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

DATA PACKAGE

GENERAL CHEMISTRY

PROJECT NAME : R36720

TETRA TECH, EMI

240 Continental Drive, Suite 200

Newark, DE - 19713

Phone No: 302-738-7551

ORDER ID : P4900

ATTENTION : Ava Heiss

Laboratory Certification ID # 20012

Table Of Contents for P4900

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Cover Page

Order ID : P4900

Project ID : R36720

Client : Tetra Tech, EMI

Lab Sample Number	Client Sample Number
P4900-01	C0K64
P4900-02	C0K65
P4900-03	C0K66
P4900-04	C0K67
P4900-05	C0K68
P4900-06	C0K69
P4900-07	C0K69MS
P4900-08	C0K69MSD
P4900-09	C0K70

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 11/26/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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CASE NARRATIVE

Tetra Tech, EMI
Project Name: R36720
Project # N/A
Chemtech Project # P4900
Test Name: Oil and Grease

A. Number of Samples and Date of Receipt:
9 Water samples were received on 11/16/2024.

B. Parameters:
According to the Chain of Custody document, the following analyses were requested: Oil and Grease. This data package contains results for Oil and Grease.

C. Analytical Techniques:
The analysis of Oil and Grease was based on method 1664A.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Blank Spike met requirements for all samples.
The Duplicate analysis met criteria for all samples.
The Matrix Spike analysis met criteria for all samples.
The Matrix Spike Duplicate analysis met criteria for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

E. Additional Comments:

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

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

ALLIANCE **284 Sheffield Street, Mountainside New Jersey 07092**
NEW JERSEY LAB ID#: 20012: NEW YORK LAB ID#: 11376

GENERAL CHEMISTRY CONFORMANCE/NON-CONFORMANCE SUMMARY

CHEMTECH PROJECT NUMBER: P4900 MATRIX: Water

METHOD: 1664A

		NA	NO	YES
1.	Blank Contamination - If yes, list compounds and concentrations in each blank:		✓	
2.	Matrix Spike Duplicate Recoveries Met Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
	The Blank Spike met requirements for all samples.			
3.	Sample Duplicate Analysis Met QC Criteria			✓
	If not met, list those compounds and their recoveries which fall outside the acceptable range.			
4.	Digestion Holding Time Met			✓
	If not met, list number of days exceeded for each sample:			

ADDITIONAL COMMENTS:

_____ _____

QA REVIEW Date

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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: P4900

	Completed
For thorough review, the report must have the following:	
GENERAL:	
Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)	✓
Check chain-of-custody for proper relinquish/return of samples	✓
Is the chain of custody signed and complete	✓
Check internal chain-of-custody for proper relinquish/return of samples /sample extracts	✓
Collect information for each project id from server. Were all requirements followed	✓
COVER PAGE:	
Do numbers of samples correspond to the number of samples in the Chain of Custody on login page	✓
Do lab numbers and client Ids on cover page agree with the Chain of Custody	✓
CHAIN OF CUSTODY:	
Do requested analyses on Chain of Custody agree with form I results	✓
Do requested analyses on Chain of Custody agree with the log-in page	✓
Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody	✓
Were the samples received within hold time	✓
Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle	✓
ANALYTICAL:	
Was method requirement followed?	✓
Was client requirement followed?	✓
Does the case narrative summarize all QC failure?	✓
All runlogs and manual integration are reviewed for requirements	✓
All manual calculations and /or hand notations verified	✓

QA Review Signature: SOHIL JODHANI **Date:** 11/26/2024

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LAB CHRONICLE

OrderID:	P4900	**OrderDate:**	11/18/2024 10:11:00 AM
Client:	Tetra Tech, EMI	**Project:**	R36720
Contact:	Ava Heiss	**Location:**	L51

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4900-01	**C0K64**	**WATER**			**11/14/24 13:40**			**11/16/24**
			Oil and Grease	1664A			11/21/24 09:37	
P4900-02	**C0K65**	**WATER**			**11/14/24 13:55**			**11/16/24**
			Oil and Grease	1664A			11/21/24 09:37	
P4900-03	**C0K66**	**WATER**			**11/14/24 13:50**			**11/16/24**
			Oil and Grease	1664A			11/21/24 09:37	
P4900-04	**C0K67**	**WATER**			**11/14/24 14:10**			**11/16/24**
			Oil and Grease	1664A			11/21/24 09:37	
P4900-05	**C0K68**	**WATER**			**11/14/24 11:35**			**11/16/24**
			Oil and Grease	1664A			11/21/24 09:37	
P4900-06	**C0K69**	**WATER**			**11/14/24 12:00**			**11/16/24**
			Oil and Grease	1664A			11/21/24 09:37	
P4900-09	**C0K70**	**WATER**			**11/14/24 10:30**			**11/16/24**
			Oil and Grease	1664A			11/21/24 09:37	

SAMPLE DATA

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Report of Analysis

Client:	Tetra Tech, EMI	Date Collected:	11/14/24 13:40
Project:	R36720	Date Received:	11/16/24
Client Sample ID:	C0K64	SDG No.:	P4900
Lab Sample ID:	P4900-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Oil and Grease	0.60	J	1	0.40	5.00	mg/L		11/21/24 09:37	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:	Tetra Tech, EMI	Date Collected:	11/14/24 13:55
Project:	R36720	Date Received:	11/16/24
Client Sample ID:	C0K65	SDG No.:	P4900
Lab Sample ID:	P4900-02	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Oil and Grease	0.50	J	1	0.40	5.00	mg/L		11/21/24 09:37	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:	Tetra Tech, EMI	Date Collected:	11/14/24 13:50
Project:	R36720	Date Received:	11/16/24
Client Sample ID:	C0K66	SDG No.:	P4900
Lab Sample ID:	P4900-03	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Oil and Grease	0.40	U	1	0.40	5.00	mg/L		11/21/24 09:37	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:	Tetra Tech, EMI	Date Collected:	11/14/24 14:10
Project:	R36720	Date Received:	11/16/24
Client Sample ID:	C0K67	SDG No.:	P4900
Lab Sample ID:	P4900-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Oil and Grease	0.60	J	1	0.40	5.00	mg/L		11/21/24 09:37	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:	Tetra Tech, EMI	Date Collected:	11/14/24 11:35
Project:	R36720	Date Received:	11/16/24
Client Sample ID:	C0K68	SDG No.:	P4900
Lab Sample ID:	P4900-05	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Oil and Grease	0.50	J	1	0.40	5.00	mg/L		11/21/24 09:37	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:	Tetra Tech, EMI	Date Collected:	11/14/24 12:00
Project:	R36720	Date Received:	11/16/24
Client Sample ID:	C0K69	SDG No.:	P4900
Lab Sample ID:	P4900-06	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Oil and Grease	0.70	J	1	0.40	5.00	mg/L		11/21/24 09:37	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:	Tetra Tech, EMI	Date Collected:	11/14/24 10:30
Project:	R36720	Date Received:	11/16/24
Client Sample ID:	C0K70	SDG No.:	P4900
Lab Sample ID:	P4900-09	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Oil and Grease	0.40	U	1	0.40	5.00	mg/L		11/21/24 09:37	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

QC RESULT SUMMARY

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Preparation Blank Summary

Client: Tetra Tech, EMI **SDG No.:** P4900

Project: R36720

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB133544BL							
Oil and Grease	mg/L	< 2.5000	2.5000	U	0.4	5.0	11/21/2024

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Matrix Spike Summary

Client: Tetra Tech, EMI
SDG No.: P4900
Project: R36720
Sample ID: P4900-06
Client ID: C0K69MS
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Oil and Grease	mg/L	78-114	20.8		0.70	J	20.0	1	101		11/21/2024

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Matrix Spike Summary

Client: Tetra Tech, EMI
SDG No.: P4900
Project: R36720
Sample ID: P4900-06
Client ID: C0K69MSD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Oil and Grease	mg/L	78-114	20.3		0.70	J	20.0	1	98		11/21/2024

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Matrix Spike Summary

Client: Tetra Tech, EMI
SDG No.: P4900
Project: R36720
Sample ID: P4937-01
Client ID: EFFLUENTMS
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Oil and Grease	mg/L	78-114	72.8		52.6		20.0	1	101		11/21/2024

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Matrix Spike Summary

Client: Tetra Tech, EMI
SDG No.: P4900
Project: R36720
Sample ID: P4937-01
Client ID: EFFLUENTMSD
Percent Solids for Spike Sample: 0

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Oil and Grease	mg/L	78-114	72.4		52.6		20.0	1	99		11/21/2024

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Duplicate Sample Summary

Client: Tetra Tech, EMI
Project: R36720
Client ID: C0K69MSD
SDG No.: P4900
Sample ID: P4900-06
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
Oil and Grease	mg/L	+/-18	20.8		20.3		1	2.43		11/21/2024

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Duplicate Sample Summary

Client: Tetra Tech, EMI
SDG No.: P4900
Project: R36720
Sample ID: P4937-01
Client ID: EFFLUENTMSD
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
Oil and Grease	mg/L	+/-18	72.8		72.4		1	0.55		11/21/2024

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Laboratory Control Sample Summary

Client:	Tetra Tech, EMI	**SDG No.:**	P4900
Project:	R36720	**Run No.:**	LB133544

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB133544BS								
Oil and Grease	mg/L	20.0	16.7		84	1	78-114	11/21/2024

RAW DATA

Extraction and Analytical Summary Report

Analysis Method: 1664A
Test: Oil and Grease
Run Number: LB133544
Analysis Date: 11/21/2024
BalanceID: WC SC-6
OvenID: EXT OVEN-3

ANALYST: jignesh
REVIEWED BY: Iwona
Extraction Date: 11/21/2024
Extration IN Time: 08:10
Extration OUT Time: 08:50
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	LB133544BL	LB133544BL	WATER	1.3	1000	100	3.0526	3.0526	0	3.0527	3.0527	0.0001	0.1
2	LB133544BS	LB133544BS	WATER	1.3	1000	100	3.1474	3.1474	0	3.1641	3.1641	0.0167	16.7
3	P4853-01	001-WILLETS-PT-BLVD(NO	WATER	1.6	1000	100	3.1260	3.1260	0	3.1417	3.1417	0.0157	15.7
4	P4853-02	002-35TH-AVE(NOV)	WATER	1.6	1000	100	3.0275	3.0275	0	3.0467	3.0467	0.0192	19.2
5	P4899-01	C0K55	WATER	1.3	1000	100	3.0275	3.0275	0	3.0277	3.0277	0.0002	0.2
6	P4899-02	C0K56	WATER	1.3	1000	100	3.0821	3.0821	0	3.0823	3.0823	0.0002	0.2
7	P4899-03	C0K57	WATER	1.3	1000	100	3.0374	3.0374	0	3.0375	3.0375	0.0001	0.1
8	P4899-04	C0K58	WATER	1.3	1000	100	3.1105	3.1105	0	3.1109	3.1109	0.0004	0.4
9	P4899-05	C0K59	WATER	1.3	1000	100	3.0278	3.0278	0	3.0283	3.0283	0.0005	0.5
10	P4899-06	C0K60	WATER	1.6	1000	100	3.0549	3.0549	0	3.0550	3.0550	0.0001	0.1
11	P4899-07	C0K62	WATER	1.6	1000	100	3.1133	3.1133	0	3.1136	3.1136	0.0003	0.3
12	P4899-08	C0K63	WATER	1.6	1000	100	3.0489	3.0489	0	3.0497	3.0497	0.0008	0.8
13	P4899-09	C0K88	WATER	1.3	1000	100	3.0109	3.0109	0	3.0110	3.0110	0.0001	0.1
14	P4900-01	C0K64	WATER	1.3	1000	100	3.0360	3.0360	0	3.0366	3.0366	0.0006	0.6
15	P4900-02	C0K65	WATER	1.3	1000	100	3.0818	3.0818	0	3.0823	3.0823	0.0005	0.5
16	P4900-03	C0K66	WATER	1.3	1000	100	3.0938	3.0938	0	3.0940	3.0940	0.0002	0.2
17	P4900-04	C0K67	WATER	1.6	1000	100	3.0607	3.0607	0	3.0613	3.0613	0.0006	0.6
18	P4900-05	C0K68	WATER	1.6	1000	100	3.0824	3.0824	0	3.0829	3.0829	0.0005	0.5
19	P4900-06	C0K69	WATER	1.6	1000	100	3.0440	3.0440	0	3.0447	3.0447	0.0007	0.7
20	P4900-07	P4900-06MS	WATER	1.3	1000	100	3.0523	3.0523	0	3.0731	3.0731	0.0208	20.8
21	P4900-08	P4900-06MSD	WATER	1.3	1000	100	3.1986	3.1986	0	3.2189	3.2189	0.0203	20.3
22	P4900-09	C0K70	WATER	1.3	1000	100	3.1031	3.1031	0	3.1034	3.1034	0.0003	0.3
23	P4937-01	EFFLUENT	WATER	1.6	1000	100	2.9742	2.9742	0	3.0268	3.0268	0.0526	52.6
24	P4937-02	P4937-01MS	WATER	1.6	1000	100	3.0605	3.0605	0	3.1333	3.1333	0.0728	72.8

25	P4937-03	P4937-01MSD	WATER	1.6	1000	100	3.1781	3.1781	0	3.2505	3.2505	0.0724	72.4

QC Batch# LB133544 **Test:** Oil and Grease **Analysis Date:** 11/21/2024

Chemicals Used:

Chemical Name	Chemical Lot #
HEXANE	W3110
pH Paper 0-14	M6069
Sodium Sulfate	EP2562
1:1 HCL	WP108566
Silica Gel	NA
Sand	NA

Standards Used:

Standard Name	Amount Used	Standard Lot #
LCSW	2.5 ML	WP108567
LCSWD	NA	NA
MS/MSD	2.5 ML	WP108568

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: 08:30

In OVEN TEMP1 : 70 °C **Dessicator Time In1 :** 10:31
In Time1: 09:37
Out OVEN TEMP1: 70 °C **Dessicator Time Out1:** 11:10
Out Time1: 10:30

After Analysis

0.0020 gram Balance: 0.0021 **(0.0018-0.0022)**
1.0000 gram Balance: 1.0003 **(0.9950-1.0050)**
Bal Check Time: 13:30

In OVEN TEMP2 : 71 °C **Dessicator Time In2 :** 12:31
In Time2: 11:55
Out OVEN TEMP2: 71 °C **Dessicator Time Out2:** 13:10
Out Time2: 12:30

WORKLIST(Hardcopy Internal Chain)

WM 133544

WorkList Name : oil & grease p4899 **WorkList ID :** 185622 **Department :** Wet-Chemistry **Date :** 11-21-2024 07:50:15

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4853-01 H	001-WILLETS-PT-BLVD(NOV)	Water	Oil and Grease	Conc H2SO4 to pH < 2	TULL01	L41	11/13/2024	1664A
P4853-02 H	002-35TH-AVE(NOV)	Water	Oil and Grease	Conc H2SO4 to pH < 2	TULL01	L41	11/13/2024	1664A
P4899-01	C0K55	Water	Oil and Grease	Conc H2SO4 to pH < 2	TULL01	L41	11/13/2024	1664A
P4899-02	C0K56	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4899-03	C0K57	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4899-04	C0K58	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4899-05	C0K59	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4899-06	C0K60	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4899-07	C0K62	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4899-08	C0K63	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4899-09	C0K88	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-01	C0K64	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-02	C0K65	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-03	C0K66	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-04	C0K67	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-05	C0K68	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-06	C0K69	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-07	P4900-06MS	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-08	P4900-06MSD	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4900-09	C0K70	Water	Oil and Grease	Conc H2SO4 to pH < 2	TETR16	L51	11/14/2024	1664A
P4937-01 E	EFFLUENT	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	M11	11/20/2024	1664A

Date/Time 11.21.24 08:00

Raw Sample Received by: JD (CSM)

Raw Sample Relinquished by: JD (CSM)

Date/Time 11.21.24 13:00

Raw Sample Received by: JD CSM

Raw Sample Relinquished by: [illegible]

WB 133544

WORKLIST(Hardcopy Internal Chain)

WorkList Name : oil & grease p4899 **WorkList ID :** 185622 **Department :** Wet-Chemistry **Date :** 11-21-2024 07:50:15

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P4937-02	P4937-01MS	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	M11	11/20/2024	1664A
P4937-03	P4937-01MSD	Water	Oil and Grease	Conc H2SO4 to pH < 2	HOLL01	M11	11/20/2024	1664A

Date/Time 11.21.24 08:00

Raw Sample Received by: [signature]

Raw Sample Relinquished by: [signature]

Date/Time 11.21.24 13:00

Raw Sample Received by: [signature]

Raw Sample Relinquished by: [signature]

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

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QCBatch ID # LB133544

Review By	jignesh	Review On	11/21/2024 9:18:55 AM
Supervise By	Iwona	Supervise On	11/21/2024 9:53:54 AM
SubDirectory	LB133544	Test	Oil and Grease

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,EP2562,WP108566,NA,NA,WP108567,NA,WP108568

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	LB133544BL	LB133544BL	MB	11/21/24 09:37		jignesh	OK
2	LB133544BS	LB133544BS	LCS	11/21/24 09:37		jignesh	OK
3	P4853-01	001-WILLETS-PT-BL	SAM	11/21/24 09:37		jignesh	OK
4	P4853-02	002-35TH-AVE(NOV)	SAM	11/21/24 09:37		jignesh	OK
5	P4899-01	C0K55	SAM	11/21/24 09:37		jignesh	OK
6	P4899-02	C0K56	SAM	11/21/24 09:37		jignesh	OK
7	P4899-03	C0K57	SAM	11/21/24 09:37		jignesh	OK
8	P4899-04	C0K58	SAM	11/21/24 09:37		jignesh	OK
9	P4899-05	C0K59	SAM	11/21/24 09:37		jignesh	OK
10	P4899-06	C0K60	SAM	11/21/24 09:37		jignesh	OK
11	P4899-07	C0K62	SAM	11/21/24 09:37		jignesh	OK
12	P4899-08	C0K63	SAM	11/21/24 09:37		jignesh	OK
13	P4899-09	C0K88	SAM	11/21/24 09:37		jignesh	OK
14	P4900-01	C0K64	SAM	11/21/24 09:37		jignesh	OK
15	P4900-02	C0K65	SAM	11/21/24 09:37		jignesh	OK
16	P4900-03	C0K66	SAM	11/21/24 09:37		jignesh	OK
17	P4900-04	C0K67	SAM	11/21/24 09:37		jignesh	OK
18	P4900-05	C0K68	SAM	11/21/24 09:37		jignesh	OK

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Fax : 908 789 8922

Instrument ID: WC SC-3

Daily Analysis Runlog For Sequence/QCBatch ID # LB133544

Review By	jignesh	Review On	11/21/2024 9:18:55 AM
Supervise By	Iwona	Supervise On	11/21/2024 9:53:54 AM
SubDirectory	LB133544	Test	Oil and Grease

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,EP2562,WP108566,NA,NA,WP108567,NA,WP108568

19	P4900-06	C0K69	SAM	11/21/24 09:37		jignesh	OK
20	P4900-07	P4900-06MS	MS	11/21/24 09:37		jignesh	OK
21	P4900-08	P4900-06MSD	MSD	11/21/24 09:37		jignesh	OK
22	P4900-09	C0K70	SAM	11/21/24 09:37		jignesh	OK
23	P4937-01	EFFLUENT	SAM	11/21/24 09:37		jignesh	OK
24	P4937-02	P4937-01MS	MS	11/21/24 09:37		jignesh	OK
25	P4937-03	P4937-01MSD	MSD	11/21/24 09:37		jignesh	OK

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Prep Standard - Chemical Standard Summary

Order ID : P4900

Test : Oil and Grease

Prepbatch ID :

Sequence ID/Qc Batch ID: LB133544,

Standard ID :
EP2562,WP108566,WP108567,WP108568,

Chemical ID :
E3551,E3726,M5943,M6069,W2606,W2817,W2871,W3009,W3082,W3110,

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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	EP2562	11/14/2024	01/03/2025	Rajesh Parikh	Extraction_SCALE_2 (EX-SC-2)	None	RUPESHKUMAR SHAH 11/14/2024

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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Fax : 908 789 8922

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-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

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

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

CHEMICAL RECEIPT LOG BOOK

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.	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 #
Seidler Chemical	BA-9262-03 / Hexane, Ultra-Resi (cs/4x4L)	235898	02/28/2029	06/27/2024 / jignesh	06/26/2024 / jignesh	W3110

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

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

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 RP on 7/24/23 E3551

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

DE Tel.: +49 24 21 969-0 info@mn-net.com
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com
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

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.

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.

SHIPPING DOCUMENTS

P4900

USEPA CLP COC (LAB COPY)
DateShipped: 11/15/2024
CarrierName: FedEx
AirbillNo: 7799 8097 9654

CHAIN OF CUSTODY RECORD

DAS #: R36720
Cooler #: Oil and Grease

No: 3-111324-161224-0097
Lab: Chemtech Lab
Lab Contact: Yazmeen Gomez
Lab Phone: (908) 728-3147

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
ET-TW-02-20241114	C0K64	Treatment Water/ START	Grab	O/G(14)	3052 (H2SO4) (1)	TW-02	11/14/2024 13:40	
ET-TW-03-20241114	C0K65	Treatment Water/ START	Grab	O/G(14)	3055 (H2SO4) (1)	TW-03	11/14/2024 13:55	
ET-TW-04-20241114	C0K66	Treatment Water/ START	Grab	O/G(14)	3058 (H2SO4) (1)	TW-04	11/14/2024 13:50	
ET-SW-01-20241114	C0K67	Surface Water/ START	Grab	O/G(14)	3061 (H2SO4) (1)	SW-01	11/14/2024 14:10	
ET-SW-02-20241114	C0K68	Surface Water/ START	Grab	O/G(14)	3064 (H2SO4) (1)	SW-02	11/14/2024 11:35	
ET-SW-03-20241114	C0K69	Surface Water/ START	Grab	O/G(14)	3067 (H2SO4), 3091 (H2SO4), 3092 (H2SO4) (3)	SW-03	11/14/2024 12:00	
ET-SW-04-20241114	C0K70	Surface Water/ START	Grab	O/G(14)	3070 (H2SO4) (1)	SW-04	11/14/2024 10:30	

Sample(s) to be used for Lab QC: ET-SW-03-20241114 Tag 3067, ET-SW-03-20241114 Tag 3091, ET-SW-03-20241114 Tag 3092 - Special Instructions: Oil and Grease

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: O/G=Oil and Grease

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
Sample Dropoff	[signature] / START	11/15/24 1030	[signature]	9:00 11-16-24	IR Gun #1 2.3° C Custody Seal Intact Temp Blank present

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