Alliance TECHNICAL GROUP

284 Sheffield Street, Mountainside NJ 07092
Tel. 908-789-8900 Fax: 908-789-8922

DATA REPORTING QUALIFIERS- INORGANIC

For reporting results, the following " Results Qualifiers" are used:

J	Indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates the analyte was analyzed for, but not detected.
ND	Indicates the analyte was analyzed for, but not detected
E	Indicates the reported value is estimated because of the presence of interference
M	Indicates Duplicate injection precision not met.
N	Indicates the spiked sample recovery is not within control limits.
S	Indicates the reported value was determined by the Method of Standard Addition (MSA).
*	Indicates that the duplicate analysis is not within control limits.
+	Indicates the correlation coefficient for the MSA is less than 0.995.
D	Indicates the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
M	Method qualifiers **"P"** for ICP instrument **"PM"** for ICP when Microwave Digestion is used **"CV"** for Manual Cold Vapor AA **"AV"** for automated Cold Vapor AA **"CA"** for MIDI-Distillation Spectrophotometric **"AS"** for Semi –Automated Spectrophotometric **"C"** for Manual Spectrophotometric **"T"** for Titrimetric **"NR"** for analyte not required to be analyzed
OR	Indicates the analyte's concentration exceeds the calibrated range of the instrument for that specific analysis.
Q	Indicates the LCS did not meet the control limits requirements
H	Sample Analysis Out Of Hold Time

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LAB CHRONICLE

OrderID:	P4736	**OrderDate:**	11/6/2024 2:36:00 PM
Client:	Aramark Uniforms	**Project:**	Monthly 2024
Contact:	Jose Liceaga	**Location:**	L11

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4736-01	**GRAB**	**WATER**			**11/06/24 14:00**			**11/06/24**
			TPH	1664A			11/07/24 16:25	
P4736-02	**COMP**	**WATER**			**11/06/24 14:04**			**11/06/24**
			BOD5	SM5210 B			11/07/24 17:00	
			TSS	SM2540 D			11/07/24 09:30	

SAMPLE DATA

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Report of Analysis

Client:	Aramark Uniforms	Date Collected:	11/06/24 14:00
Project:	Monthly 2024	Date Received:	11/06/24
Client Sample ID:	GRAB	SDG No.:	P4736
Lab Sample ID:	P4736-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
TPH	23.7		1	0.40	5.00	mg/L		11/07/24 16:25	1664A

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

Client:	Aramark Uniforms	Date Collected:	11/06/24 14:04
Project:	Monthly 2024	Date Received:	11/06/24
Client Sample ID:	COMP	SDG No.:	P4736
Lab Sample ID:	P4736-02	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
BOD5	976		1	0.17	2.00	mg/L		11/07/24 17:00	SM 5210 B-16
TSS	493		1	1.00	4.00	mg/L		11/07/24 09:30	SM 2540 D-15

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

QC RESULT SUMMARY

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Preparation Blank Summary

Client: Aramark Uniforms **SDG No.:** P4736

Project: Monthly 2024

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB133339BL							
TPH	mg/L	< 2.5000	2.5000	U	0.4	5.0	11/07/2024
Sample ID: LB133342BL							
BOD5	mg/L	< 0.2000	0.2000	U	0.17	2.0	11/07/2024
Sample ID: LB133384BL							
TSS	mg/L	< 2.0000	2.0000	U	1	4	11/07/2024

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Duplicate Sample Summary

Client: Aramark Uniforms
Project: Monthly 2024
Client ID: LB133339BSD
SDG No.: P4736
Sample ID: LB133339BS
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
TPH	mg/L	+/-18	16.9		17.0		1	0.59		11/07/2024

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Duplicate Sample Summary

Client: Aramark Uniforms
Project: Monthly 2024
Client ID: EFFLUENTDUP
SDG No.: P4736
Sample ID: P4735-01
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
BOD5	mg/L	+/-20	4560		4550		1	0.13		11/07/2024

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Duplicate Sample Summary

Client: Aramark Uniforms
Project: Monthly 2024
Client ID: COMPDUP
SDG No.: P4736
Sample ID: P4736-02
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
TSS	mg/L	+/-5	493		511		1	3.59		11/07/2024

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Laboratory Control Sample Summary

Client:	Aramark Uniforms	**SDG No.:**	P4736
Project:	Monthly 2024	**Run No.:**	LB133339

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID **LB133339BS**								
TPH	**mg/L**	**20.0**	**16.9**		**84**	**1**	**78-114**	**11/07/2024**

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Laboratory Control Sample Summary

Client:	Aramark Uniforms	**SDG No.:**	P4736
Project:	Monthly 2024	**Run No.:**	LB133339

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID **LB133339BSD**								
TPH	**mg/L**	**20.0**	**17.0**		**85**	**1**	**78-114**	**11/07/2024**

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Laboratory Control Sample Summary

Client:	Aramark Uniforms	**SDG No.:**	P4736
Project:	Monthly 2024	**Run No.:**	LB133342

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID **LB133342BS**								
BOD5	**mg/L**	**198**	**171**		**86**	**1**	**84.6-115.4**	**11/07/2024**

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Laboratory Control Sample Summary

Client: Aramark Uniforms
SDG No.: P4736
Project: Monthly 2024
Run No.: LB133384

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB133384BS								
TSS	mg/L	550	536		98	1	90-110	11/07/2024

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RAW DATA

Extraction and Analytical Summary Report

Analysis Method: 1664A
Test: TPH
Run Number: LB133339
Analysis Date: 11/07/2024
BalanceID: WC SC-6
OvenID: EXT OVEN-3

ANALYST: jignesh
REVIEWED BY: sohil
Extraction Date: 11/07/2024
Extration IN Time: 15:10
Extration OUT Time: 16:00
Thermometer ID: EXT OVEN#3

Dish #	Lab ID	Client ID	Matrix	pH	Sample Vol (ml)	Final Volume (ml)	Empty Dish Weight (g)	Final Empty Dish Weight(g)	Silica Gel Weight(g)	Weight After Drying(g)	Final Weight After Drying(g)	Change Weight (g)	Result in ppm
1	LB133339BL	LB133339BL	WATER	1.3	1000	100	2.5639	2.5639	3.02	2.5640	2.5640	0.0001	0.1
2	LB133339BS	LB133339BS	WATER	1.3	1000	100	3.1023	3.1023	3.01	3.1192	3.1192	0.0169	16.9
3	LB133339BSD	LB133339BSD	WATER	1.3	1000	100	2.8563	2.8563	3.03	2.8733	2.8733	0.0170	17
4	P4733-01	402	WATER	1.3	1000	100	3.0520	3.0520	3.04	3.0528	3.0528	0.0008	0.8
5	P4736-01	GRAB	WATER	1.6	1000	100	3.0503	3.0503	3.03	3.0740	3.0740	0.0237	23.7

QC Batch# LB133339 Test: TPH Analysis Date: 11/07/2024

Chemicals Used:

Chemical Name	Chemical Lot #
HEXANE	W3110
pH Paper 0-14	M6069
Sodium Sulfate	EP2556
1:1 HCL	WP108566
Silica Gel	W3079
Sand	NA

Standards Used:

Standard Name	Amount Used	Standard Lot #
LCSW	5.00 ML	WP108567
LCSWD	5.00 ML	WP108568
MS/MSD	NA	NA

BALANCE CALIBRATION / OVEN Dessicator Data

Analytical Balance ID # : WC SC-6

Before Analysis

0.0020 gram Balance: 0.0018 **(0.0018-0.0022)**
1.0000 gram Balance: 1.0004 **(0.9950-1.0050)**
Bal Check Time: 15:30

In OVEN TEMP1 : 70 °C **Dessicator Time In1 :** 17:01
In Time1: 16:25
Out OVEN TEMP1: 70 °C **Dessicator Time Out1:** 17:37
Out Time1: 17:00

After Analysis

0.0020 gram Balance: 0.0021 **(0.0018-0.0022)**
1.0000 gram Balance: 1.0005 **(0.9950-1.0050)**
Bal Check Time: 19:01

In OVEN TEMP2 : 71 °C **Dessicator Time In2 :** 18:31
In Time2: 18:00
Out OVEN TEMP2: 71 °C **Dessicator Time Out2:** 19:00
Out Time2: 18:30

Reviewed By:Iwona
On:11/13/2024
11:49:52 AM
Inst Id :DO METER
LB :LB133342

BOD5 LOG

ANALYST: rubir
SUPERVISOR: Iwona

QC BATCH ID: LB133342
Analysis Date: 11/07/2024
BOD Water: WP110592
MANGANOUS SULFATE SOLUTION: W3103
Starch: W3149
Alkaline Iodide Azide: W3109
Sulfuric acid, 1N: WP110386
Sodium Thiosulfate, 0.025N: W3105
POLYSEED: WP110594
NaOH, 1N: WP108662
GGA: WP110593
IncubatorID: INCUBATOR #3
Chlorine Strips: W2965
GuageID: 0511062
pH Strips: W3104
Zero DO: WP110595

Lab SampleID	Client ID	Bottle No.	VOL. ML	Initial Reading(ML)	Final Reading(ML)	Difference	Average
WINKLER 1	WINKLER 1	1	300	0.0	9.2	9.2	9.2
WINKLER 2	WINKLER 2	2	300	9.2	18.4	9.2	9.2

Meter Calibration1: 9.00 Zero DO Reading1: 0.14 mg/L (<=0.2 Criteria)

Barometric Pressure1: 771 mmHg DO Meter BOD fluid reading for winkler comparison: 9.25

After Incubation

Meter Calibration2: 9.48 Zero DO Reading2: 0.14 mg/L (<=0.2 Criteria)

Barometric Pressure2: 771 mmHg

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QC BATCH ID: LB133342

INCUBATOR TEMP IN(C): 20.3 **INCUBATOR TEMP OUT(C):** 20.4

TIME IN: 17:00 **TIME OUT:** 12:00

DATE IN: 11/07/2024 **DATE OUT:** 11/12/2024

Lab SampleID	Bottle No.	Check CL	Initial PH	Final PH	Temp °C	Sam Vol. (mL)	D.O.1 Initial	D.O.2 Final	Depletion	BOD Result (mg/L)	Avg Result (mg/L)	Comment
LB133342BL	1	No	6.79	N/A	20.40	300	9.24	9.23	0.01	0.01	0.01	
POLYSEED	1					10	9.16	6.97	2.19	0.44	0.57	
POLYSEED	2					15	9.14	4.20	4.94	0.66		
POLYSEED	3					20	9.06	2.93	6.13	0.61		
GGA	1					6	9.14	5.23	3.91	167	171.17	
GGA	2					6	9.14	5.16	3.98	170.5		
GGA	3					6	9.11	5.02	4.09	176		
P4735-01	1	No	8.44	7.22	20.30	0.5	9.19	1.02	8.17	4560	4560	pH Adjuste
P4735-01	2					1	9.18	0.36	-	0		
P4735-01	3					2	9.14	0.32	-	0		
P4735-01	4					5	8.99	0.31	-	0		
P4735-01	5					10	8.66	0.29	-	0		
P4735-01DUP	1	No	8.44	7.22	20.30	0.5	9.19	1.03	8.16	4554	4554	pH Adjuste
P4735-01DUP	2					1	9.18	0.38	-	0		
P4735-01DUP	3					2	9.12	0.32	-	0		
P4735-01DUP	4					5	9.00	0.30	-	0		
P4735-01DUP	5					10	8.64	0.29	-	0		
P4735-05	1	No	4.67	6.80	20.40	0.01	9.22	7.53	-	0	13620	pH Adjuste
P4735-05	2					0.05	9.21	6.55	2.66	12540		
P4735-05	3					0.1	9.18	3.71	5.47	14700		
P4735-05	4					0.5	9.14	0.31	-	0		
P4735-05	5					1	8.80	0.27	-	0		
P4736-02	1	No	6.22	6.90	20.40	0.5	9.22	6.61	2.61	1224	976	pH Adjuste
P4736-02	2					1	9.21	5.80	3.41	852		
P4736-02	3					2	9.16	2.91	6.25	852		
P4736-02	4					3	9.07	0.34	-	0		
P4762-02	1	No	7.39	N/A	20.20	0.5	9.23	8.78	-	0	420	
P4762-02	2					1	9.20	7.02	2.18	483		
P4762-02	3					2	9.11	7.28	-	0		
P4762-02	4					3	8.94	4.80	4.14	357		
P4765-01	1	No	7.09	N/A	20.00	5	9.22	8.68	-	0		
P4765-01	2					20	9.20	8.57	-	0		
P4765-01	3					50	9.19	8.30	-	0		
P4765-01	4					150	9.12	8.11	-	0		
P4765-03	1	No	7.24	N/A	20.00	5	9.20	8.81	-	0		
P4765-03	2					20	9.19	8.50	-	0		
P4765-03	3					50	9.18	8.22	-	0		
P4765-03	4					150	9.15	8.13	-	0		
P4765-05	1	No	6.94	N/A	20.00	5	9.19	8.91	-	0		
P4765-05	2					20	9.17	8.67	-	0		
P4765-05	3					50	9.12	8.38	-	0		

P4765-05	4					150	9.10	7.99	-	0	

NOTE: 2ml POLYSEED added to GGA and all the Samples, but not in Blank.

NOTE (For, CBOD5): 0.16 g Nitrification Inhibitor added to GGA and all the Samples, but not in Blank.

WORKLIST(Hardcopy Internal Chain)

LB133342

WorkList Name : bod5-1107 **WorkList ID :** 185194 **Department :** Wet-Chemistry **Date :** 11-07-2024 08:28:03

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4735-01 D	EFFLUENT	Water	BOD5	Cool 4 deg C	HOLL01	L11	11/06/2024	SM5210 B
P4735-05 B	INFLUENT	Water	BOD5	Cool 4 deg C	HOLL01	L11	11/06/2024	SM5210 B
P4736-02 C	COMP	Water	BOD5	Cool 4 deg C	ARAM01	L11	11/06/2024	SM5210 B
P4762-02 A	EFF-WW	Water	BOD5	Cool 4 deg C	ARDM01	L11	11/07/2024	SM5210 B
P4765-01 F	DSN002	Water	BOD5	Cool 4 deg C	PSEG04	L23	11/07/2024	SM5210 B
P4765-03 F	DSN001	Water	BOD5	Cool 4 deg C	PSEG04	L23	11/07/2024	SM5210 B
P4765-05 F	DSN003	Water	BOD5	Cool 4 deg C	PSEG04	L23	11/07/2024	SM5210 B

Date/Time 11/07/2024 14:00
Raw Sample Received by: RM Cowl
Raw Sample Relinquished by: [signature]

Date/Time 11/07/2024 16:00
Raw Sample Received by: [signature]
Raw Sample Relinquished by: RM Cowl

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona
ANALYST: Niha
Date: 11/06/2024
Run Number: LB133384
BalanceID: WC SC-6
OvenID: WC OVEN-1
FilterID: 17416528
ThermometerID: WET OVEN#1

TEMP1 IN:	103 °C	11/06/2024 14:00	**TEMP1 OUT:**	104 °C	11/06/2024 15:00
TEMP2 IN:	103 °C	11/06/2024 15:30	**TEMP2 OUT:**	104 °C	11/06/2024 16:30
TEMP3 IN:	104 °C	11/07/2024 09:30	**TEMP3 OUT:**	103 °C	11/07/2024 11:00
TEMP4 IN:	104 °C	11/07/2024 11:30	**TEMP4 OUT:**	103 °C	11/07/2024 13:00

Dish #	Lab ID	Client ID	Empty Dish Weight (g)	Final Empty Dish Weight (g)	Sample Volume (ml)	1st Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	2nd Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	Final Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	Weight (g)	Result mg/L
1	LB133384BL	LB133384BL	1.3994	1.3994	100	1.3994	1.3994	1.3994	0.0000	0
2	LB133384BS	LB133384BS	1.4230	1.4230	100	1.4766	1.4766	1.4766	0.0536	536
3	P4723-01	MC0K33	1.3992	1.3992	1000	1.4004	1.4004	1.4004	0.0012	1.2
4	P4723-02	MC0K34	1.3748	1.3748	1000	1.3762	1.3762	1.3762	0.0014	1.4
5	P4723-03	MC0K35	1.4102	1.4102	1000	1.4262	1.4262	1.4262	0.0160	16
6	P4723-06	MC0K36	1.4124	1.4124	1000	1.4229	1.4229	1.4229	0.0105	10.5
7	P4723-07	MC0K37	1.4061	1.4061	1000	1.4203	1.4203	1.4203	0.0142	14.2
8	P4723-08	MC0K38	1.4251	1.4251	1000	1.4281	1.4281	1.4281	0.0030	3
9	P4723-09	MC0K39	1.4275	1.4275	1000	1.4283	1.4283	1.4283	0.0008	0.8
10	P4723-10	MC0K52	1.3947	1.3947	1000	1.4093	1.4093	1.4093	0.0146	14.6
11	P4725-01	MCOK03	1.4034	1.4034	1000	1.4418	1.4418	1.4418	0.0384	38.4
12	P4725-02	MCOK30	1.4063	1.4063	1000	1.4185	1.4185	1.4185	0.0122	12.2
13	P4725-03	MCOK31	1.3996	1.3996	1000	1.4016	1.4016	1.4016	0.0020	2
14	P4725-04	MCOK32	1.3906	1.3906	1000	1.3920	1.3920	1.3920	0.0014	1.4
15	P4725-05	MCOK49	1.4080	1.4080	1000	1.4090	1.4090	1.4090	0.0010	1

TOTAL SUSPENDED SOLIDS - SM2540D

SUPERVISOR: Iwona
ANALYST: Niha
Date: 11/06/2024
Run Number: LB133384
BalanceID: WC SC-6
OvenID: WC OVEN-1
FilterID: 17416528
ThermometerID: WET OVEN#1

TEMP1 IN:	103 °C	11/06/2024 14:00	**TEMP1 OUT:**	104 °C	11/06/2024 15:00
TEMP2 IN:	103 °C	11/06/2024 15:30	**TEMP2 OUT:**	104 °C	11/06/2024 16:30
TEMP3 IN:	104 °C	11/07/2024 09:30	**TEMP3 OUT:**	103 °C	11/07/2024 11:00
TEMP4 IN:	104 °C	11/07/2024 11:30	**TEMP4 OUT:**	103 °C	11/07/2024 13:00

Dish #	Lab ID	Client ID	Empty Dish Weight (g)	Final Empty Dish Weight (g)	Sample Volume (ml)	1st Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	2nd Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	Final Empty Dish+Sample weight after 1.5hr drying @103-@105°C (g)	Weight (g)	Result mg/L
16	P4725-06	MCOK50	1.4257	1.4257	1000	1.4283	1.4283	1.4283	0.0026	2.6
17	P4725-07	MCOK51	1.4059	1.4059	1000	1.4069	1.4069	1.4069	0.0010	1
18	P4735-01	EFFLUENT	1.4132	1.4132	20	1.5171	1.5171	1.5171	0.1039	5195
19	P4735-04	AERATION TK 1	1.4002	1.4002	20	1.5420	1.5420	1.5420	0.1418	7090
20	P4736-02	COMP	1.4153	1.4153	100	1.4646	1.4646	1.4646	0.0493	493
21	P4736-02DUP	COMPDUP	1.4059	1.4059	100	1.4570	1.4570	1.4570	0.0511	511

A = Sample Volume (ml)
B = Final Empty Dish Weight (g)
C = Final Empty Dish + Sample weight after 1.5 hr drying @105°C(g)
D = Weight (g)

Weight (g) = C - B

Result mg/L = $\frac{D}{A} * 1000 * 1000$

LB 133385

WORKLIST(Hardcopy Internal Chain)

WorkList Name : TSS-11062024 **WorkList ID :** 185173 **Department :** Wet-Chemistry **Date :** 11-06-2024 11:28:57

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4723-01	MC0K33	Water	TSS	Cool 4 deg C	TETR16	L31	11/04/2024	SM2540 D
P4723-02	MC0K34	Water	TSS	Cool 4 deg C	TETR16	L31	11/04/2024	SM2540 D
P4723-05	P4723-03MSD	Water	TSS	Cool 4 deg C	TETR16	L31	11/04/2024	SM2540 D
P4723-06	MC0K36	Water	TSS	Cool 4 deg C	TETR16	L31	11/04/2024	SM2540 D
P4723-07	MC0K37	Water	TSS	Cool 4 deg C	TETR16	L31	11/04/2024	SM2540 D
P4723-08	MC0K38	Water	TSS	Cool 4 deg C	TETR16	L31	11/04/2024	SM2540 D
P4725-05	MCOK49	Water	TSS	Cool 4 deg C	TETR16	L23	11/04/2024	SM2540 D
P4725-06	MCOK50	Water	TSS	Cool 4 deg C	TETR16	L23	11/04/2024	SM2540 D
P4725-07	MCOK51	Water	TSS	Cool 4 deg C	TETR16	L23	11/04/2024	SM2540 D
P4723-09	MC0K39	Water	TSS	Cool 4 deg C	TETR16	L31	11/04/2024	SM2540 D
P4723-10	MC0K52	Water	TSS	Cool 4 deg C	TETR16	L31	11/04/2024	SM2540 D
P4725-01	MCOK03	Water	TSS	Cool 4 deg C	TETR16	L23	11/04/2024	SM2540 D
P4725-02	MCOK30	Water	TSS	Cool 4 deg C	TETR16	L23	11/04/2024	SM2540 D
P4725-03	MCOK31	Water	TSS	Cool 4 deg C	TETR16	L23	11/04/2024	SM2540 D
P4725-04	MCOK32	Water	TSS	Cool 4 deg C	TETR16	L23	11/04/2024	SM2540 D
P4736-02	COMP	Water	TSS	Cool 4 deg C	ARAM01	L11	11/06/2024	SM2540 D
P4735-01	EFFLUENT	Water	TSS	Cool 4 deg C	HOLL01	L11	11/06/2024	SM2540 D
P4735-04	AERATION TK 1	Water	TSS	Cool 4 deg C	HOLL01	L11	11/06/2024	SM2540 D

Date/Time 11.07.2024, 08:30
Raw Sample Received by: NF(WC)
Raw Sample Relinquished by:

Date/Time 11.07.2024, 10:00
Raw Sample Received by:
Raw Sample Relinquished by: NF(WC)

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Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QCBatch ID # LB133339

Review By	jignesh	Review On	11/7/2024 3:12:45 PM
Supervise By	sohil	Supervise On	11/7/2024 3:20:22 PM
SubDirectory	LB133339	Test	TPH

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	W3110,M6069,EP2556,WP108566,W3079,NA,WP108567,WP108568,NA

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB133339BL	LB133339BL	MB	11/07/24 16:25		jignesh	OK
2	LB133339BS	LB133339BS	LCS	11/07/24 16:25		jignesh	OK
3	LB133339BSD	LB133339BSD	LCSD	11/07/24 16:25		jignesh	OK
4	P4733-01	402	SAM	11/07/24 16:25		jignesh	OK
5	P4736-01	GRAB	SAM	11/07/24 16:25		jignesh	OK

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Instrument ID: DO METER

Daily Analysis Runlog For Sequence/QCBatch ID # LB133342

Review By	rubina	Review On	11/13/2024 11:46:41 AM
Supervise By	Iwona	Supervise On	11/13/2024 11:49:52 AM
SubDirectory	LB133342	Test	BOD5

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	WP110592,W3149,WP110386,W3103,W3109,W3105,WP110594,WP110593,WP108662

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB133342BL	LB133342BL	MB	11/07/24 17:00		rubina	OK
2	LB133342BS	LB133342BS	LCS	11/07/24 17:00		rubina	OK
3	P4735-01	EFFLUENT	SAM	11/07/24 17:00	Intermediate dilution	rubina	OK
4	P4735-01DUP	EFFLUENTDUP	DUP	11/07/24 17:00	Intermediate dilution	rubina	OK
5	P4735-05	INFLUENT	SAM	11/07/24 17:00	Intermediate dilution	rubina	OK
6	P4736-02	COMP	SAM	11/07/24 17:00	Intermediate dilution	rubina	OK
7	P4762-02	EFF-WW	SAM	11/07/24 17:00	Intermediate dilution	rubina	OK
8	P4765-01	DSN002	SAM	11/07/24 17:00		rubina	OK
9	P4765-03	DSN001	SAM	11/07/24 17:00		rubina	OK
10	P4765-05	DSN003	SAM	11/07/24 17:00		rubina	OK

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Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QCBatch ID # LB133384

Review By	Niha	Review On	11/11/2024 10:00:11 AM
Supervise By	Iwona	Supervise On	11/13/2024 4:19:38 PM
SubDirectory	LB133384	Test	TSS

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	N/A

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB133384BL	LB133384BL	MB	11/07/24 09:30		Niha	OK
2	LB133384BS	LB133384BS	LCS	11/07/24 09:30		Niha	OK
3	P4723-01	MC0K33	SAM	11/07/24 09:30		Niha	OK
4	P4723-02	MC0K34	SAM	11/07/24 09:30		Niha	OK
5	P4723-03	MC0K35	SAM	11/07/24 09:30		Niha	OK
6	P4723-06	MC0K36	SAM	11/07/24 09:30		Niha	OK
7	P4723-07	MC0K37	SAM	11/07/24 09:30		Niha	OK
8	P4723-08	MC0K38	SAM	11/07/24 09:30		Niha	OK
9	P4723-09	MC0K39	SAM	11/07/24 09:30		Niha	OK
10	P4723-10	MC0K52	SAM	11/07/24 09:30		Niha	OK
11	P4725-01	MC0K03	SAM	11/07/24 09:30		Niha	OK
12	P4725-02	MC0K30	SAM	11/07/24 09:30		Niha	OK
13	P4725-03	MC0K31	SAM	11/07/24 09:30		Niha	OK
14	P4725-04	MC0K32	SAM	11/07/24 09:30		Niha	OK
15	P4725-05	MC0K49	SAM	11/07/24 09:30		Niha	OK
16	P4725-06	MC0K50	SAM	11/07/24 09:30		Niha	OK
17	P4725-07	MC0K51	SAM	11/07/24 09:30		Niha	OK
18	P4735-01	EFFLUENT	SAM	11/07/24 09:30		Niha	OK

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Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QCBatch ID # LB133384

Review By	Niha	Review On	11/11/2024 10:00:11 AM
Supervise By	Iwona	Supervise On	11/13/2024 4:19:38 PM
SubDirectory	LB133384	Test	TSS

STD. NAME	STD REF.#
ICAL Standard	N/A
ICV Standard	N/A
CCV Standard	N/A
ICSA Standard	N/A
CRI Standard	N/A
LCS Standard	N/A
Chk Standard	N/A

19	P4735-04	AERATION TK 1	SAM	11/07/24 09:30		Niha	OK
20	P4736-02	COMP	SAM	11/07/24 09:30		Niha	OK
21	P4736-02DUP	COMPDUP	DUP	11/07/24 09:30		Niha	OK

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Prep Standard - Chemical Standard Summary

Order ID : P4736

Test : BOD5,TPH,TSS

Prepbatch ID :

Sequence ID/Qc Batch ID: LB133339,LB133342,LB133384,

Standard ID :
EP2556,WP108566,WP108567,WP108568,WP108662,WP110386,WP110592,WP110593,WP110594,

Chemical ID :
E3551,E3726,M5673,M5943,M6069,W2606,W2653,W2654,W2817,W2871,W3009,W3030,W3079,W3082,W3103,W3105,W3109,W3110,W3112,W3113,W3117,W3149,

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Extractions STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3923	Baked Sodium Sulfate	EP2556	11/03/2024	01/03/2025	Rajesh Parikh	Extraction_SCALE_2 (EX-SC-2)	None	RUPESHKUMAR SHAH 11/03/2024

FROM 4000.00000gram of E3551 = Final Quantity: 4000.000 gram

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
229	1:1 HCL	WP108566	06/27/2024	10/24/2024	Jignesh Parikh	None	None	Iwona Zarych 06/27/2024

FROM 500.00000ml of M5943 + 500.00000ml of W2606 = Final Quantity: 1.000 L

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
2470	1664A SPIKING SOLN	WP108567	06/27/2024	12/25/2024	Jignesh Parikh	None	None	Iwona Zarych 06/27/2024

FROM 1000.00000ml of E3726 + 4.00000gram of W2817 + 4.00000gram of W2871 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3374	1664A QCS spiking solution-SS	WP108568	06/27/2024	12/25/2024	Jignesh Parikh	WETCHEM_SCALE_4 (WCSC-4)	None	Iwona Zarych 06/27/2024

FROM 1000.00000ml of E3726 + 4.00000gram of W3009 + 4.00000gram of W3082 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1571	Sodium hydroxide, 1N	WP108662	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/11/2024

FROM 4.00000gram of W3113 + 96.00000ml of W3112 = Final Quantity: 100.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1841	Sulfuric Acid, 1N	WP110386	10/24/2024	04/24/2025	Rubina Mughal	None	WETCHEM_PIPETTE_3 (WC)	Iwona Zarych 10/24/2024

FROM 2.80000ml of M5673 + 97.20000ml of W3112 = Final Quantity: 100.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
127	BOD Dilution fluid	WP110592	11/07/2024	11/08/2024	Rubina Mughal	None	None	Iwona Zarych 11/11/2024

FROM 18.00000L of W3112 + 3.00000PILLOW of W3117 = Final Quantity: 18.000 L

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
129	Glutamic acid-glucose mix for BOD	WP110593	11/07/2024	11/08/2024	Rubina Mughal	WETCHEM_SCALE_7 (WCSC-6)	None	Iwona Zarych 11/11/2024

FROM 0.15000gram of W2653 + 0.15000gram of W2654 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
128	polyseed seed control	WP110594	11/07/2024	11/08/2024	Rubina Mughal	None	None	Iwona Zarych 11/11/2024

FROM 1.00000PILLOW of W3030 + 300.00000ml of WP110592 = Final Quantity: 300.000 ml

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	1234	12/25/2024	02/26/2024 / Rajesh	02/23/2024 / Rajesh	E3726

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9673-33 / Sulfuric Acid, Instra-Analyzed (cs/6c2.5L)	23D2462010	03/20/2028	09/21/2023 / mohan	09/05/2023 / mohan	M5673

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9530-33 / Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)	22G2862015	12/24/2024	06/24/2024 / Al-Terek	06/21/2024 / Al-Terek	M5943

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	140440 / TEST PAPERS,PH,0-2.5,.2SENSI, 100PK	80A0441	02/29/2028	09/03/2024 / jignesh	08/19/2024 / Jaswal	M6069

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	DIW / DI Water	Daily Lab-Certified	10/24/2024	10/24/2019 / apatel	10/24/2019 / apatel	W2606

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AC156212500 / GLUTAMIC ACID BIOCHEM REG, 250G	A0405990	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2653

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	D16-500 / DEXTROSE ANHYDROUS ACS REAGENT, 500G(New)	186122A	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2654

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	A12244 / Stearic acid, 98%, 100 g	U20E006	04/02/2026	04/02/2021 / apatel	04/02/2021 / apatel	W2817

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	H223-57 / Hexadecane, 99.0%	0000266903	05/04/2027	09/07/2021 / apatel	08/26/2021 / apatel	W2871

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	H223-57 / Hexadecane, 99.0%	SHBP8192	02/27/2028	02/27/2023 / Iwona	02/27/2023 / Iwona	W3009

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	136742-80 / POLYSEED	282211	11/30/2024	10/30/2024 / Iwona	05/10/2023 / Iwona	W3030

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CHEMICAL RECEIPT LOG BOOK

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	04667-2.5 / Silica Gel (60-200 mesh), 2.5 KG	072154301	01/30/2029	05/07/2024 / jignesh	01/30/2024 / jignesh	W3079

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	A12244 / Stearic acid, 98%, 100 g	U23E020	02/26/2029	02/26/2024 / Iwona	02/26/2024 / Iwona	W3082

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	4620-32 / MANGANOUS SULFATE SOLUTION-364	2403J02	03/31/2026	04/22/2024 / Iwona	04/22/2024 / Iwona	W3103

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL69870-8 / SODIUM THIOSULFATE,0.025N,4LITRE	4403S13	09/30/2025	04/22/2024 / Iwona	04/22/2024 / Iwona	W3105

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL04100-4 / Alkaline Iodide Azide, 1 L	1405D67	04/30/2026	05/23/2024 / Iwona	05/23/2024 / Iwona	W3109

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	235898	02/28/2029	06/27/2024 / jignesh	06/26/2024 / jignesh	W3110

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CHEMICAL RECEIPT LOG BOOK

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

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	PC19510-7 / Sodium Hydroxide Pellets 12 Kg	23B1556310	12/31/2025	07/08/2024 / Iwona	07/08/2024 / Iwona	W3113

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
HACH	1486266 / BOD Nutrient Buffer Pillows, 6 mL concentrate to make 6 L, 50/pk	A4032	04/30/2029	10/02/2024 / rubina	07/12/2024 / Iwona	W3117

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AL70850-8 / Starch Solution, 4L	4408P62	08/31/2026	10/16/2024 / Iwona	10/16/2024 / Iwona	W3149

Hexadecane, 99.0%

Material No.: H223-57
Batch No.: 0000266903
Manufactured Date: 2020/05/05
Retest Date: 2027/05/04
Revision No: 1

Certificate of Analysis

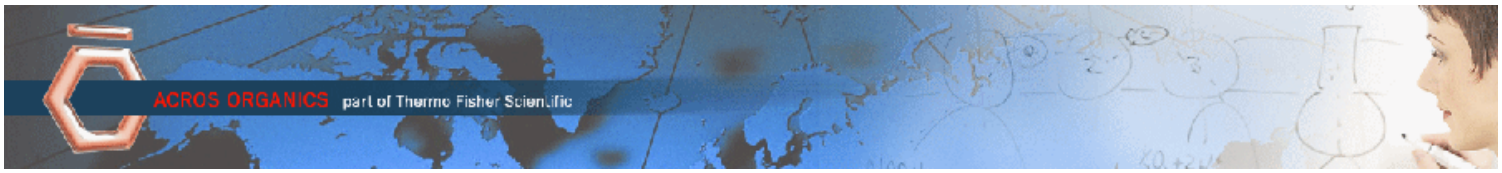
Test	Specification	Result
Assay ($CH_3(CH_2)_{14}CH_3$) (by GC)	>= 99.0 %	99.3
Infrared Spectrum	Passes Test	PT

For Laboratory, Research or Manufacturing Use

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

Jamie Ethier
Vice President Global Quality

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



ACROS ORGANICS

Version	0
Molecular weight	147.13
Molecular formula	C5 H9 N O4
CAS No	56-86-0
Linear formula	HO2CCH2CH2CH(NH2)CO2H
Flash point (°C)	

Certificate of Analysis

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

Catalog Number	15621	**Quality Test / Release Date**	13 March 2019
Lot Number	A0405990	**Suggested Retest Date**	March 2022

Description	L(+)-Glutamic acid,99%
Country of Origin	CHINA
Declaration of Origin	plant

Origin Comment	The product is made by fermentation of sugar molasses

Result Name	Specifications	Test Value
Appearance (Color)	White	White
Appearance (Form)	Powder	Powder
Infrared spectrum	Conforms	Conforms
Titration with NaOH	98.5 to 100.5 % (On dried substance)	99.32 % (On dried substance)
Loss on drying	=<0.5 % (105°C, 3 hrs)	0.002 % (105°C, 3 hrs)
Heavy metals (as Pb)	=<10 ppm	=<10 ppm
Sulfated ash	=<0.1 %	0.08 %
Other amino acids	not detectable	not detectable
Specific optical rotation	+30.5° to +32.5° (20°C, 589 nm) (on dried substance)	+32° (20°C, 589 nm) (on dried substance)
Specific optical rotation	(c=10, 2N HCl)	(c=10, 2N HCl)
Chloride (Cl)	=<200 ppm	=<200 ppm
Iron (Fe)	=<30 ppm	=<10 ppm
Sulfate (SO4)	=<300 ppm	=<200 ppm
Ammonium (NH4)	=<200 ppm	=<200 ppm
Arsenic oxide (As2O3)	=<1 ppm	=<1 ppm

L. Van den Broek, QA Manager Issued: 24 January 2020

Acros Organics
ENA23, zone 1, nr 1350, Janssen Pharmaceuticalaan 3a, B-2440 Geel, Belgium
Tel +32 14/57.52.11 - Fax +32 14/59.34.34 Internet: http://www.acros.com
1 Reagent Lane, Fair Lawn, NJ 07410,USA Fax 201-796-1329

ThermoFisher SCIENTIFIC

W2817
Rec. 04/02/2021

Product Specification

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

CAS Number:	57-11-4
Molecular Formula:	C18H36O2
Molecular Weight:	284.48
InChI Key:	QIQXTHQIDYTFRH-UHFFFAOYSA-N
SMILES:	CCCCCCCCCCCCCCCCCC(O)=O
Synonym:	stearic acid acide stearique hydrofol acid 1855 hydrofol acid 1655 industrene 5016 stearic acid, ion(1-) (8CI) glycon TP glycon DP acidum stearinicul hydrofol acid 150

Product Specification

Appearance (Color):	White
Form:	Crystals or powder or crystalline powder or flakes or waxy solid
Assay (Silylated GC):	≥97.5%
Melting Point (clear melt):	67.0-74.0?C

Date Of Print: 11/30/2023

Product Specifications are subject to amendment and may change over time. Data contained is accurate as of the date printed.

Sigma-Aldrich

W3009

rec. 2/27/2023 12

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:
Hexadecane - ReagentPlus®, 99%

Product Number:	**H6703**
Batch Number:	**SHBP8192**
Brand:	SIAL
CAS Number:	544-76-3
MDL Number:	MFCD00008998
Formula:	C16H34
Formula Weight:	226.44 g/mol
Quality Release Date:	04 AUG 2022

$CH_3(CH_2)_{14}CH_3$

Test	Specification	Result
Appearance (Color)	Colorless or White	Colorless
Appearance (Form)	Liquid or Solid	Liquid
Infrared Spectrum	Conforms to Structure	Conforms
Refractive index at 20 ° C	1.432 - 1.436	1.435
Purity (GC)	≥ 98.5 %	99.3 %
Color Test	≤ 20 APHA	< 5 APHA

Larry Coers, Director
Quality Control
Sheboygan Falls, WI US

W 3029
W 3030

Rec. 05/11/23
12

POLYSEED®

CERTIFICATE OF ANALYSIS

PO BOX 130549 Spring, TX 77393
Phone: (281) 298-9410 Fax: (281) 298-9411

FINISHED PRODUCT, LOT NUMBER, MFG. /EXP DATE:
PolySeed® • Part No. P-110 • Lot 282211 • Mfg. Date: 11/2022 • Exp. Date: 11/2024

FORMULATION:
The formulation for this product contains a range of naturally occurring microorganisms, which are known to be non-pathogenic to man or animals.

VIABLE COUNT, FINAL TEST RESULT:
The product has been fully tested in accordance with Finished Product Specifications and contains a minimum viable count of 4.00×10^9 cfu/g.

GLUCOSE/GLUTAMIC-ACID RESULTS:
Tested results within acceptable range 198 +/- 30.5 mg/L (167.5 - 228.5 mg/L). GGA Lot# J317-19 – Average Test Result: 205.3

See www.polyseed.com for details.

SEED CONTROL FACTOR:
Tested results within acceptable range 0.6 – 1.0 see www.polyseed.com for details

SALMONELLA TEST RESULT:
The product has been shown to be Salmonella negative using procedures recommended in the Microbiology Laboratory Guidebook, published by the USDA Food Safety and Inspection Service.

The purpose of this document is to assure that the Finished Product conforms to the above specification.

Signature: _____ Date: 11/28/2022
Quality Control Department

POLYSEED.Ref.1.19 Revised Jan 22

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International Laboratory Supply

ISO 9002
DNV
DNV Certification, Inc.
REGISTERED FIRM

ThermoFisher SCIENTIFIC

Certificate of Analysis

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

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

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

Catalog Number	D16	Quality Test / Release Date	03/19/2019
Lot Number	186122A		
Description	DEXTROSE, ANHYDROUS, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Mar/2022
Chemical Origin	Organic - Plant		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	White, granular powder
TITRATABLE ACID	MEQ/G	<= 0.002	<0.002
STARCH		= PASS TEST	pass test
SPECIFIC ROTATION @ 25 C	DEGREES (+ OR -)	Inclusive Between +52.5 - +53.0	53.0
SULFATE & SULFITE	%	<= 0.005	<0.005
IRON (Fe)	ppm	<= 5	<5
CHLORIDE	%	<= 0.01	<0.01
IGNITION RESIDUE	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	pass test
HEAVY METALS (as Pb)	ppm	<= 5	<5
LOSS ON DRYING @ 105 C	%	<= 0.2	<0.2
INSOLUBLE MATTER	%	<= 0.005	0.002

Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

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

PRODUCTOS QUIMICOS MONTERREY, S.A. DE C.V.

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

CERTIFICATE OF ANALYSIS

PRODUCT :	SODIUM SULFATE CRYSTALS ANHYDROUS		
QUALITY :	ACS (CODE RMB3375)	FORMULA :	Na_2SO_4
SPECIFICATION NUMBER :	6399	RELEASE DATE:	ABR/21/2023
LOT NUMBER :	313201		

TEST	SPECIFICATIONS	LOT VALUES
Assay (Na_2SO_4)	Min. 99.0%	99.7 %
pH of a 5% solution at 25°C	5.2 - 9.2	6.1
Insoluble matter	Max. 0.01%	0.005 %
Loss on ignition	Max. 0.5%	0.1 %
Chloride (Cl)	Max. 0.001%	<0.001 %
Nitrogen compounds (as N)	Max. 5 ppm	<5 ppm
Phosphate (PO_4)	Max. 0.001%	<0.001 %
Heavy metals (as Pb)	Max. 5 ppm	<5 ppm
Iron (Fe)	Max. 0.001%	<0.001 %
Calcium (Ca)	Max. 0.01%	0.002 %
Magnesium (Mg)	Max. 0.005%	0.001 %
Potassium (K)	Max. 0.008%	0.003 %
Extraction-concentration suitability	Passes test	Passes test
Appearance	Passes test	Passes test
Identification	Passes test	Passes test
Solubility and foreing matter	Passes test	Passes test
Retained on US Standard No. 10 sieve	Max. 1%	0.1 %
Retained on US Standard No. 60 sieve	Min. 94%	97.3 %
Through US Standard No. 60 sieve	Max. 5%	2.5 %
Through US Standard No. 100 sieve	Max. 10%	0.1 %

COMMENTS

QC: PhC Irma Belmares

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

RG-02-01, Ed. 3

Recd. by RB on 7/24/23 E3551

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

avantor™ | J.T.Baker®

Material No.: 9673-33
Batch No.: 23D2462010
Manufactured Date: 2023-03-22
Retest Date: 2028-03-20
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (H_2SO_4)	95.0 – 98.0 %	96.1 %
Appearance	Passes Test	Passes Test
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Substances Reducing Permanganate (as SO2)	≤ 2 ppm	< 2 ppm
Ammonium (NH_4)	≤ 1 ppm	1 ppm
Chloride (Cl)	≤ 0.1 ppm	< 0.1 ppm
Nitrate (NO_3)	≤ 0.2 ppm	< 0.1 ppm
Phosphate (PO_4)	≤ 0.5 ppm	< 0.1 ppm
Trace Impurities – Aluminum (Al)	≤ 30.0 ppb	< 5.0 ppb
Arsenic and Antimony (as As)	≤ 4.0 ppb	< 2.0 ppb
Trace Impurities – Boron (B)	≤ 10.0 ppb	8.5 ppb
Trace Impurities – Cadmium (Cd)	≤ 2.0 ppb	< 0.3 ppb
Trace Impurities – Chromium (Cr)	≤ 6.0 ppb	< 0.4 ppb
Trace Impurities – Cobalt (Co)	≤ 0.5 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gold (Au)	≤ 10.0 ppb	0.5 ppb
Heavy Metals (as Pb)	≤ 500.0 ppb	< 100.0 ppb
Trace Impurities – Iron (Fe)	≤ 50.0 ppb	1.3 ppb
Trace Impurities – Lead (Pb)	≤ 0.5 ppb	< 0.5 ppb
Trace Impurities – Magnesium (Mg)	≤ 7.0 ppb	0.8 ppb
Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities – Mercury (Hg)	≤ 0.5 ppb	< 0.1 ppb
Trace Impurities – Nickel (Ni)	≤ 2.0 ppb	0.3 ppb
Trace Impurities – Potassium (K)	≤ 500.0 ppb	< 2.0 ppb
Trace Impurities – Selenium (Se)	≤ 50.0 ppb	< 0.1 ppb
Trace Impurities – Silicon (Si)	≤ 100.0 ppb	31.5 ppb
Trace Impurities – Silver (Ag)	≤ 1.0 ppb	< 0.3 ppb

>>> Continued on page 2 >>>

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

avantor™ | J.T.Baker®

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

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

For Laboratory,Research,or Manufacturing Use

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

James T Ethier

Jamie Ethier
Vice President Global Quality

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

avantor™ | J.T.Baker®

MS943 MS944
MS945 MS946

Material No.: 9530-33
Batch No.: 22G2862015
Manufactured Date: 2022-06-15
Retest Date: 2027-06-14
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
ACS – Assay (as HCl) (by acid-base titrn)	36.5 – 38.0 %	37.9 %
ACS – Color (APHA)	≤ 10	5
ACS – Residue after Ignition	≤ 3 ppm	< 1 ppm
ACS – Specific Gravity at 60°/60°F	1.185 – 1.192	1.191
ACS – Bromide (Br)	≤ 0.005 %	< 0.005 %
ACS – Extractable Organic Substances	≤ 5 ppm	< 1 ppm
ACS – Free Chlorine (as Cl_2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO_4)	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO_3)	≤ 0.8 ppm	0.3 ppm
Ammonium (NH_4)	≤ 3 ppm	< 1 ppm
Trace Impurities – Arsenic (As)	≤ 0.010 ppm	< 0.003 ppm
Trace Impurities – Aluminum (Al)	≤ 10.0 ppb	1.3 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 3.0 ppb
Trace Impurities – Barium (Ba)	≤ 1.0 ppb	0.2 ppb
Trace Impurities – Beryllium (Be)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Trace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
Trace Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
Trace Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
Trace Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
Trace Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
Trace Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
Heavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
Trace Impurities – Iron (Fe)	≤ 15 ppb	6 ppb

>>> Continued on page 2 >>>

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

avantor™ | J.T.Baker®

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

Test	Specification	Result
Trace Impurities - Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities - Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Magnesium (Mg)	≤ 10.0 ppb	2.9 ppb
Trace Impurities - Manganese (Mn)	≤ 1.0 ppb	< 0.4 ppb
Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 ppb
Trace Impurities - Nickel (Ni)	≤ 4.0 ppb	< 0.3 ppb
Trace Impurities - Niobium (Nb)	≤ 1.0 ppb	0.8 ppb
Trace Impurities - Potassium (K)	≤ 9.0 ppb	< 2.0 ppb
Trace Impurities - Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities - Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities - Silver (Ag)	≤ 1.0 ppb	0.5 ppb
Trace Impurities - Sodium (Na)	≤ 100.0 ppb	2.3 ppb
Trace Impurities - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Tantalum (Ta)	≤ 1.0 ppb	1.6 ppb
Trace Impurities - Thallium (Tl)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Tin (Sn)	≤ 5.0 ppb	4.0 ppb
Trace Impurities - Titanium (Ti)	≤ 1.0 ppb	1.5 ppb
Trace Impurities - Vanadium (V)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
Trace Impurities - Zirconium (Zr)	≤ 1.0 ppb	0.3 ppb

>>> Continued on page 3 >>>

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

avantor™ | J.T.Baker®

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

Test	Specification	Result

For Laboratory,Research,or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications
Storage Condition: Store below 25 °C.

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

James T Ethier

Jamie Ethier
Vice President Global Quality

R: 8/19/24 M6069

MACHEREY-NAGEL

Certificate of Analysis

Product information

Product	pH-Fix 0.3-2.3
REF	92180
LOT	80A0441
Expiration date:	29.02.2028
Date of examination:	23.01.2024
Gradation:	pH 0.3-0.7-1.0-1.3-1.6-1.9-2.3

Confirmation

Hereby we confirm, that the above mentioned product has successfully passed our quality control system in accordance with ISO 9001 and meets the specific quality criteria.

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

MACHEREY-NAGEL GmbH & Co. KG
Valencienner Str. 11
52355 Düren · Germany
www.mn-net.com

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FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
US Tel.: +1 888 321 62 24 sales-us@mn-net.com

Certificate of Analysis

W 3079
SP

Product information

Product:	**Silica 60, 0.063 - 0.200 mm**
REF:	**815330.25**
LOT:	**072154301**

Technical data

Material:	**Synthethic amorphus silica (irregular shaped)**
Description:	**White powder**

Parameter	Specifications	Result
Specific surface (m^2/g, N2 adsorption) :	450 - 550	537
Particle size distribution (screen analysis) :	< 63 µm max. 5 %	0.3
	> 200 µm max. 5 %	0.1
pH value :	6.0 - 7.5	7
Water content (%) :	< 7	3.6
Pore volume (mL/g, N2 adsorption) :	0.65 - 0.85	0.82
Mean pore size (Å, N2 adsorption) :	50 - 70	62

Expiry

This product has no stated expiration date or shelf life.

We recommend to use the product within a time period of 5 years after date of QC release.
This time period is valid only if the product is stored under dry and frost-free conditions.
After 5 years we recommend retesting the adsorbent to make sure that the expected performance is still given.

Confirmation

Hereby we confirm, that the above mentioned product has successfully passed our quality control system in accordance with ISO 9001 and meets the specific quality criteria.

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

Date of measurement: 16.02.2023 22:00

Certificate of analysis

W3082 Received on 2/26/2026 by IZ

Product No.:	A12244
Product:	Stearic acid, 98%
Lot No.:	U23E020

Appearance	White flakes
Assay	98.7 %

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

RICCA CHEMICAL COMPANY®
W3103 Received on 4/22/24 by IZ

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

Certificate of Analysis

Manganous Sulfate Solution, 364 g/L

Lot Number: 2403J02 **Product Number:** 4620

Manufacture Date: MAR 15, 2024
Expiration Date: MAR 2026

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Manganous Sulfate Monohydrate	10034-96-5	Reagent
Sulfuric Acid	7664-93-9	ACS

Test	Specification	Result
Appearance	Pink liquid	Passed
Assay (by Refractive Index)	360-368 g/L	367 g/L

Specification	Reference
Manganous Sulfate Solution	ASTM (D 888 A)
Manganous Sulfate Solution	ASTM (D 888 A)
Manganous Sulfate Solution	APHA (4500-O E)
Manganous Sulfate Solution	APHA (4500-O F)
Manganous Sulfate Solution	APHA (4500-O D)
Manganous Sulfate Solution	APHA (4500-O E)
Manganous Sulfate Solution	APHA (4500-O F)
Manganous Sulfate Solution	APHA (4500-O D)
Manganous Sulfate Solution	APHA (4500-O C)
Manganous Sulfate Solution	APHA (4500-O C)
Manganous Sulfate Solution	EPA (360.2)
Manganous Sulfate Solution	EPA (360.2)

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
4620-32	1 L natural poly	24 months

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

Jose Pena (03/15/2024)

Operations Manager

This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

RICCA CHEMICAL COMPANY®

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

W3105 Received on 4/22/24 by IZ

Certificate of Analysis

Sodium Thiosulfate, 0.0250 Normal (N/40)

Lot Number: 4403S13 **Product Number:** 7900

Manufacture Date: MAR 29, 2024
Expiration Date: SEP 2025

This product is specially formulated to increase its stability. A preservative is added to prevent bacterial contamination. However, all Sodium Thiosulfate solutions are subject to slow chemical deterioration and should be restandardized periodically.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Thiosulfate Pentahydrate	10102-17-7	ACS
Organic Preservative	Proprietary	
Sodium Carbonate	497-19-8	ACS

Test	Specification	Result	NIST SRM#
Appearance	Colorless liquid	Passed	
Assay (vs. Potassium Iodate/Starch)	0.02499-0.02501 N at 20°C	0.02501 N at 20°C	136

Specification	Reference
Standard Sodium Thiosulfate Solution, 0.0250 N	APHA (4500-S2- F)
Standard Sodium Thiosulfate Titrant	APHA (4500-O D)
Standard Sodium Thiosulfate Titrant	APHA (4500-O E)
Standard Sodium Thiosulfate Titrant	APHA (4500-O F)
Standard Sodium Thiosulfate Titrant, 0.025 N	APHA (4500-Cl B)
Standard Sodium Thiosulfate Titrant	APHA (4500-O C)
Standard Sodium Thiosulfate Titrant, 0.025 M	APHA (5530 C)
Standard Sodium Thiosulfate Solution (0.025 N)	EPA (SW-846) (9031)
Standard Sodium Thiosulfate solution (0.025 N)	EPA (SW-846) (9034)

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
7900-1	4 L natural poly	18 months
7900-16	500 mL natural poly	18 months
7900-1CT	4 L Cubitainer®	18 months
7900-32	1 L natural poly	18 months

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

Paul Brandon (03/29/2024)
Production Manager
This document is designed to comply with ISO Guide 31 "Reference Materials -- Contents of Certificates and Labels."

RICCA CHEMICAL COMPANY®

448 West Fork Dr
Arlington, TX 76012
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1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Alkaline-Iodide-Azide, Pomeroy Formulation for Dissolved Oxygen (DO) Analysis

Lot Number: 1405D67 **Product Number:** 535

Manufacture Date: APR 05, 2024
Expiration Date: APR 2026

This solution is intended for use with samples with high Dissolved Oxygen content (above 15 mg/L) and for samples with high concentrations of organic material.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Sodium Iodide	7681-82-5	ACS
Sodium Hydroxide	1310-73-2	ACS
Sodium Azide	26628-22-8	Reagent

Test	Specification	Result
Appearance	Colorless liquid	Passed
Free Iodine	To Pass Test	Passed

Specification	Reference
Alkaline Iodide-Sodium Azide Solution II	ASTM (D 888 A)

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
535-32	1 L natural poly	24 months

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

Heidi J Green (04/05/2024)
Operations Manager

Certificate of Analysis

ThermoFisher SCIENTIFIC

W3110 SP update: 06/27/2024

Certificate of Analysis

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

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120633

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

Catalog Number	H303	Quality Test / Release Date	02/23/2024
Lot Number	235898		
Description	HEXANES - OPTIMA		
Country of Origin	United States	Suggested Retest Date	Feb/2029
Chemical Origin	Organic - non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Clear, colorless liquid
ASSAY (N-HEXANE)	%	>= 60	73
ASSAY (SUM C6 HYDROCARBONS)	%	>= 99.9	>99.9
COLOR	APHA	<= 5	<5
DENSITY AT 25 DEGREES C	GM/ML	Inclusive Between 0.653 - 0.673	0.670
EVAPORATION RESIDUE	ppm	<= 1	0.3
FLUORESCENCE BACKGROUND	ppb	<= 1	<1
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
OPTICAL ABS AT 195 NM	ABS. UNITS	<= 1	0.64
OPTICAL ABS AT 210 NM	ABS. UNITS	<= 0.25	0.16
OPTICAL ABS AT 220 NM	ABS. UNITS	<= 0.07	0.06
OPTICAL ABS AT 254 NM	ABS. UNITS	<= 0.005	0.002
PESTICIDE RESIDUE ANALYSIS	NG/L	<= 10	<10
REFRACTIVE INDEX @ 25 DEG C		Inclusive Between 1.375 - 1.385	1.380
SUITABILITY FOR GC/MS		= PASS TEST	PASS TEST
SULFUR COMPOUNDS	%	<= 0.005	<0.005
THIOPHENE	PASS/FAIL	= PASS TEST	PASS TEST
WATER (H2O)	%	<= 0.01	<0.01
WATER-SOLUBLE TITRABLE ACID	MEQ/G	<= 0.0003	0.0001

Harout Sahagian - Quality Control Manager - Fair Lawn

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

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: 0583

Grade: ACS GRADE

Batch Number: 23B1556310

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

Pellets

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

Storage: Room Temperature

TEST	SPECIFICATION	ANALYSIS	DISPOSITION
Calcium	<= 0.005 %	<0.005 %	PASS
Chloride	<= 0.005 %	0.002 %	PASS
Heavy Metals	<= 0.002 %	<0.002 %	PASS
Iron	<= 0.001 %	<0.001 %	PASS
Magnesium	<= 0.002 %	<0.002 %	PASS
Mercury	<= 0.1 ppm	<0.1 ppm	PASS
Nickel	<= 0.001 %	<0.001 %	PASS
Nitrogen Compounds	<= 0.001 %	<0.001 %	PASS
Phosphate	<= 0.001 %	<0.001 %	PASS
Potassium	<= 0.02 %	<0.02 %	PASS
Purity	>= 97.0 %	99.2 %	PASS
Sodium Carbonate	<= 1.0 %	0.5 %	PASS
Sulfate	<= 0.003 %	<0.003 %	PASS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

Certificate of Analysis

Sodium Hydroxide (Pellets)

Material: **0583**

Grade: **ACS GRADE**

Batch Number: **23B1556310**

Chemical Formula:	NaOH	Manufacture Date:	12/14/2022
Molecular Weight:	40	Expiration Date:	12/31/2025
CAS #:	1310-73-2		
Appearance:		Storage:	Room Temperature

Pellets

Spec Set: 0583ACS

Internal ID #: 710

Signature

We certify that this batch conforms to the specifications listed.

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

Leona Edwardson, Quality Control Sr. Manager - Solon
VWR Chemicals, LLC.
28600 Fountain Parkway, Solon OH 44139 USA

Additional Information

Analysis may have been rounded to significant digits in specification limits.

Product meets analytical specifications of the grades listed.

Certificate of Analysis List

For request number 2018139

Catalog Number Entered	Lot Number Entered	Related Catalog Number	Related Lot Code	Description
1486227	4032	1486266	4032	BOD Nutrient Buffer Pillows

Total Enclosures: 1

HACH COMPANY

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

An ISO 9001 Certified Company

Certificate of Analysis

This is a Component of 1486266 lot A4032

COMMODITY:**BOD Nutrient Buffer Pillows**
COMMODITY NUMBER: **1486227** MANUFACTURE DATE: **3/5/2024** DATE OF ANALYSIS: **3/13/2024**
LOT NUMBER: **A4032**

TEST	*SPECIFICATIONS*	*RESULTS*
Ammonia Concentration of a diluted pillow	0.57 to 0.79 ppm	0.710 ppm
Calcium Concentration of a diluted pillow	0.93 to 1.29 ppm	1.060 ppm
Iron Concentration of a diluted pillow	0.27 to 0.36 ppm	0.298 ppm
Magnesium Concentration of a diluted pillow	0.35 to 0.48 ppm	0.430 ppm
Phosphorus Concentration of a diluted pillow	7.6 to 10.3 ppm	8.05 ppm
pH in a 6 L of DI water	7.1 to 7.6	7.32
Five Day Change in Dissolved Oxygen Concentration	-0.2 to 0.2 ppm	-0.18 ppm
Sterility	To Pass	Passed

The expiration date is Mar 2029

Certified by Scott Als

Scott Als
Analytical Services Chemist

RICCA CHEMICAL COMPANY®

W3149 Received on 10/16/24 by IZ

1490 Lammers Pike
Batesville, IN 47006
http://www.riccachemical.com
1-888-GO-RICCA
customerservice@riccachemical.com

Certificate of Analysis

Starch Indicator, 0.5% (w/v), Mercury Free, for Iodometric Titrations

Lot Number: 4408P62 **Product Number:** 8000

Manufacture Date: AUG 28, 2024
Expiration Date: AUG 2026

This product is Mercury-free.

Name	CAS#	Grade
Water	7732-18-5	ACS/ASTM/USP/EP
Starch, soluble	9005-84-9	ACS
Salicylic Acid	69-72-7	ACS

Test	Specification	Result
Appearance	White translucent liquid	Passed
Suitability for Use	Colorless (Iodine absent) - Blue (Iodine present)	Passed

Specification	Reference
Starch Solution	APHA (4500-S2- F)
Starch Indicator Solution	APHA (4500-Cl B)
Starch Indicator	APHA (4500-SO32- B)
Starch indicator solution	APHA (2350 B)
Starch indicator solution	APHA (2350 E)
Starch Solution	APHA (510 B)
Starch Solution	APHA (5530 C)
Starch Indicator	APHA (4500-Cl C)
Starch Indicator	EPA (345.1)

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

Part Number	Size / Package Type	Shelf Life (Unopened Container)
8000-1	4 L natural poly	24 months
8000-16	500 mL natural poly	24 months
8000-32	1 L natural poly	24 months

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

Paul Brandon (08/28/2024)
Production Manager

SHIPPING DOCUMENTS

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 • Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. P4736
QUOTE NO.
COC Number 2042211

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Aramark Uniforms
ADDRESS: 740 Frelinghuysen Ave
CITY Newark STATE: NJ ZIP: 07114
ATTENTION: Jarrod Mills
PHONE: 973-820-1601 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: monthly
PROJECT NO.: LOCATION:
PROJECT MANAGER:
e-mail:
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: PO#:
ADDRESS:
CITY STATE: ZIP:
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): _____ DAYS*
EDD: _____ DAYS*
*TO BE APPROVED BY CHEMTECH
STANDARD HARDCOPY TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- ☐ Level 1 (Results Only)
- ☐ Level 2 (Results + QC)
- ☐ Level 3 (Results + QC + Raw Data)
- ☐ EDD FORMAT _____
- ☐ Level 4 (QC + Full Raw Data)
- ☐ NJ Reduced ☐ US EPA CLP
- ☐ NYS ASP A ☐ NYS ASP B
- ☐ Other _____

ANALYSIS

1 TPH 2 BOD5 3 TSS 4 Mercury Metals 5 Total Metals 6 7 8 9

PRESERVATIVES

C E E B

COMMENTS

← Specify Preservatives
A-HCl D-NaOH
B-HN03 E-ICE
C-H2SO4 F-OTHER

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9
1.	Grab	W		X	11-6-24	1400	1	✓								
2.	Comp	W	✓		11-6-24	1404	3		✓	✓	✓					
3.																
4.																
5.																
6.																
7.																
8.																
9.																
10.																

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1.	11-6-24 1405	1. 11-6-24 1405
2.	DATE/TIME:	2.
3.	DATE/TIME: 11-6-24 1445	3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 4.4 °C
Comments:

Page ____ of ____

CLIENT: ☐ Hand Delivered ☐ Other _____
CHEMTECH: ☐ Picked Up ☐ Field Sampling

Shipment Complete ☐ YES ☐ NO

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (ANAB)	L2219
Maine	2024021
Maryland	296
New Hampshire	255424 Rev 1
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488