

# 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: P4504

**ATTENTION: Ava Heiss** 





46

I) GENERAL GILLINGTH DATA	_
2) Signature Page	3
3) Case Narrative	4
4) Qualifier Page	5
5) Conformance/Non Conformance	6
6) QA Checklist	7
7) Chronicle	8
8) Sample Data	9
8.1) C0JW6	10
8.2) C0JW7	11
8.3) C0JW8	12
8.4) C0JW9	13
8.5) C0JX0	14
8.6) C0JX1	15
8.7) C0JX2	16
9) QC Data Summary For Genchem	17
9.1) Preparation Blank Summary	18
9.2) Matrix Spike Summary	19
9.3) Duplicate Sample Summary	21
9.4) Laboratory Control Sample Summary	22
10) GENCHEM RAW DATA	23
10.1) GENCHEM RAW DATA - ANALYTICAL	24
10.1.1) LB133159	24
11) Analytical Runlogs	27
12) Standard Prep Logs	29
13) Shipping Document	44
13.1) Chain Of Custody	45

P4504-GENCHEM 2 of 46

13.2) Lab Certificate



C0JX2



# **Cover Page**

**Order ID:** P4504

Project ID: R36720

P4504-07

**Client:** Tetra Tech, EMI

Lab Sample Number	Client Sample Number				
P4504-01	C0JW6				
P4504-02	C0JW7				
P4504-03	C0JW8				
P4504-04	C0JW9				
P4504-05	C0JX0				
P4504-06	C0.IX1				

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: 11/4/2024

NYDOH CERTIFICATION NO - 11376 NJDEP CERTIFICATION NO - 20012

P4504-GENCHEM 3 of 46

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

# CASE NARRATIVE

Tetra Tech, EMI

**Project Name: R36720** 

Project # N/A

Chemtech Project # P4504 Test Name: Oil and Grease

# A. Number of Samples and Date of Receipt:

7 Water samples were received on 10/23/2024.

### **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:**

As per method 1664A, MS/MSD is required to be performed with the sample analysis. However, Lab did not receive sufficient volume to perform the MS/MSD for P4504, therefore Lab reported MS-MSD from P4490.

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.

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Signature			

P4504-GENCHEM 4 of 46

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# 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 OR	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  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

QA Control # A3040961

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P4504-GENCHEM 5 of 46

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

CHEM	TECH PROJECT NUMBER: P4504	MATRIX: Water	
METH	OD: 1664A		
1.	Blank Contamination - If yes, list compounds and concentration	NA Nons in each blank: ✓	,
2.	Matrix Spike Duplicate Recoveries Met Criteria		$\checkmark$
	If not met, list those compounds and their recoveries which fall range.	outside the acceptable	
	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 range.	l outside the acceptable	
4.	Digestion Holding Time Met		✓
	If not met, list number of days exceeded for each sample:		
As per r	IONAL COMMENTS:  nethod 1664A, MS/MSD is required to be performed with the san  nt volume to perform the MS/MSD for P4504, therefore Lab repo		ceive
OA REV	JIFW		

P4504-GENCHEM 6 of 46





APPENDIX A

# **QA REVIEW GENERAL DOCUMENTATION**

Project #: P4504

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

QA Review Signature: SOHIL JODHANI Date: 11/04/2024

P4504-GENCHEM 7 of 46



# LAB CHRONICLE

OrderID: P4504

Client: Tetra Tech, EMI
Contact: Ava Heiss

**OrderDate:** 10/23/2024 11:03:00 AM

Project: R36720 Location: K61

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P4504-01	COJW6	WATER			10/21/24 15:30			10/23/24
			Oil and Grease	1664A			10/28/24 10:25	
P4504-02	C0JW7	WATER			10/21/24 13:30			10/23/24
			Oil and Grease	1664A			10/28/24 10:25	
P4504-03	COJW8	WATER			10/21/24 11:35			10/23/24
			Oil and Grease	1664A			10/28/24 10:25	
P4504-04	COJW9	WATER			10/21/24 14:50			10/23/24
			Oil and Grease	1664A			10/28/24 10:25	
P4504-05	СОЈХО	WATER			10/21/24 15:15			10/23/24
			Oil and Grease	1664A			10/28/24 10:25	
P4504-06	СОЈХ1	WATER			10/21/24 15:05			10/23/24
			Oil and Grease	1664A			10/28/24 10:25	
P4504-07	СОЈХ2	WATER			10/21/24 15:10			10/23/24
			Oil and Grease	1664A			10/28/24 10:25	

P4504-GENCHEM 8 of 46

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# SAMPLE DATA



# **Report of Analysis**

Client: Tetra Tech, EMI Date Collected: 10/21/24 15:30 Project: R36720 Date Received: 10/23/24 Client Sample ID: C0JW6 SDG No.: P4504 Lab Sample ID: P4504-01 Matrix: WATER % Solid:

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		10/28/24 10:25	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

P4504-GENCHEM 10 of 46

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# **Report of Analysis**

Client: Tetra Tech, EMI Date Collected: 10/21/24 13:30 Project: R36720 Date Received: 10/23/24 Client Sample ID: SDG No.: P4504 C0JW7 Lab Sample ID: P4504-02 Matrix: WATER % Solid:

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		10/28/24 10:25	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

P4504-GENCHEM 11 of 46

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# **Report of Analysis**

Client: Tetra Tech, EMI Date Collected: 10/21/24 11:35 Project: R36720 Date Received: 10/23/24 Client Sample ID: C0JW8 SDG No.: P4504 Lab Sample ID: P4504-03 Matrix: WATER % Solid:

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		10/28/24 10:25	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

P4504-GENCHEM 12 of 46



# **Report of Analysis**

Client: Tetra Tech, EMI Date Collected: 10/21/24 14:50 Project: R36720 Date Received: 10/23/24 Client Sample ID: C0JW9 SDG No.: P4504 Lab Sample ID: P4504-04 Matrix: WATER % Solid:

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		10/28/24 10:25	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

P4504-GENCHEM 13 of 46

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# **Report of Analysis**

Client: Tetra Tech, EMI Date Collected: 10/21/24 15:15 Project: R36720 Date Received: 10/23/24 Client Sample ID: SDG No.: P4504 C0JX0 Lab Sample ID: P4504-05 Matrix: WATER % Solid:

Parameter	Conc. (	Qua.	DF I	MDL	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.	
Oil and Grease	0.40	IJ	1 (	0.40	5.00	mg/L		10/28/24 10:25	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

P4504-GENCHEM 14 of 46



# **Report of Analysis**

Client: Tetra Tech, EMI Date Collected: 10/21/24 15:05 Project: R36720 Date Received: 10/23/24 Client Sample ID: C0JX1 SDG No.: P4504 Lab Sample ID: P4504-06 Matrix: WATER % Solid:

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		10/28/24 10:25	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

P4504-GENCHEM 15 of 46



# **Report of Analysis**

Client: Tetra Tech, EMI Date Collected: 10/21/24 15:10 Project: R36720 Date Received: 10/23/24 Client Sample ID: SDG No.: P4504 C0JX2 Lab Sample ID: P4504-07 Matrix: WATER

0/ 0 1:1	
% Solid:	U

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		10/28/24 10:25	5 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

P4504-GENCHEM 16 of 46

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# QC RESULT SUMMARY

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P4504-GENCHEM



# **Preparation Blank Summary**

Client: Tetra Tech, EMI SDG No.: P4504

Project: R36720

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: LB1331! Oil and Grease	59BL mg/L	< 2.5000	2.5000	U	0.4	5.0	10/28/2024

P4504-GENCHEM 18 of 46

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# **Matrix Spike Summary**

Client: Tetra Tech, EMI SDG No.: P4504

**Project:** R36720 **Sample ID:** P4490-01

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	80.8		61.1		20.0	1	98		10/28/2024

P4504-GENCHEM 19 of 46

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# **Matrix Spike Summary**

Client: Tetra Tech, EMI SDG No.: P4504

**Project:** R36720 **Sample ID:** P4490-01

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	81.0		61.1		20.0	1	100		10/28/2024	-

P4504-GENCHEM 20 of 46

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# **Duplicate Sample Summary**

Client: Tetra Tech, EMI SDG No.: P4504

**Project:** R36720 **Sample ID:** P4490-01

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	80.8		81.0		1	0.25		10/28/2024	

P4504-GENCHEM 21 of 46



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# **Laboratory Control Sample Summary**

Client: Tetra Tech, EMI SDG No.: P4504

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID LB133159BS								
Oil and Grease	mg/L	20.0	16.7		84	1	78-114	10/28/2024

P4504-GENCHEM 22 of 46

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# RAW DATA

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# Extraction and Analytical Summary Report

Analysis Method: 1664A

Test: Oil and Grease

Run Number: LB133159

Analysis Date: 10/28/2024

BalanceID: WC SC-6

OvenID: EXT OVEN-3

**ANALYST:** jignesh

REVIEWED BY: Iwona

Extraction Date: 10/28/2024

Extration IN Time: 08:11Extration OUT Time: 09:14

Thermometer ID: EXT OVEN#3

Dish #	Lab ID	Client ID	Matrix	рН	Sample Vol (ml)	Final Volume (ml)	Empty Dish Weight (q)	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	LB133159BL	LB133159BL	WATER	1.3	1000	100	3.2552	3.2552	0	3.2553	3.2553	0.0001	0.1
2	LB133159BS	LB133159BS	WATER	1.3	1000	100	3.1478	3.1478	0	3.1645	3.1645	0.0167	16.7
3	P4490-01	EFFLUENT	WATER	1.6	1000	100	3.0885	3.0885	0	3.1496	3.1496	0.0611	61.1
4	P4490-02	P4490-01MS	WATER	1.6	1000	100	2.9036	2.9036	0	2.9844	2.9844	0.0808	80.8
5	P4490-03	P4490-01MSD	WATER	1.6	1000	100	3.1474	3.1474	0	3.2284	3.2284	0.0810	81
6	P4503-01	C0JX3	WATER	1.3	1000	100	2.8744	2.8744	0	2.8746	2.8746	0.0002	0.2
7	P4503-02	C0JX4	WATER	1.3	1000	100	2.3166	2.3166	0	2.3169	2.3169	0.0003	0.3
8	P4503-03	C0JX5	WATER	1.3	1000	100	2.8506	2.8506	0	2.8508	2.8508	0.0002	0.2
9	P4503-04	C0JX6	WATER	1.3	1000	100	3.1587	3.1587	0	3.1590	3.1590	0.0003	0.3
10	P4503-05	C0JX7	WATER	1.3	1000	100	2.8052	2.8052	0	2.8054	2.8054	0.0002	0.2
11	P4503-06	C0JX8	WATER	1.3	1000	100	2.4163	2.4163	0	2.4165	2.4165	0.0002	0.2
12	P4503-07	C0JX9	WATER	1.3	1000	100	2.7844	2.7844	0	2.7847	2.7847	0.0003	0.3
13	P4503-08	C0JY0	WATER	1.3	1000	100	2.3011	2.3011	0	2.3014	2.3014	0.0003	0.3
14	P4504-01	C0JW6	WATER	1.3	1000	100	3.0778	3.0778	0	3.0780	3.0780	0.0002	0.2
15	P4504-02	C0JW7	WATER	1.3	1000	100	3.1559	3.1559	0	3.1561	3.1561	0.0002	0.2
16	P4504-03	C0JW8	WATER	1.3	1000	100	2.8607	2.8607	0	2.8609	2.8609	0.0002	0.2
17	P4504-04	C0JW9	WATER	1.3	1000	100	2.9633	2.9633	0	2.9635	2.9635	0.0002	0.2
18	P4504-05	C0JX0	WATER	1.3	1000	100	3.1784	3.1784	0	3.1787	3.1787	0.0003	0.3
19	P4504-06	C0JX1	WATER	1.3	1000	100	2.9888	2.9888	0	2.9891	2.9891	0.0003	0.3
20	P4504-07	C0JX2	WATER	1.3	1000	100	3.1307	3.1307	0	3.1308	3.1308	0.0001	0.1

P4504-GENCHEM 24 of 46

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QC Batch# LB133159

Test: Oil and Grease

**Analysis Date:** 10/28/2024

### Chemicals Used:

Chemical Name	Chemical Lot #
HEXANE	W3110
pH Paper 0-14	M6069
Sodium Sulfate	EP2554
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) In OVEN TEMP1 : 70 °C Dessicator Time In1 : 11:36

1.0000 gram Balance: 1.0003 (0.9950-1.0050) In Time1: 10:25

Bal Check Time: 08:30 Out OVEN TEMP1: 70 °C Dessicator Time Out1: 12:15

Out Time1: 11:35

# After Analysis

0.0020 gram Balance: 0.002 (0.0018-0.0022) In OVEN TEMP2 : 71 °C Dessicator Time In2 : 13:16

1.0000 gram Balance: 1.0004 (0.9950-1.0050) In Time2: 12:40

Bal Check Time: 14:11 Out OVEN TEMP2: 71 °C Dessicator Time Out2: 14:10

Out Time2: 13:15

# WORKLIST(Hardcopy Internal Chain)

Department: Wet-Chemistry

184845

WorkList ID:

NB133159

Date: 10-28-2024 07:53:30

Collect Date Method 1664A 10/21/2024 1664A 1664A 10/21/2024 1664A 10/22/2024 10/22/2024 10/21/2024 0/22/2024 10/21/2024 10/21/2024 10/21/2024 10/21/2024 10/21/2024 10/21/2024 10/21/2024 10/21/2024 10/21/2024 10/21/2024 10/21/2024 Raw Sample Storage Location 7 7 K61 K61 K61 **K61** K61 **K61 K61** K61 K61 K61 **K**61 K61 **K**61 **K61** Customer TETR16 HOLL01 TETR16 TETR16 TETR16 TETR16 HOLL01 HOLL01 TETR16 TETR16 TETR16 TETR16 TETR16 TETR16 TETR16 TETR16 TETR16 Conc H2SO4 to pH < 2 Preservative Oil and Grease Test Matrix Water **Customer Sample** P4490-01MSD P4490-01MS EFFLUENT C0JX4 COJX6 COJW6 COJX3 COJX5 COJX9 COJYO C0JW7 COJW8 C0JW9 COJX7 COJX8 COJXO C0JX2 COJX1 Sample Sample P4490-01 P4490-02 P4490-03 P4503-02 P4503-03 P4503-01 P4503-05 P4503-06 P4503-08 P4503-04 P4504-03 P4503-07 P4504-01 P4504-02 P4504-04 P4504-05 P4504-06 P4504-07

Date/Time \ 0 \ ASKM

Raw Sample Received by:

Reviewed By:Iwona
On:10/28/2024 4:13:12
PM
Inst Id :WC SC-3
LB :LB133159

1664A

10/21/2024

K61

TETR16

Raw Sample Relinquished by:

Page 1 of 1

Raw Sample Relinquished by:

Raw Sample Received by:

oil & grease p4490



# Daily Analysis Runlog For Sequence/QCBatch ID # LB133159

Review By	jign	nesh	Review On 10/28/2024 9:02:04 AM						
Supervise By	lwc	ona	Supervise On	10/28/2024 10:01:32 AM					
SubDirectory	LB	133159	Test	Oil and Grease					
STD. NAME		STD REF.#							
ICAL Standard		N/A	WA						
ICV Standard		N/A	WA						
CCV Standard		N/A	N/A						
ICSA Standard		N/A							
CRI Standard		N/A							
LCS Standard		N/A							
Chk Standard		W3110,M6069,EP2554,	WP108566,NA,NA,WP108567,NA,WP	08568					

Sr#	Sampleld	ClientID	QcType	Date	Comment	Operator	Status
1	LB133159BL	LB133159BL	МВ	10/28/24 10:25		jignesh	ок
2	LB133159BS	LB133159BS	LCS	10/28/24 10:25		jignesh	ОК
3	P4490-01	EFFLUENT	SAM	10/28/24 10:25		jignesh	ок
4	P4490-02	P4490-01MS	MS	10/28/24 10:25		jignesh	ок
5	P4490-03	P4490-01MSD	MSD	10/28/24 10:25		jignesh	ок
6	P4503-01	C01X3	SAM	10/28/24 10:25		jignesh	ок
7	P4503-02	C0JX4	SAM	10/28/24 10:25		jignesh	ок
8	P4503-03	C0JX5	SAM	10/28/24 10:25		jignesh	ок
9	P4503-04	C01X6	SAM	10/28/24 10:25		jignesh	ок
10	P4503-05	C0JX7	SAM	10/28/24 10:25		jignesh	ок
11	P4503-06	C01X8	SAM	10/28/24 10:25		jignesh	ок
12	P4503-07	C01X8	SAM	10/28/24 10:25		jignesh	ок
13	P4503-08	C0JA0	SAM	10/28/24 10:25		jignesh	ок
14	P4504-01	C01Me	SAM	10/28/24 10:25		jignesh	ок
15	P4504-02	C0JW7	SAM	10/28/24 10:25		jignesh	ок
16	P4504-03	C0JW8	SAM	10/28/24 10:25		jignesh	ок
17	P4504-04	C0JW9	SAM	10/28/24 10:25		jignesh	ок
18	P4504-05	C0JX0	SAM	10/28/24 10:25		jignesh	ОК

P4504-GENCHEM **27 of 46** 

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WC SC-3

**Instrument ID:** 

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**Instrument ID:** 

WC SC-3

# Daily Analysis Runlog For Sequence/QCBatch ID # LB133159

Review By	jign	nesh	Review On 10/28/2024 9:02:04 AM						
Supervise By	lwo	ona	Supervise On	10/28/2024 10:01:32 AM					
SubDirectory	LB	133159	Test	Oil and Grease					
STD. NAME		STD REF.#							
ICAL Standard		N/A							
ICV Standard		N/A	/A						
CCV Standard		N/A	I/A						
ICSA Standard		N/A							
CRI Standard		N/A							
LCS Standard		N/A							
Chk Standard		W3110,M6069,EP2554,	WP108566,NA,NA,WP108567,NA,WP	108568					

19	P4504-06	C0JX1	SAM	10/28/24 10:25	jignesh	ОК
20	P4504-07	C0JX2	SAM	10/28/24 10:25	jignesh	ок

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**Prep Standard - Chemical Standard Summary** 

<b>Order ID</b>	:	P4504
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Test: Oil and Grease

Prepbatch ID:

Sequence ID/Qc Batch ID: LB133159,

Standard ID:

EP2554,WP108566,WP108567,WP108568,

Chemical ID:

E3551,E3726,M5943,M6069,W2606,W2817,W2871,W3009,W3082,W3110,

P4504-GENCHEM 29 of 46



# **Extractions STANDARD PREPARATION LOG**

Recipe ID	NAME_	NO.	Prep Date	Expiration Date	Prepared By	<u>ScaleID</u>	<u>PipetteID</u>	Supervised By Rajesh Parikh
3923	Baked Sodium Sulfate	EP2554	10/26/2024	01/03/2025	RUPESHKUMA R SHAH	Extraction_SC ALE 2	None	10/26/2024
	1000 00000 (F0F54 F' 10	<u> </u>	0.000		1	(EX-SC-2)		10/20/2024

<b>ROM</b> 4000.00000gram of E355	1 = Final Quantity: 4000.000 gram
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229 1:1 HCL WP108566 06/27/2024 10/24/2024 Jignesh Parikh None None	Recipe	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	<u>PipetteID</u>	Supervised By Iwona Zarych
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	229	1:1 HCL	<u>WP108566</u>	06/27/2024	10/24/2024	Jignesh Parikh	None	None	06/27/2024

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

P4504-GENCHEM **30 of 46** 



# Wet Chemistry STANDARD PREPARATION LOG

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

FROM	1000.00000ml of E3726 +	4.00000gram of W2817	+ 4.00000gram of W2871	= Final Quantity: 1000.000 ml
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3374 1664A QCS spiking solution-SS WP108568 06/27/2024 12/25/2024 Jignesh Parikh WETCHEM_S None	ŀ	Recipe ID	<u>NAME</u>	NO.	Prep Date	Expiration Date	Prepared By	<u>ScaleID</u>	<u>PipettelD</u>	Supervised By  Iwona Zarvch
		3374	1664A QCS spiking solution-SS	WP108568	06/27/2024	12/25/2024	"	WETCHEM_S CALE 4 (WC		06/27/2024

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

P4504-GENCHEM 31 of 46



# **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

P4504-GENCHEM **32 of 46** 



# **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 / lwona	02/27/2023 / Iwona	W3009
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date /	Chemtech Lot #
PCI Scientific Supply, Inc.	A12244 / Stearic acid, 98%, 100 g	U23E020	02/26/2029	02/26/2024 / lwona	02/26/2024 / Iwona	W3082
Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date /	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

P4504-GENCHEM 33 of 46





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 (CH3(CH2)14CH3) (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



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Thermo Fisher SCIENTIFIC

W 2817 pec. 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

InChl Key:

QIQXTHQIDYTFRH-UHFFFAOYSA-N

SMILES:

CCCCCCCCCCCCC(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.

P4504-GENCHEM

35 of 46

W3009 Lec. 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

Product Name:

**Certificate of Analysis** 

CH<sub>3</sub>(CH<sub>2</sub>)<sub>14</sub>CH<sub>3</sub>

Hexadecane - ReagentPlus®, 99%

**Product Number:** 

H6703

**Batch Number:** 

SHBP8192

Brand:

SIAL

CAS Number:

544-76-3

MDL Number:

MFCD00008998

Formula:

Formula Weight:

C16H34

226.44 g/mol

Quality Release Date:

04 AUG 2022

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

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.





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<sub>2</sub>SO<sub>4</sub>

SPECIFICATION NUMBER: 6399

RELEASE DATE:

ABR/21/2023

LOT NUMBER:

313201

The state of the s	SPECIFICATIONS	LOT VALUES
Assay (Na <sub>2</sub> SO <sub>4</sub> )	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 <sub>4</sub> )	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,

Recd. by Ri on 7/29/3 [ = 3551]

RE-U2-01, Ed.

P4504-GENCHEM

37 of 46

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M5943 M5944 M5945 M5946

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 Cl2)	≤ 0.5 ppm	< 0.5 ppm
Phosphate (PO <sub>4</sub> )	≤ 0.05 ppm	< 0.03 ppm
Sulfate (SO <sub>4</sub> )	≤ 0.5 ppm	< 0.3 ppm
Sulfite (SO <sub>3</sub> )	≤ 0.8 ppm	0.3 ppm
Ammonium (NH4)	≤ 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
Frace Impurities – Bismuth (Bi)	≤ 10.0 ppb	< 1.0 ppb
Frace Impurities – Boron (B)	≤ 20.0 ppb	< 5.0 ppb
Frace Impurities – Cadmium (Cd)	≤ 1.0 ppb	< 0.3 ppb
race Impurities – Calcium (Ca)	≤ 50.0 ppb	163.0 ppb
race Impurities – Chromium (Cr)	≤ 1.0 ppb	0.7 ppb
race Impurities – Cobalt (Co)	≤ 1.0 ppb	< 0.3 ppb
race Impurities – Copper (Cu)	≤ 1.0 ppb	< 0.1 ppb
race Impurities – Gallium (Ga)	≤ 1.0 ppb	< 0.2 ppb
race Impurities – Germanium (Ge)	≤ 3.0 ppb	< 2.0 ppb
race Impurities – Gold (Au)	≤ 4.0 ppb	0.6 ppb
eavy Metals (as Pb)	≤ 100 ppb	< 50 ppb
race 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





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

Trace Impurities – Silver (Ag)  Solver (Ag)  Trace Impurities – Sodium (Na)  Trace Impurities – Strontium (Sr)  Trace Impurities – Strontium (Sr)  Trace Impurities – Tantalum (Ta)  Trace Impurities – Thatlium (Tl)  Solver Impurities – Thatlium (Tl)  Solver Impurities – Tin (Sn)  Trace Impurities – Tin (Sn)  Solver Impurities – Tin (Sn)  Trace Impurities – Titanium (Ti)  Trace Impurities – Vanadium (V)  Solver Impurities – Vanadium (V)  Solver Impurities – Zinc (Zn)  Solver Impurities – Zinc (Zn)  Solver Impurities – Zinconium (Zn)	Test	Specification	Result
Trace Impurities – Magnesium (Mg)	Trace Impurities – Lead (Pb)	≤ 1.0 ppb	< 0.5 ppb
Trace Impurities – Manganese (Mn)	Trace Impurities – Lithium (Li)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities – Manganese (Mn)  Frace Impurities – Mercury (Hg)  Frace Impurities – Mercury (Hg)  Frace Impurities – Molybdenum (Mo)  Frace Impurities – Nickel (Ni)  Frace Impurities – Nickel (Nii)  Frace Impurities – Nickel (Nii)  Frace Impurities – Nickel (Nii)  Frace Impurities – Niobium (Nb)  Frace Impurities – Potassium (K)  Frace Impurities – Selenium (Se), For Information Only  Frace Impurities – Selenium (Se), For Information Only  Frace Impurities – Silicon (Si)  Frace Impurities – Silicon (Si)  Frace Impurities – Sodium (Na)  Frace Impurities – Strontium (Sr)  Frace Impurities – Strontium (Ta)  Frace Impurities – Tantalum (Ta)  Frace Impurities – Tin (Sn)  Frace Impurities – Tin (Sn)  Frace Impurities – Titanium (Ti)  Frace Impurities – Vanadium (V)  Frace Impurities – Zinc (Zn)  Frace Impurities – Zinc (Zn)  Frace Impurities – Zinc (Zn)	Trace Impurities – Magnesium (Mg)	≤ 10.0 ppb	2.9 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  Trace Impurities – Silicon (Si)  ≤ 100.0 ppb  Trace Impurities – Silver (Ag)  Trace Impurities – Sodium (Na)  Trace Impurities – Sodium (Na)  Trace Impurities – Strontium (Sr)  Trace Impurities – Tantalum (Ta)  Trace Impurities – Tantalum (Ta)  Trace Impurities – Tantalum (Ti)  ≤ 5.0 ppb  Trace Impurities – Titanium (Ti)  Trace Impurities – Titanium (Ti)  ≤ 1.0 ppb  1.5 ppb  Trace Impurities – Titanium (Ti)  ≤ 1.0 ppb  1.5 ppb  Trace Impurities – Vanadium (V)  ≤ 1.0 ppb  1.5 ppb  Trace Impurities – Zinc (Zn)  5 5.0 ppb  0.8 ppb	Trace Impurities – Manganese (Mn)	≤ 1.0 ppb	
Trace Impurities – Nickel (Ni)	Trace Impurities - Mercury (Hg)	≤ 0.5 ppb	0.1 ppb
Trace Impurities - Nickel (Ni)       ≤ 4.0 ppb       < 0.3 ppb	Trace Impurities - Molybdenum (Mo)	≤ 10.0 ppb	< 3.0 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  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 - Strontium (Ta) ≤ 1.0 ppb 1.6 ppb  Trace Impurities - Tantalum (Ta) 1.6 ppb 1.6 ppb  Trace Impurities - Thallium (Ti) 1.5 ppb  Trace Impurities - Titanium (Ti) 1.5 ppb  Trace Impurities - Titanium (Ti) 1.5 ppb  Trace Impurities - Vanadium (V) 1.0 ppb 0.8 ppb  Trace Impurities - Zinc (Zn) 1.0 ppb 0.8 ppb	Trace Impurities - Nickel (Ni)	≤ 4.0 ppb	
Trace Impurities - Potassium (K)       ≤ 9.0 ppb       < 2.0 ppb	Trace Impurities - Niobium (Nb)	≤ 1.0 ppb	
Trace Impurities - Selenium (Se), For Information Only  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 0.7 ppb 0.8	Trace Impurities - Potassium (K)	≤ 9.0 ppb	
Trace Impurities – Silver (Ag)  Solver (Ag)  Trace Impurities – Sodium (Na)  Trace Impurities – Strontium (Sr)  Trace Impurities – Strontium (Sr)  Trace Impurities – Tantalum (Ta)  Trace Impurities – Thallium (Tl)  Trace Impurities – Thallium (Tl)  Solver Impurities – Tin (Sn)  Trace Impurities – Titanium (Ti)  Trace Impurities – Titanium (Ti)  Trace Impurities – Vanadium (V)  Trace Impurities – Vanadium (V)  Trace Impurities – Zirconium (Zr)  Solver Impurities – Zirconium (Zr)  Trace Impurities – Zirconium (Zr)	Trace Impurities - Selenium (Se), For Information Only		< 1.0 ppb
Trace Impurities – Sodium (Na)  ≤ 100.0 ppb  2.3 ppb  7 race Impurities – Strontium (Sr)  Trace Impurities – Tantalum (Ta)  5 1.0 ppb  5 1.0 ppb  6 2.0 ppb  7 race Impurities – Thallium (Tl)  6 5.0 ppb  7 race Impurities – Tin (Sn)  7 race Impurities – Titanium (Ti)  7 race Impurities – Titanium (Ti)  8 1.0 ppb  9 1.5 ppb  1 1.5 ppb	Trace Impurities - Silicon (Si)	≤ 100.0 ppb	< 10.0 ppb
Trace Impurities - Sodium (Na)       ≤ 100.0 ppb       2.3 ppb         Trace Impurities - Strontium (Sr)       ≤ 1.0 ppb       < 0.2 ppb	Trace Impurities - Silver (Ag)	≤ 1.0 ppb	0.5 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 – Sodium (Na)	≤ 100.0 ppb	
Trace Impurities - Thallium (Ti) ≤ 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 - Strontium (Sr)	≤ 1.0 ppb	< 0.2 ppb
Trace Impurities - Thallium (TI) ≤ 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 – Tantalum (Ta)	≤ 1.0 ppb	1.6 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 – Thallium (Tl)	≤ 5.0 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 – Tin (Sn)	≤ 5.0 ppb	
Trace Impurities - Vanadium (V) ≤ 1.0 ppb < 0.2 ppb  Trace Impurities - Zinc (Zn) ≤ 5.0 ppb 0.8 ppb	Trace Impurities – Titanium (Ti)	≤ 1.0 ppb	
Frace Impurities – Zirsonium /7-)	Trace Impurities - Vanadium (V)	≤ 1.0 ppb	
Frace Impurities - Zirconium (7-)	Trace Impurities - Zinc (Zn)	≤ 5.0 ppb	0.8 ppb
	Frace 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





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

40 of 46

# 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.

# 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.

Order our products online www.alfa.com



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1 Reagent Lane Fair Lawn, NJ 07410 201.796.7100 tel

Certificate of Analysis

Quality System has been form
1001:2015 has a second se 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

201.796.1329 fax

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.

		, , , , , , , , , , , , , , , , , , , ,	Total Columnos.
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 processing aids, or any other m	s starting raw material ingredients, or used aterial that might migrate to the finished pr	in processing, including lubricants, roduct.

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			
VATER (H2O)	%	<= 0.01	<0.01			
VATER-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.

P4504-GENCHEM 43 of 46



# SHIPPING DOCUMENTS

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Page 1 of 1

USEPA CLP COC (LAB COPY)

SEFA CLF COC (LAB COFT)

DateShipped: 10/47/2024 10/20/2024 CarrierName: FedEx

AirbillNo: 779434427433

**CHAIN OF CUSTODY RECORD** 

DAS #: R36720

Cooler #: Oil and Grease TW/SW

No: 3-102224-114418-0072

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-SW-01- 20241021	C0JW6	Surface Water/ START	Grab	O/G(14)	2824 (H2SO4) (1)	SW-01	10/21/2024 15:30	
ET-SW-02- 20241021	C0JW7	Surface Water/ START	Grab	O/G(14)	2827 (H2SO4) (1)	SW-02	10/21/2024 13:30	
ET-SW-04- 20241021	C0JW8	Surface Water/ START	Grab	O/G(14)	2830 (H2SO4) (1)	SW-04	10/21/2024 11:35	
ET-TW-01- 20241021	C0JW9	Treatment Water/ START	Grab	O/G(14)	2836 (H2SO4) (1)	TW-01	10/21/2024 14:50	
ET-TW-02- 20241021	COJXO	Treatment Water/ START	Grab	O/G(14)	2839 (H2SO4) (1)	TW-02	10/21/2024 15:15	
ET-TW-03- 20241021	C0JX1	Treatment Water/ START	Grab	O/G(14)	2842 (H2SO4) (1)	TW-03	10/21/2024 15:05	
ET-TW-04- 20241021	C0JX2	Treatment Water/ START	Grab	O/G(14)	2845 (H2SO4) (1)	TW-04	10/21/2024 15:10	

	Shipment for Case Complete? N
Special Instructions: Oil and Grease TW/SW	Samples Transferred From Chain of Custody #
Analysis Key: O/G=Oil and Grease	

tems/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	funducing / START	16:03	CX	10.23.24	Zt. Can # 1 2.4.
/	•				Custody Seal Infact
					Temp Blank ples





# Laboratory Certification

Certified By	License No.
CAS EPA CLP Contract	68HERH20D0011
Connecticut	PH-0830
DOD ELAP (L-A-B)	L2219
Maine	2024021
Maryland	296
New Hampshire	255423
New Jersey	20012
New York	11376
Pennsylvania	68-00548
Soil Permit	525-24-234-08441
Texas	T104704488

QA Control Code: A2070148 P4504-GENCHEM

EM 46 of 46

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