercury(II) chloride for analysis EMSURE® Reag. Ph Eur,ACS
Batch K50571119

	Spec. Values		Batch Values	
Assay (complexometric)	≥ 99.5	%	99.6	%
Assay (complexometric; calculated on dried substance)	99.5 - 100.5	%	99.6	%
Identity	passes test		passes test	
Appearance of solution	passes test		passes test	
Solution in Ether	passes test		passes test	
Acidity or alkalinity	passes test		passes test	
Mercury(I)-chloride	passes test		passes test	
Fe (Iron)	≤ 0.002	%	≤ 0.002	%
Residue after reduction	≤ 0.02	%	< 0.01	%
Loss on drying (24 h im Vakuum)	≤ 1.0	%	< 0.1	%

Corresponds to Reag. Ph Eur,ACS

Date of release (DD.MM.YYYY) 17.08.2018
Minimum shelf life (DD.MM.YYYY) 31.08.2023

Claudia Wiegand
Responsible laboratory manager quality control

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Certificate of Analysis

1.03121.0100 N,N-Diethyl-1,4-phenylenediammonium sulfate GR for analysis
Batch N019006921

	Spec. Values		Batch Values	
Assay	≥ 99.5	%	≥ 99.5	%
Identity (IR-spectrum)	passes test		passes test	
pH-value (5 %; water)	2.0 - 2.2		2.0 - 2.2	
Heavy metals (as Pb)	≤ 0.001	%	≤ 0.001	%
Fe (Iron)	≤ 0.001	%	≤ 0.001	%
Sulfated ash (600 °C)	≤ 0.05	%	0.08	%
Water (according to Karl Fischer)	≤ 0.5	%	≤ 0.5	%

Date of release (DD.MM.YYYY) 21.03.2019
Minimum shelf life (DD.MM.YYYY) 31.03.2021

Ioannis Chartomatsidis
Responsible laboratory manager quality control

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Merck · Frankfurter Str. 250 · 64293 Darmstadt · Germany

TO WHOM IT MAY CONCERN

Date 18.03.2019
Division/Dept.
Care of
Phone
Fax
E-Mail

Request for Concession

N,N-Diethyl-1,4-phenylenediammonium sulfate GR for analysis

Item No.: 1.03121.0100 / 1.03121.5000 / 1.03121.9025

Batch Number: N019006921

Order No:

Above mentioned batch is slightly out of specification.

In our specification the parameter sulfated ash (600°C) is defined as $\leq 0.05\%$. At the time of release the measured value for sulfated ash of batch number **N019006921** was 0.08 % and thus out of spec. All other parameters of this batch passed test and we kindly ask you to check whether this batch conforms to your requirements. Corresponding CoA is attached to this form.

An alternative material is not available at the time being. Therefore, Merck KGaA requests approval to supply the chemical stated above.

Concession of the customer:

We do accept the above mentioned chemical **for above mentioned order no***

We do not accept the above mentioned chemical *

* please tick as appropriate

Company:

Department:

Name:

Date :

Signature:



Merck KGaA

Frankfurter Strasse 250
64293 Darmstadt · Germany
Phone +49 6151 72 0
Fax +49 6151 72 2000
MERCKgroup.com

Corporation with General Partners
Commercial Register AG Darmstadt HRB 6164
Registered Office: Darmstadt
Chairman of the Supervisory Board:
Wolfgang Büchele

Executive Board and General Partners:
Stefan Oschmann (Chairman),
Udit Batra, Kai Beckmann, Walter Galinat,
Belén Garijo, Marcus Kuhnert



Certificate of Analysis

1.19897.0500 Chloride standard solution traceable to SRM from NIST NaCl in H₂O 1000
mg/l Cl Certipur®
Batch HC99985197

Batch Values

Concentration	β (Cl ⁻)	1000	mg/l
---------------	----------------------	------	------

Determination method: Argentometric titration.

The content of this solution was determined with silver nitrate standard solution (article number 1.09081) standardized against volumetric standard sodium chloride (article number 1.02406). The expanded measurement uncertainty is ± 0.4 % (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 999b (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard sodium chloride, measured in the accredited calibration laboratory of Merck KGaA, Darmstadt, Germany in accordance to DIN EN ISO/IEC 17025.

Date of release (DD.MM.YYYY) 19.06.2019

Minimum shelf life (DD.MM.YYYY) 30.06.2022

Ayfer Yildirim

Responsible laboratory manager quality control

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Certificate of Analysis List

For request number 1254288

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
1427810	0037	N/A	N/A	Alkalinity Standard Solution Ampule, 0.5N

Total Enclosures: 1



An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY: **Alkalinity Standard Solution Ampule, 0.5N**

COMMODITY NUMBER: **1427810**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A0037**

2/11/2020

2/13/2020

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
Alkalinity Concentration as Sodium Carbonate	0.495 to 0.505 N	0.5050 N

The expiration date is Feb 2023

The item 1427810 is traceable to NIST standards SRM 84L Potassium Hydrogen Phthalate LOT N/A.

A handwritten signature in cursive script that reads "Scott Als".

Certified by _____

Scott Als
Analytical Services Chemist

Certificate of Analysis List

For request number 1113145

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
1440049	8204	N/A	N/A	Sodium Chloride Standard Solution

Total Enclosures: 1



An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY: **Sodium Chloride Standard Solution**

COMMODITY NUMBER: **1440049**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A8204**

8/1/2018

8/1/2018

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
Conductivity at 25 °C	990 to 1010 uS/cm	996.0 uS/cm

The expiration date is Jul 2023

The item 1440049 is traceable to NIST standards SRM 2201 Sodium Chloride LOT N/A.

A handwritten signature in cursive script that reads "Scott Als".

Certified by _____

Scott Als
Analytical Services Chemist

Certificate of Analysis List

For request number 1254290

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
2833449 Standards	0091 NIST Traceable	N/A 100 mg/L Total	N/A 50 mg/L	Low Range Hardness Quality Control Calcium Hardness

Total Enclosures: 1



An ISO 9001 Certified Company

Certificate of Analysis

Page 1

COMMODITY: **Low Range Hardness Quality Control Standards** **NIST Traceable** **100**
mg/L Total and 50 mg/L Calcium Hardness

COMMODITY NUMBER: **2833449**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A0091****4/6/2020****4/8/2020**

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
Calcium Hardness as Calcium Carbonate	48 to 52 mg/L	50.9 mg/L
Total Hardness as Calcium Carbonate	98 to 102 mg/L	100.0 mg/L

The expiration date is Mar 2022

This standard is certified for use with Hach methods requiring no sample dilution. The concentration is equal to the value listed above with the combined uncertainty that corresponds to one standard deviation. The combined uncertainty is defined in *The Guide to the Expression of Uncertainty in Measurement*, 1st Ed., 1995, an NIST guideline. The acceptance error of the assayed results of this standard is dependent on the quality objectives of the laboratory. This product is NIST traceable to SRM 3109 (10 mg/ml Calcium).

Certified by _____

Scott Als
Analytical Services Chemist

Certificate of Analysis

Color 500 Pt-Co Units Cal Std 500mL

*Certified
Reference
Material*

Description

Product ID CLR500-500ML
Lot **LRAC2614**
Expiration Date April 2022
Manufacturing Date April 2019
Storage Conditions Room Temperature
Solvent/Matrix DI WATER

Certified Values

Analyte	Units	Certified ^{1,4} Value	Raw Material Purity,%	Analytical ⁶ Value	Raw Material Lot
COLOR	PC UNITS	500 ± 2	98.0	504	MKCJ4224

Additional Information:

DESCRIPTION

This sample is packaged as a 500mL whole volume.
The solvent for this sample is water.

SAMPLE PREPARATION

The sample is ready for immediate analysis.

ADDITIONAL INFORMATION

This sample is suitable for colorimetric methods.
The PC value is based on a Pt/Co formulation.



SIGMA-ALDRICH®

2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
307-742-5452
rttechgroup@sial.com www.sigma-aldrich.com

Description

Lot LRAC2614
Expiration Date April 2022
Manufacturing Date April 2019
Storage Conditions Room Temperature
Solvent/Matrix DI WATER

1 Metrological traceability: Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a t-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{homogeneity}^2 + u_{stability}^2}$$

k: Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. Assume 2.0 for a **Confidence interval = 95%**

6 Analytical Value- For QC verification of the certified value only- not to be used in calculations. Represents the analytical data obtained by comparison to a standard as analyzed by the method described in the CoA or another acceptable method. The result may differ from the certified value and UCRM based on method uncertainty as well as the uncertainty associated with the standard used for comparison.

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

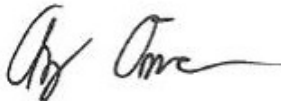
Homogeneity: Homogeneity was assessed in accordance with ISO 17034:2016. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

Expiration is at end of month given on certificate and label.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH **ISO/IEC 17025:2017 (ANAB Cert AT-1467)** and **ISO 17034:2016 (ANAB Cert AR-1470)**.

MSDS reports for components co

tion or 0.1% for components known to be carcinogens are available upon request.



Andy Ommen - QC Manager



Mark Pooler - QA Supervisor

Certification Date April 23, 2019
Version 0-4232019



CERTIFICADO DE ANÁLISIS

Los productos Mol Labs son preparados siguiendo procedimientos operacionales según normas internacionales usando instrumentos y equipos con calibración trazable y estandarizados con patrones primarios NIST (National Institute Of standards & Technology), asegurando la trazabilidad y confianza de las medidas realizadas en el laboratorio.

CUMPLE NORMA: USP 36/2013.

FECHA DE EMISIÓN: 26/05/2020

IDENTIFICACIÓN

PRODUCTO: Potasio cloruro 3.0 M, para electrodos
CÓDIGO: V7314 V7315 V7316

LOTE: 26/05/20
VENCE: 26/05/23

ESPECIFICACIONES

Análisis Fisicoquímico	Valor específico	Norma	Resultado
Titulo	3,000 ±0,006* M	USP 36/2013.	3,000 M
Apariencia	Translúcida	Mol Labs.	Translúcida
Color	0 - 10 (APHA)	ACS 11a Edición.	<10
PH	5,4-8,6	ACS 11a Edición.	6,6

Producto trazado con potasio cloruro patrón primario NIST 999b.

Balanza calibrada según Guía SIM MWG7/cg-01-v.00:2009, certificado de calibración MET-LM-CC 14998

Bureta digital certificada según norma ISO 8655.

Material volumétrico de vidrio clase A, certificado según norma ISO 4787.

*Se reporta la incertidumbre expandida, calculada usando un factor de cobertura $k=2$, que sugiere un nivel de confianza aproximadamente del 95% (Guía CG4:2012 No. 9.4)



Edilberto Guacaneme Contreras
Analista



Certificate of Analysis

1.04936.1000 Potassium chloride for analysis EMSURE®
Batch K51302936

	Spec. Values		Batch Values	
Assay (argentometric)	≥ 99.5	%	99.8	%
In water insoluble matter	≤ 0.01	%	≤ 0.01	%
pH-value (5 %; water)	5.5 - 8.0		6.0	
Bromide (Br)	≤ 0.05	%	≤ 0.05	%
Iodide (I)	≤ 0.002	%	≤ 0.002	%
Phosphate (PO ₄)	≤ 0.0005	%	≤ 0.0005	%
Sulfate (SO ₄)	≤ 0.005	%	≤ 0.005	%
Total nitrogen (N)	≤ 0.001	%	≤ 0.001	%
Heavy metals (as Pb)	≤ 0.0005	%	≤ 0.0005	%
Ba (Barium)	≤ 0.001	%	≤ 0.001	%
Ca (Calcium)	≤ 0.001	%	≤ 0.001	%
Fe (Iron)	≤ 0.0003	%	≤ 0.0003	%
Mg (Magnesium)	≤ 0.002	%	< 0.001	%
Na (Sodium)	≤ 0.02	%	≤ 0.02	%

Date of release (DD.MM.YYYY) 10.07.2019
Minimum shelf life (DD.MM.YYYY) 30.04.2024

Claudia Wiegand
Responsible laboratory manager quality control

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Certificate of Analysis

1.04952.1000 Potassium chromate for analysis EMSURE® ACS, Reag. Ph Eur
Batch S7717652

Batch Values

Assay (iodometric)	99.9	%
In water insoluble matter	0.002	%
pH-value (5 %; water)	9.5	
Chloride (Cl)	≤ 0.001	%
Sulfate (SO ₄)	≤ 0.01	%
Ca (Calcium)	≤ 0.005	%
Na (Sodium)	≤ 0.02	%
Pb (Lead)	≤ 0.005	%

Date of release (DD.MM.YYYY) 08.01.2019
Minimum shelf life (DD.MM.YYYY) 31.01.2024

Dr. Manuel Schaffroth
Responsible laboratory manager quality control

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Certificate of Analysis List

For request number 1254030

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
44449	6278	N/A	N/A	SPADNS Reagent for Fluoride

Total Enclosures: 1



An ISO 9001 Certified Company

Certificate of Analysis

Page 1

COMMODITY: **SPADNS Reagent for Fluoride**COMMODITY NUMBER: **44449**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A6278****10/6/2016****10/6/2016**

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
Acidity	4.15 to 4.25 N	4.230 N
Function Test: Concentration of a 1.0 ppm Fluoride standard.	0.9 to 1.1 ppm	0.94 ppm

The expiration date is Sep 2021

A handwritten signature in cursive script that reads "Scott Als".

Certified by _____

Scott Als
Analytical Services Chemist

Certificate of Analysis List

For request number 1254044

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
2760345 Test	0002	2760345	0002	Low Range Total Organic Carbon (TOC)
2789510	9308	2760345	0002	Low Range TOC Indicator Ampules
2790166	9337	2760345	0002	TOC Persulfate
45233	9296	2760345	0002	Buffer Solution, pH 2.0
2527025 Reagent, AccuVac Ampules	0002	N/A	N/A	SPADNS2 (Arsenic-Free) Fluoride

Total Enclosures: 5



An ISO 9001 Certified Company

Certificate of Analysis***This is a Component of 2760345 lot A0002***

Page 1

COMMODITY: **Low Range Total Organic Carbon (TOC) Test**COMMODITY NUMBER: **2760345**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A0002****1/8/2020****1/12/2020**

TEST	SPECIFICATIONS	RESULTS
Function Test: TOC concentration of a 20 ppm C standard solution read against the reagent blank.	19 to 21 ppm	19.7 ppm
Reagent Blank: TOC concentration of a treated deionized water sample compare to a second treated sample.	0 to 0.5 ppm	0.40 ppm

The expiration date is Jul 2021

A handwritten signature in cursive script that reads "Scott Als".

Certified by _____

Scott Als
Analytical Services Chemist



Certificate of Analysis

1.06076.0025 Methyl red (C.I. 13020) indicator ACS, Reag. Ph Eur
Batch K49594476

	Spec. Values	Batch Values
Identity (UV/VIS-Spectrum)	passes test	passes test
Appearance	Red to red-violet powder, eventually with granular parts.	passes test
Clarity of solution (1 g/l; ethanol)	passes test	passes test
Melting point (capillary method, temperature measurement in the heating block)	179 - 182 °C	179 °C
Transition range	pH 4.4 - pH 6.0 Red - yellow	passes test
Absorption maximum (buffer pH 4.5)	523 - 526 nm	523 - 526 nm
Absorption maximum (buffer pH 6.2)	427 - 437 nm	427 - 437 nm
Spec. Absorptivity A 1%/1cm (λ_{\max} ; 0.005 g/l; buffer pH 4.5; calculated on anhydrous substance)	1350 - 1500	1391
Spec. Absorptivity A 1%/1cm (λ_{\max} ; 0.005 g/l; buffer pH 6.2; calculated on anhydrous substance)	700 - 800	751
Transition range (according to ACS)	passes test	passes test
Loss on drying (110 °C)	≤ 5 %	< 1 %

Date of release (DD.MM.YYYY) 17.10.2017
Minimum shelf life (DD.MM.YYYY) 31.10.2022

Dr. Ralf Burgert
Responsible laboratory manager quality control

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Certificate of Analysis – Certified Reference Material

Certipur® Sodium chloride



Product no.: 1.02406.0080
Lot no.: 192406T
Description of CRM: Sodium chloride
Expiry date: 2024/12/31
Storage: +15°C to +25°C tightly closed in the original container and protect from light and moisture
Composition: Sodium chloride

Analyte	Certified value as mass fraction	Associated uncertainty, $U=k \cdot u$ ($k=2$) as mass fraction
Mass fraction	99.92 %	±0.08%

Metrological traceability: Directly traceable to the suitable primary standard NIST SRM Potassium chloride 999c.
Measurement method: The certified mass fraction was determined by potentiometric titration with silver nitrate as titration solution. The certified value is based on a molecular mass $M = 58.440$ g/mol dried substance.
Intended use: This volumetric standard is intended for standardisation of volumetric solutions in accordance to the chapter reagents of the Pharmacopoeia (Ph. Eur., USP).
Instructions for handling and correct use: The volumetric standard Sodium chloride must be dried at 150 °C for 2 hours before use. By within-unit homogeneity studies a minimum weigh-in quantity of 100 mg was determined.
Accreditation: Merck KGaA, Darmstadt, Germany is accredited by the German accreditation authority DAkkS as registered reference material producer D-RM-15185-01-00 in accordance with ISO 17034 and registered calibration laboratory D-K-15185-01-00 according to DIN EN ISO/IEC 17025.
Certificate issue date: January 27, 2020



ISO 17034



ISO/IEC 17025

Dipl.-Ing. Ayfer Yildirim
(Responsible QC Laboratory Manager)



Health and safety information:

Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

Certification process details:

Certipur® Volumetric standards are prepared from high purity salts. Characterisation of Certipur® Volumetric standards is carried out by the accredited quality control (QC) laboratory at Merck KGaA, Darmstadt, Germany according to DIN EN ISO / IEC 17025 by measuring the mass fraction by potentiometric titration.

Homogeneity and stability studies are performed with the material according to the requirements of ISO 17034 and ISO Guide 35.

Associated uncertainty:

The associated uncertainty U_{CRM} reported with the certified values is calculated as combined expanded uncertainty $U_{CRM}=k \cdot u_{CRM}$ in accordance with GUM and EA-4/02, with $k=2$ as the coverage factor for a 95% coverage probability.

The combined uncertainty u_{CRM} is derived from combination of the squared uncertainty contributions:

$$u_{CRM} = \sqrt{u^2_{\text{Characterisation}} + u^2_{\text{Homogeneity}} + u^2_{\text{Stability}}}$$

$u_{\text{characterisation}}$: is the uncertainty in accordance with DIN EN ISO/IEC 17025 which includes the contributions of the primary reference material and the measuring system.

$u_{\text{homogeneity}}$: is the between-bottle variation in accordance with ISO 17034. The assessment of homogeneity is performed by analysis of a representative number of systematically chosen sample units.

$u_{\text{stability}}$: is the uncertainty obtained from short-term and long-term stability in accordance with ISO 17034. The stability studies are the basis for the quantification of the expiry date of this volumetric standard for the unopened bottle.

For more detailed information please read the certification report on our website.

Certificate of analysis revision history:

Certificate version	Date	Reason for version
01	January 27, 2020	Initial version





Certificate of Analysis

1.06498.1000 Sodium hydroxide pellets for analysis EMSURE®
Batch B1784698

	Spec. Values		Batch Values	
Assay (acidimetric,NaOH)	≥ 99.0	%	99.7	%
Carbonate (as Na ₂ CO ₃)	≤ 1.0	%	0.2	%
Chloride (Cl)	≤ 0.012	%	≤ 0.012	%
Phosphate (PO ₄)	≤ 0.0005	%	≤ 0.0005	%
Silicate (SiO ₂)	≤ 0.001	%	≤ 0.001	%
Sulfate (SO ₄)	≤ 0.010	%	≤ 0.010	%
Total nitrogen (N)	≤ 0.0003	%	≤ 0.0003	%
Heavy metals (as Pb)	≤ 0.0005	%	≤ 0.0005	%
Al (Aluminium)	≤ 0.0005	%	≤ 0.0005	%
As (Arsenic)	≤ 0.0001	%	≤ 0.0001	%
Ca (Calcium)	≤ 0.0005	%	≤ 0.0005	%
Cu (Copper)	≤ 0.0002	%	≤ 0.0002	%
Fe (Iron)	≤ 0.0005	%	≤ 0.0005	%
K (Potassium)	≤ 0.05	%	0.013	%
Mg (Magnesium)	≤ 0.0005	%	≤ 0.0005	%
Ni (Nickel)	≤ 0.00025	%	≤ 0.00025	%
Pb (Lead)	≤ 0.0005	%	≤ 0.0005	%
Zn (Zinc)	≤ 0.001	%	≤ 0.001	%

Date of release (DD.MM.YYYY) 29.01.2020
Minimum shelf life (DD.MM.YYYY) 31.01.2023

Dr. Dimitrij Ryvlin
Responsible laboratory manager quality control

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Certificate of Analysis

1.09137.1000 Sodium hydroxide solution $c(\text{NaOH}) = 1 \text{ mol/l}$ (1 N) Titripur® Reag. Ph Eur,
Reag. USP
Batch HC90807837

	Spec. Values		Batch Values	
Form	liquid		liquid	
Amount-of-substance concentration	0.995 - 1.005	mol/l	1.000	mol/l
Measurement uncertainty	+/- 0.003	mol/l	+/- 0.003	mol/l
Traceability	NIST SRM		723E	

The concentration is determined by volumetric titration and refers to 20°C.

The certified value of this volumetric solution was determined with hydrochloric acid standard solution (article number 1.09057). The hydrochloric acid standard solution is standardized and traceable to a primary standard from the National Institute of Standards and Technology, Gaithersburg, USA (NIST SRM 723 Tris(hydroxymethyl)aminomethane) by means of volumetric standard Tris(hydroxymethyl)aminomethane (Art. 1.02408). This volumetric standard is certified by the accredited calibration laboratory of Merck KGaA, Darmstadt, Germany according to DIN EN ISO 17025. The uncertainty is expressed as expanded measurement uncertainty with a coverage factor $k=2$ covering a confidence level of 95%. All measurements are carried out in the accredited calibration laboratory of Merck KGaA, Darmstadt, Germany.

Note: The titer is a correction factor to correct for variations of the volumetric solution, the titration equipment, the temperature and other laboratory conditions. For correct titration results it is recommended to determine a titer with the laboratory specific equipment and under laboratory specific conditions directly after opening a new bottle and at regular time intervals.

Date of release (DD.MM.YYYY) 19.09.2019
Minimum shelf life (DD.MM.YYYY) 30.09.2022

Ayfer Yildirim
Responsible laboratory manager quality control

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Certificate of Analysis

1.06516.1000 Sodium thiosulfate pentahydrate for analysis EMSURE® ACS,ISO,
Reag. Ph Eur
Batch AM1443916

	Spec. Values		Batch Values	
Assay (iodometric)	99.5 - 101.0	%	99.7	%
Identity	passes test		passes test	
Appearance of solution	passes test		passes test	
Insoluble matter	≤ 0.005	%	≤ 0.005	%
pH-value (5 %; water, 25 °C)	6.0 - 7.5		6.8	
pH-value (10 %; water)	6.0 - 7.5		6.6	
Chloride (Cl)	≤ 0.008	%	≤ 0.008	%
Sulfate and sulphite (as SO ₄)	≤ 0.1	%	≤ 0.1	%
Sulfide (S)	passes test		passes test	
Heavy metals (as Pb)	≤ 0.001	%	≤ 0.001	%
Total nitrogen (N)	≤ 0.002	%	≤ 0.002	%
Ca (Calcium)	≤ 0.002	%	≤ 0.002	%
Cu (Copper)	≤ 0.0005	%	≤ 0.0005	%
Fe (Iron)	≤ 0.0005	%	≤ 0.0005	%
K (Potassium)	≤ 0.001	%	≤ 0.001	%
Mg (Magnesium)	≤ 0.001	%	≤ 0.001	%
Pb (Lead)	≤ 0.0005	%	≤ 0.0005	%

Corresponds to ACS, ISO, Reag. Ph Eur

Date of release (DD.MM.YYYY) 10.05.2019
Minimum shelf life (DD.MM.YYYY) 31.05.2022


Claudia Wiegand
Responsible laboratory manager quality control

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Certificate of Analysis

Certipur® Certified Reference Material

Producer:	Merck KGaA, Frankfurter Str. 250, 64293 Darmstadt, Germany.
Accreditation:	Merck KGaA, Darmstadt, Germany is accredited by the German accreditation authority DAkkS as registered reference material producer D-RM-15185-01-00 in accordance with ISO Guide 34 and registered calibration laboratory D-K-15185-01-00 according to DIN EN ISO/IEC 17025 .
	
Description of CRM:	Buffer solution pH10.00 yellow (20°C) Certified Reference Material for pH measurement
Ordering number:	1.09400.0500
Lot number:	HC99046300
Composition:	boric acid / potassium chloride / sodium hydroxide
Certified value and uncertainty:	pH value 10.02 ± 0.03 (20°C) pH value with expanded uncertainty U_{CRM}
Method of Analysis:	pH value is measured with a combined glass electrode after 5-point calibration according to DIN 19268 with reference buffer solutions according to DIN 19266, IUPAC, NIST, Ph.Eur. and USP.
Traceability:	The pH value of this certified buffer solution is directly traceable to primary certified reference materials characterised by PTB and verified by SRMs from NIST. NIST 189c, 188, 185i, 186 Ig, 186 Iig, 187f PTB OX-405/18, TA-310/15, PHT-340/16, PHO-346/16, BO-373/17 <i>PTB: Physikalisch Technische Bundesanstalt, Braunschweig, Germany</i> <i>NIST: National Institute of Standards and Technology, Gaithersburg, USA.</i>
Preparation:	This reference material is prepared gravimetrically from boric acid, potassium chloride, sodium hydroxide and high purity water.
Storage:	Store at +15°C to +25°C tightly closed in the original container.
Date of release:	2019/04/23
Minimum shelf life:	2022/04/30
Certificate Version:	1 issued on 2019/04/23



A. Yildirim

Dipl.-Ing. Ayfer Yildirim
(Laboratory manager)

Application and correct use: This reference material is intended for use as a calibration standard for pH instruments or pH electrodes or as a control sample for measuring the pH value. The pH value is strongly dependent on the temperature. It is therefore necessary to keep the temperature constant within the measurement. Details concerning the nature of any hazard and appropriate precautions to be taken are provided in the material safety data sheet.

Expanded uncertainty U_{CRM} : The expanded uncertainty U_{CRM} is calculated as $U_{CRM} = k \cdot u_{CRM}$, where $k = 2$ is the coverage factor for a 95% coverage probability and u_{CRM} is the combined standard uncertainty in accordance to ISO Guide 34.

$$u_{CRM} = \sqrt{u^2_{\text{Characterisation}} + u^2_{\text{Homogeneity}} + u^2_{\text{Stability}}}$$

The combined standard uncertainty u_{CRM} is obtained from the standard uncertainties of the characterisation, the homogeneity and the stability.

$u_{\text{Characterisation}}$ is the uncertainty in accordance to DIN EN ISO/IEC 17025 which includes the contributions of the primary reference material and the measuring system.

$u_{\text{Homogeneity}}$ is the between-bottle variation in accordance to ISO Guide 34. The assessment of homogeneity is performed by analysis of a representative number of systematically chosen sample units

$u_{\text{Stability}}$ is the uncertainty obtained from short-term and long-term stability in accordance to ISO Guide 34. The stability studies are the basis for the quantification of the minimum shelf life of this reference material for the unopened bottle.

Further information:

Temperature dependence (example):


Temperature [°C]	ΔpH
0	+ 0.24
5	+ 0.16
10	+ 0.11
15	+ 0.05
20	± 0
25	- 0.05
30	- 0.09
35	- 0.12
40	- 0.15
50	- 0.21

For more detailed information please read the certification report on www.merckmillipore.com



Certificate of Analysis

Certipur® Certified Reference Material

Producer:	Merck KGaA, Frankfurter Str. 250, 64293 Darmstadt, Germany.
Accreditation:	Merck KGaA, Darmstadt, Germany is accredited by the German accreditation authority DAkkS as registered reference material producer D-RM-15185-01-00 in accordance with ISO Guide 34 and registered calibration laboratory D-K-15185-01-00 according to DIN EN ISO/IEC 17025 .
	
Description of CRM:	Buffer solution pH 4.00 red (20°C) Certified Reference Material for pH measurement
Ordering number:	1.09475.0500
Lot number:	HC99926875
Composition:	citric acid / sodium hydroxide / hydrogen chloride
Certified value and uncertainty:	pH value 4.00 ± 0.02 (20°C) pH value with expanded uncertainty U_{CRM}
Method of Analysis:	pH value is measured with a combined glass electrode after 5-point calibration according to DIN 19268 with reference buffer solutions according to DIN 19266, IUPAC, NIST, Ph.Eur. and USP.
Traceability:	The pH value of this certified buffer solution is directly traceable to primary certified reference materials characterised by PTB and verified by SRMs from NIST. NIST 189c, 188, 185i, 186 Ig, 186 Iig, 187f PTB OX-405/18, TA-310/15, PHT-340/16, PHO-346/16, BO-373/17 <i>PTB: Physikalisch Technische Bundesanstalt, Braunschweig, Germany</i> <i>NIST: National Institute of Standards and Technology, Gaithersburg, USA.</i>
Preparation:	This reference material is prepared gravimetrically from citric acid, sodium hydroxide, hydrogen chloride and high purity water.
Storage:	Store at +15°C to +25°C tightly closed in the original container.
Date of release:	2019/07/01
Minimum shelf life:	2022/06/30
Certificate Version:	1 issued on 2019/07/01



A. Yildirim

Dipl.-Ing. Ayfer Yildirim
(Laboratory manager)

Application and correct use: This reference material is intended for use as a calibration standard for pH instruments or pH electrodes or as a control sample for measuring the pH value. The pH value is strongly dependent on the temperature. It is therefore necessary to keep the temperature constant within the measurement. Details concerning the nature of any hazard and appropriate precautions to be taken are provided in the material safety data sheet.

Expanded uncertainty U_{CRM} : The expanded uncertainty U_{CRM} is calculated as $U_{CRM} = k \cdot u_{CRM}$, where $k = 2$ is the coverage factor for a 95% coverage probability and u_{CRM} is the combined standard uncertainty in accordance to ISO Guide 34.

$$u_{CRM} = \sqrt{u^2_{\text{Characterisation}} + u^2_{\text{Homogeneity}} + u^2_{\text{Stability}}}$$

The combined standard uncertainty u_{CRM} is obtained from the standard uncertainties of the characterisation, the homogeneity and the stability.

$u_{\text{Characterisation}}$ is the uncertainty in accordance to DIN EN ISO/IEC 17025 which includes the contributions of the primary reference material and the measuring system.

$u_{\text{Homogeneity}}$ is the between-bottle variation in accordance to ISO Guide 34. The assessment of homogeneity is performed by analysis of a representative number of systematically chosen sample units

$u_{\text{Stability}}$ is the uncertainty obtained from short-term and long-term stability in accordance to ISO Guide 34. The stability studies are the basis for the quantification of the minimum shelf life of this reference material for the unopened bottle.

Further information:

Temperature dependence (example):

Temperature [°C]	ΔpH
5	+ 0.05
10	+ 0.03
15	+ 0.02
20	± 0
25	- 0.01
30	- 0.02
35	- 0.02
40	- 0.02
45	- 0.02
50	- 0.02

For more detailed information please read the certification report on www.merckmillipore.com



Certificate of Analysis

Certipur® Certified Reference Material

Producer:	Merck KGaA, Frankfurter Str. 250, 64293 Darmstadt, Germany.
Accreditation:	Merck KGaA, Darmstadt, Germany is accredited by the German accreditation authority DAkkS as registered reference material producer D-RM-15185-01-00 in accordance with ISO Guide 34 and registered calibration laboratory D-K-15185-01-00 according to DIN EN ISO/IEC 17025 .
	
Description of CRM:	Buffer solution pH 7.00 (25°C) yellow Certified Reference Material for pH measurement
Ordering number:	1.99057.0500
Lot number:	HC99244557
Composition:	di-sodium hydrogen phosphate / potassium dihydrogen phosphate
Certified value and uncertainty:	pH value 7.00 ± 0.02 (25°C) pH value with expanded uncertainty U_{CRM}
Method of Analysis:	pH value is measured with a combined glass electrode after 5-point calibration according to DIN 19268 with reference buffer solutions according to DIN 19266, IUPAC, NIST, Ph.Eur. and USP.
Traceability:	The pH value of this certified buffer solution is directly traceable to primary certified reference materials characterised by PTB and verified by SRMs from NIST. NIST 189c, 188, 185i, 186 Ig, 186 Ilg, 187f PTB OX-405/18, TA-310/15, PHT-340/16, PHO-346/16, BO-373/17 <i>PTB: Physikalisch Technische Bundesanstalt, Braunschweig, Germany</i> <i>NIST: National Institute of Standards and Technology, Gaithersburg, USA.</i>
Preparation:	This reference material is prepared gravimetrically from potassium dihydrogen phosphate, di-sodium hydrogen phosphate and high purity water.
Storage:	Store at +15°C to +25°C tightly closed in the original container.
Date of release:	2019/05/07
Minimum shelf life:	2022/05/31
Certificate Version:	1 issued on 2019/05/07



A. Yildirim

Dipl.-Ing. Ayfer Yildirim
(Laboratory manager)

Application and correct use: This reference material is intended for use as a calibration standard for pH instruments or pH electrodes or as a control sample for measuring the pH value. The pH value is strongly dependent on the temperature. It is therefore necessary to keep the temperature constant within the measurement. Details concerning the nature of any hazard and appropriate precautions to be taken are provided in the material safety data sheet.

Expanded uncertainty U_{CRM} : The expanded uncertainty U_{CRM} is calculated as $U_{CRM} = k \cdot u_{CRM}$, where $k = 2$ is the coverage factor for a 95% coverage probability and u_{CRM} is the combined standard uncertainty in accordance to ISO Guide 34.

$$u_{CRM} = \sqrt{u^2_{\text{Characterisation}} + u^2_{\text{Homogeneity}} + u^2_{\text{Stability}}}$$

The combined standard uncertainty u_{CRM} is obtained from the standard uncertainties of the characterisation, the homogeneity and the stability.

$u_{\text{Characterisation}}$ is the uncertainty in accordance to DIN EN ISO/IEC 17025 which includes the contributions of the primary reference material and the measuring system.

$u_{\text{Homogeneity}}$ is the between-bottle variation in accordance to ISO Guide 34. The assessment of homogeneity is performed by analysis of a representative number of systematically chosen sample units

$u_{\text{Stability}}$ is the uncertainty obtained from short-term and long-term stability in accordance to ISO Guide 34. The stability studies are the basis for the quantification of the minimum shelf life of this reference material for the unopened bottle.

Further information:

Temperature dependence (example):

Temperature [°C]	ΔpH
5	+ 0.09
10	+ 0.06
15	+ 0.04
20	+ 0.02
25	± 0
30	- 0.02
35	- 0.03
40	- 0.05
45	- 0.06
50	- 0.07

For more detailed information please read the certification report on www.merckmillipore.com

Certificate of Analysis List

For request number 1254044

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
2760345 Test	0002	2760345	0002	Low Range Total Organic Carbon (TOC)
2789510	9308	2760345	0002	Low Range TOC Indicator Ampules
2790166	9337	2760345	0002	TOC Persulfate
45233	9296	2760345	0002	Buffer Solution, pH 2.0
2527025 Reagent, AccuVac Ampules	0002	N/A	N/A	SPADNS2 (Arsenic-Free) Fluoride

Total Enclosures: 5



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Certificate of Analysis***This is a Component of 2760345 lot A0002***

Page 1

COMMODITY: **Low Range Total Organic Carbon (TOC) Test**COMMODITY NUMBER: **2760345**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A0002****1/8/2020****1/12/2020**

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
Function Test: TOC concentration of a 20 ppm C standard solution read against the reagent blank.	19 to 21 ppm	19.7 ppm
Reagent Blank: TOC concentration of a treated deionized water sample compare to a second treated sample.	0 to 0.5 ppm	0.40 ppm

The expiration date is Jul 2021

Certified by _____

A handwritten signature in cursive script that reads "Scott Als".

Scott Als
Analytical Services Chemist



An ISO 9001 Certified Company

Certificate of Analysis***This is a Component of 2760345 lot A0002***

Page 1

COMMODITY: **Low Range TOC Indicator Ampules**COMMODITY NUMBER: **2789510**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A9308****11/21/2019****11/21/2019**

TEST	SPECIFICATIONS	RESULTS
Concentration of a treated 20 mg/L TOC standard solution.	19 to 21 mg/L	20.1 mg/L
Absorbance of the solution in a one cm cell measured at 598.0 nm vs. deionized water.	2.09 to 2.13 abs	2.104 abs
Absorbance of the solution in a one cm cell measured at 430.0 nm vs. deionized water.	0 to 0.25 abs	0.209 abs

The expiration date is May 2021

Certified by _____

A handwritten signature in cursive script that reads "Scott Als".

Scott Als
Analytical Services Chemist



An ISO 9001 Certified Company

Certificate of Analysis

This is a Component of 2760345 lot A0002

Page 1

COMMODITY: **TOC Persulfate**
COMMODITY NUMBER: **2790166**
LOT NUMBER: **A9337**

MANUFACTURE DATE:
12/20/2019

DATE OF ANALYSIS:
12/23/2019

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
The difference in the average absorbance between HR TOC Acid Digest Reagent TNT vials with persulfate and those without measured at 598 nm.	0 to 0.1 abs	0.02 abs

The expiration date is Dec 2024

Certified by _____

A handwritten signature in cursive script that reads "Scott Als".

Scott Als
Analytical Services Chemist



An ISO 9001 Certified Company

Certificate of Analysis

This is a Component of 2760345 lot A0002

Page 1

COMMODITY: **Buffer Solution, pH 2.0**

COMMODITY NUMBER: **45233**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A9296**

11/5/2019

11/5/2019

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
pH of a 1:30 dilution	1.9 to 2.1	1.95

The expiration date is Oct 2024

A handwritten signature in cursive script that reads "Scott Als".

Certified by _____

Scott Als
Analytical Services Chemist



An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY: **SPADNS2 (Arsenic-Free) Fluoride Reagent, AccuVac Ampules**
 COMMODITY NUMBER: **2527025** MANUFACTURE DATE: DATE OF ANALYSIS:
 LOT NUMBER: **A0002** **1/7/2020** **1/9/2020**

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
Fluoride Concentration of a 0.2 ppm F ⁻ standard vs a reagent blank measured at 580 nm.	0.1 to 0.3 ppm	0.20 ppm
Fluoride Concentration of a 1.8 ppm F ⁻ standard vs a reagent blank measured at 580 nm.	1.7 to 1.9 ppm	1.88 ppm

The expiration date is Jan 2025

Certified by _____

Scott Als
 Analytical Services Chemist



Certificate of Analysis

1.10274.0002 Sterikon® plus Bioindicator for checks on autoclaving
Batch Z0587274

	Spec. Values	Batch Values
Appearance	opalescent and reddish violet	passes test
Number of viable spores per ampule	$5.0 \cdot 10^5 - 1.0 \cdot 10^7$	$1.3 \cdot 10^6$
Growth (35 °C)	no growth	passes test
Growth (60 °C)	growth	passes test
Performance test (6 min, 121 °C)	Survival time 6 min/121 °C	passes test
Performance test (15 min, 121 °C)	Kill time 15 min/121 °C	passes test
D value (121 °C)	1.5 - 2.0 min	1.7 min
Z value	7.0 - 10.0 °C	8.7 °C
Identity	Geobacillus stearo- thermophilus ATCC 7953	passes test

The determination of the D-value is based on the Stumbo-Murphy-Cochran method.

The identity control is carried out via MicroSeq-System.

Organism: Geobacillus stearothermophilus ATCC 7953 (sporulation optimized).

Ampoules: 2 ml.

Storage temperature: +2° to +8°C.

Date of release (DD.MM.YYYY) 13.12.2019

Expiry date (DD.MM.YYYY) 27.05.2021

Stefanie Fischer

Responsible laboratory manager quality control

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

Certificate of Analysis List

For request number 1254037

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
2106769 Reagent	9143	N/A	N/A	SulfaVer sup TS sup0 4 Sulfate

Total Enclosures: 1



An ISO 9001 Certified Company

Certificate of Analysis

COMMODITY: **SulfaVer|sup|TS|sup0 4 Sulfate Reagent**

COMMODITY NUMBER: **2106769**

MANUFACTURE DATE:

DATE OF ANALYSIS:

LOT NUMBER: **A9143**

6/9/2019

6/9/2019

<i>TEST</i>	<i>SPECIFICATIONS</i>	<i>RESULTS</i>
Turbidity develops in the presence of sulfate.	To Pass	Passed

The expiration date is May 2023

A handwritten signature in cursive script that reads "Scott Als".

Certified by _____

Scott Als
Analytical Services Chemist



Certificate of Analysis

1.08419.1000 Titriplex® solution A for the determination of alkaline earth metals in water 1 ml \pm 56 mg CaO/l using 100 ml of water
Batch HC86226519

1 ml of reagent is equivalent to 5,6 degree German hardness when using 100 ml of water.
1°d \pm 10 mg CaO/l

	Spec. Values		Batch Values	
Efficiency value	5.57 - 5.63	°dH	5.60	°dH

Determination method: Complexometric titration.

The efficiency value of this solution was determined with volumetric standard calcium carbonate (article number 1.02410). The expanded measurement uncertainty is \pm 0.7 % (k=2 coverage factor for 95% coverage probability). The certified value is traceable to primary standard NIST SRM 682 (NIST: National Institute of Standards and Technology, USA) by means of volumetric standard calcium carbonate, measured in the accredited calibration laboratory of Merck KGaA, Darmstadt, Germany in accordance to DIN EN ISO/IEC 17025.

Date of release (DD.MM.YYYY) 08.06.2018
Minimum shelf life (DD.MM.YYYY) 31.05.2021

Ayfer Yildirim
Responsible laboratory manager quality control

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Certificate of Analysis

1.08418.0100 Titriplex® III for analysis (ethylenedinitrilotetraacetic acid, disodium salt dihydrate) ACS,ISO,Reag. Ph Eur
Batch K51097418

	Spec. Values		Batch Values	
Assay (complexometric; calculated as dihydrate)	99.0 - 101.0	%	99.8	%
Identity (IR-spectrum)	passes test		passes test	
Identity (Complexation)	passes test		passes test	
Identity (Sodium)	passes test		passes test	
Appearance	passes test		passes test	
Appearance of solution (50 g/l; water)	passes test		passes test	
pH (50 g/l; water)	4.0 - 5.0		4.4	
In water insoluble matter	≤ 0.003	%	≤ 0.003	%
Chloride (Cl)	≤ 0.004	%	≤ 0.004	%
Sulfate (SO ₄)	≤ 0.01	%	≤ 0.01	%
Cyanide (CN)	≤ 0.001	%	≤ 0.001	%
Heavy metals (as Pb)	≤ 0.0005	%	≤ 0.0005	%
Ca (Calcium)	passes test		passes test	
Cu (Copper)	≤ 0.0001	%	≤ 0.0001	%
Fe (Iron)	≤ 0.0005	%	≤ 0.0005	%
Pb (Lead)	≤ 0.001	%	≤ 0.001	%
Nitriлотriacetic acid (HPLC)	≤ 0.05	%	0.01	%
Loss on drying (150 °C; 6 h)	8.7 - 11.4	%	9.5	%

Date of release (DD.MM.YYYY) 07.02.2019
Minimum shelf life (DD.MM.YYYY) 29.02.2024

Peter Schaub
Responsible laboratory manager quality control

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Certificate of Analysis

1.08121.0025 Bromocresol green indicator ACS,Reag. Ph Eur
Batch K51243421

	Spec. Values	Batch Values
Transition range	pH 3.8 - pH 5.4 yellowish green - blue	pH 3.8 - pH 5.4 yellowish green - blue
Appearance of solution	passes test	passes test
Loss on drying (110 °C)	≤ 3 %	< 0.1 %
Transition range (according to ACS)	passes test	passes test
Sensitivity test	passes test	passes test

Date of release (DD.MM.YYYY) 11.03.2019
Minimum shelf life (DD.MM.YYYY) 31.03.2024

Ioannis Chartomatsidis
Responsible laboratory manager quality control

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