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Cover Page

Order ID : P5299

Project ID : Amtrak Sawtooth Bridges 2024

Client : Portal Partners Tri-Venture

Lab Sample Number	Client Sample Number
P5299-01	SB-01
P5299-02	SB-02
P5299-03	SB-01
P5299-04	SB-02

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: 12/21/2024

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

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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APPENDIX A

QA REVIEW GENERAL DOCUMENTATION

Project #: **P5299**

	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: **NILESH PRAJAPATI** **Date:** **12/21/2024**

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LAB CHRONICLE

OrderID:	P5299	**OrderDate:**	12/16/2024 12:24:00 PM
Client:	Portal Partners Tri-Venture	**Project:**	Amtrak Sawtooth Bridges 2024
Contact:	Joseph Krupansky	**Location:**	L41,VOA Ref. #2 Soil

LabID	ClientID	Matrix	Test	Method	Sample Date	Prep Date	Anal Date	Received
P5299-01	**SB-01**	**SOIL**			**12/14/24 16:14**			**12/16/24**
			Hexavalent Chromium	7196A		12/20/24	12/20/24 13:54	
			Trivalent Chromium	6010D			12/20/24 18:38	
P5299-02	**SB-02**	**SOIL**			**12/15/24 10:17**			**12/16/24**
			Hexavalent Chromium	7196A		12/20/24	12/20/24 13:55	
			Trivalent Chromium	6010D			12/20/24 20:06	
P5299-03	**SB-01**	**SOIL**			**12/15/24 16:02**			**12/16/24**
			Hexavalent Chromium	7196A		12/20/24	12/20/24 13:56	
			Trivalent Chromium	6010D			12/20/24 20:10	
P5299-04	**SB-02**	**SOIL**			**12/15/24 17:27**			**12/16/24**
			Hexavalent Chromium	7196A		12/20/24	12/20/24 13:57	
			Trivalent Chromium	6010D			12/20/24 20:14	

SAMPLE DATA

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Report of Analysis

Client:	Portal Partners Tri-Venture	Date Collected:	12/14/24 16:14
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	12/16/24
Client Sample ID:	SB-01	SDG No.:	P5299
Lab Sample ID:	P5299-01	Matrix:	SOIL
		% Solid:	78.5

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.099	U	1	0.099	0.50	mg/Kg	12/20/24 10:45	12/20/24 13:54	7196A
Trivalent Chromium	7.98		1	0.64	0.64	mg/Kg		12/20/24 18:38	6010D

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:	Portal Partners Tri-Venture	Date Collected:	12/15/24 10:17
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	12/16/24
Client Sample ID:	SB-02	SDG No.:	P5299
Lab Sample ID:	P5299-02	Matrix:	SOIL
		% Solid:	75.5

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.10	U	1	0.10	0.52	mg/Kg	12/20/24 10:45	12/20/24 13:55	7196A
Trivalent Chromium	13.2		1	0.66	0.66	mg/Kg		12/20/24 20:06	6010D

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:	Portal Partners Tri-Venture	Date Collected:	12/15/24 16:02
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	12/16/24
Client Sample ID:	SB-01	SDG No.:	P5299
Lab Sample ID:	P5299-03	Matrix:	SOIL
		% Solid:	68.8

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.11	U	1	0.11	0.58	mg/Kg	12/20/24 10:45	12/20/24 13:56	7196A
Trivalent Chromium	26.1		1	0.73	0.73	mg/Kg		12/20/24 20:10	6010D

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:	Portal Partners Tri-Venture	Date Collected:	12/15/24 17:27
Project:	Amtrak Sawtooth Bridges 2024	Date Received:	12/16/24
Client Sample ID:	SB-02	SDG No.:	P5299
Lab Sample ID:	P5299-04	Matrix:	SOIL
		% Solid:	79.2

Parameter	Conc.	Qua.	DF	MDL	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
Hexavalent Chromium	0.098	U	1	0.098	0.50	mg/Kg	12/20/24 10:45	12/20/24 13:57	7196A
Trivalent Chromium	18.6		1	0.63	0.63	mg/Kg		12/20/24 20:14	6010D

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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Initial and Continuing Calibration Verification

Client: Portal Partners Tri-Venture **SDG No.:** P5299

Project: Amtrak Sawtooth Bridges 2024 **RunNo.:** LB134045

Analyte	Units	Result	True Value	% Recovery	Acceptance Window (%R)	Analysis Date
Sample ID: ICV						
Hexavalent Chromium	mg/L	0.497	0.5	99	90-110	12/20/2024
Sample ID: CCV1						
Hexavalent Chromium	mg/L	0.501	0.5	100	90-110	12/20/2024
Sample ID: CCV2						
Hexavalent Chromium	mg/L	0.500	0.5	100	90-110	12/20/2024
Sample ID: CCV3						
Hexavalent Chromium	mg/L	0.501	0.5	100	90-110	12/20/2024

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Initial and Continuing Calibration Blank Summary

Client: Portal Partners Tri-Venture **SDG No.:** P5299

Project: Amtrak Sawtooth Bridges 2024 **RunNo.:** LB134045

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: ICB							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	12/20/2024
Sample ID: CCB1							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	12/20/2024
Sample ID: CCB2							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	12/20/2024
Sample ID: CCB3							
Hexavalent Chromium	mg/L	< 0.0050	0.0050	U	0.0027	0.01	12/20/2024

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Preparation Blank Summary

Client: Portal Partners Tri-Venture **SDG No.:** P5299

Project: Amtrak Sawtooth Bridges 2024

Analyte	Units	Result	Acceptance Limits	Conc Qual	MDL	RDL	Analysis Date
Sample ID: PB165729BL							
Hexavalent Chromium	mg/Kg	< 0.2000	0.2000	U	0.079	0.4	12/20/2024

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Matrix Spike Summary

Client: Portal Partners Tri-Venture
SDG No.: P5299
Project: Amtrak Sawtooth Bridges 2024
Sample ID: P5339-01
Client ID: TR-06-12182024MS
Percent Solids for Spike Sample: 86.4

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	1410		0.090	U	1490	40	95		12/20/2024

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Matrix Spike Summary

Client: Portal Partners Tri-Venture
SDG No.: P5299
Project: Amtrak Sawtooth Bridges 2024
Sample ID: P5339-01
Client ID: TR-06-12182024MS
Percent Solids for Spike Sample: 86.4

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	85-115	43.7		0.090	U	46.3	2	94		12/20/2024

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Matrix Spike Summary

Client: Portal Partners Tri-Venture
SDG No.: P5299
Project: Amtrak Sawtooth Bridges 2024
Sample ID: P5339-01
Client ID: TR-06-12182024MS
Percent Solids for Spike Sample: 86.4

Analyte	Units	Acceptance Limit %R	Spiked Result	Conc. Qualifier	Sample Result	Conc. Qualifier	Spike Added	Dilution Factor	% Rec	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	75-125	35.1		0.090	U	46.3	2	76		12/20/2024

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Duplicate Sample Summary

Client: Portal Partners Tri-Venture
SDG No.: P5299
Project: Amtrak Sawtooth Bridges 2024
Sample ID: P5339-01
Client ID: TR-06-12182024DUP
Percent Solids for Spike Sample: 86.4

Analyte	Units	Acceptance Limit	Sample Result	Conc. Qualifier	Duplicate Result	Conc. Qualifier	Dilution Factor	RPD/ AD	Qual	Analysis Date
Hexavalent Chromium	mg/Kg	+/-20	0.090	U	0.10	U	1	0		12/20/2024

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Laboratory Control Sample Summary

Client: Portal Partners Tri-Venture **SDG No.:** P5299

Project: Amtrak Sawtooth Bridges 2024 **Run No.:** LB134045

Analyte	Units	True Value	Result	Conc. Qualifier	% Recovery	Dilution Factor	Acceptance Limit %R	Analysis Date
Sample ID PB165729BS								
Hexavalent Chromium	mg/Kg	20	19.9		100	1	84-110	12/20/2024

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RAW DATA

Analytical Summary Report

Analysis Method: ~~7196A~~

Parameter: ~~Hexavalent Chromium~~

Run Number: ~~LB134045~~

ANALYST: rubina

SUPERVISOR REVIEW BY: Iwona

pH Meter ID: WC pH Meter-1

Reagent/Standard	Lot/Log #
hexavalent chromium color reagent	WP111113
5N sulfuric acid	WP110380
HNO3 Hex-Chrome, 5M	WP110381
Hexchrome Cleaning Solution	WP108645

Intercept: 0.0015 **Slope:** 0.7671 **Regression:** 0.999998

Seq	Lab ID	True Value (mg/l)	DF	Initial Vol (ml)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at 540nm		Absorbance Difference	Result (mg/L)	%D	Anal Date	Anal Time
								Backgrnd	Color					
1	CAL1	0	1	100	100	7.32	1.77	0.000	0.001	0.001	-0.00		12/20/2024	13:40
2	CAL2	0.01	1	100	100	7.36	1.90	0.000	0.009	0.009	0.009	-10	12/20/2024	13:41
3	CAL3	0.025	1	100	100	7.41	1.87	0.000	0.021	0.021	0.025	0	12/20/2024	13:42
4	CAL4	0.05	1	100	100	7.39	1.87	0.000	0.040	0.040	0.050	0	12/20/2024	13:43
5	CAL5	0.1	1	100	100	7.39	1.85	0.000	0.079	0.079	0.101	1	12/20/2024	13:44
6	CAL6	0.5	1	100	100	7.40	1.89	0.000	0.384	0.384	0.498	-0.4	12/20/2024	13:45
7	CAL7	1	1	100	100	7.35	1.86	0.000	0.769	0.769	1.000	0	12/20/2024	13:46

Reviewed By:Iwona
On:12/20/2024 3:44:23 PM
Inst Id :SPECTROPHOTOME

Analytical Summary Report

Analysis Method: 7196A
ANALYST: rubina
Parameter: Hexavalent Chromium
SUPERVISOR REVIEW BY: Iwona
Run Number: LB134045
pH Meter ID: WC pH Meter-1

Seq	Lab ID	True Value	DF	Initial Vol (ml/gm)	Final Vol (ml)	pH HN03	pH H2SO4	Absorb.at540nm		Absorbance Difference	Intermediate Result (mg/L)	Anal Date	Anal Time
								Backgrnd	Color				
1	ICV	0.5	1	100	100	7.45	1.92	0.000	0.383	0.383	0.497	12/20/2024	13:47
2	ICB		1	100	100	7.28	1.80	0.000	0.001	0.001	-0.001	12/20/2024	13:48
3	CCV1	0.5	1	100	100	7.43	1.96	0.000	0.386	0.386	0.501	12/20/2024	13:49
4	CCB1		1	100	100	7.30	1.78	0.000	0.000	0.000	-0.002	12/20/2024	13:50
5	RL Check	0.01	1	100	100	7.42	1.91	0.000	0.010	0.010	0.011	12/20/2024	13:51
6	PB165729BL		1	2.50	100	7.39	1.75	0.000	0.001	0.001	-0.001	12/20/2024	13:52
7	PB165729BS	20	1	2.50	100	7.44	1.94	0.000	0.383	0.383	0.497	12/20/2024	13:53
8	P5299-01		1	2.55	100	7.52	2.06	0.020	0.021	0.001	-0.001	12/20/2024	13:54
9	P5299-02		1	2.57	100	7.60	2.04	0.002	0.002	0.000	-0.002	12/20/2024	13:55
10	P5299-03		1	2.52	100	7.56	2.10	0.004	0.005	0.001	-0.001	12/20/2024	13:56
11	P5299-04		1	2.54	100	7.52	2.10	0.006	0.006	0.000	-0.002	12/20/2024	13:57
12	P5330-01		1	2.55	100	7.60	2.18	0.010	0.011	0.001	-0.001	12/20/2024	13:58
13	P5339-01		1	2.53	100	7.52	2.10	0.010	0.011	0.001	-0.001	12/20/2024	13:59
14	P5339-01DU		1	2.23	100	7.56	2.14	0.010	0.011	0.001	-0.001	12/20/2024	14:00
15	P5339-01MS	40	2	2.54	100	7.56	2.10	0.003	0.300	0.297	0.385	12/20/2024	14:01
16	CCV2	0.5	1	100	100	7.44	1.94	0.000	0.385	0.385	0.500	12/20/2024	14:02
17	CCB2		1	100	100	7.27	1.79	0.000	0.001	0.001	-0.001	12/20/2024	14:03
18	P5339-01MS	1284	40	2.53	100	7.56	2.16	0.000	0.594	0.594	0.772	12/20/2024	14:04
19	P5339-01MS	40	2	2.52	100	7.60	2.16	0.002	0.369	0.367	0.476	12/20/2024	14:05
20	P5355-01		1	2.55	100	7.60	2.10	0.032	0.032	0.000	-0.002	12/20/2024	14:06
21	CCV3	0.5	1	100	100	7.47	1.93	0.000	0.386	0.386	0.501	12/20/2024	14:07
22	CCB3		1	100	100	7.29	1.81	0.000	0.000	0.000	-0.002	12/20/2024	14:08

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Soil/Sludge Hexavalent Chromium Preparation Sheet

PB165729

SOP ID : M3060A,7196A-Hex.Chromium-26

SDG No : N/A

Matrix : SOIL

Pippete ID : WC

Balance ID : WC SC-7

Hood ID : HOOD#3

Block ID : WC S-2, WC S-1

Weigh By : RM

Start Digest Date: 12/20/2024 **Time :** 10:45 **Temp :** 90 °C

End Digest Date: 12/20/2024 **Time :** 11:45 **Temp :** 94 °C

Li batch 12/20/2024 12:05 90c
12/20/2024 13:05 95c RM

Digestion tube ID : M6054

Filter paper ID : 400213

pH Meter ID : WC pH meter-1

Block Thermometer ID : WC-Block#1

Prep Technician Signature: RM

Supervisor Signature: 12

Standared Name	MLS USED	STD REF. # FROM LOG
PRE-DIGESTION SPIKE	2.0ML	WP108658
INSOLUBLE SPIKE	0.02GM	W2202
POST-DIGESTION SPIKE	2.0ML	WP108658
LCSS	1.0ML	WP108659
PBS003	50ML	W3112

Chemical Used	ML/SAMPLE USED	Lot Number
MAGNESIUM CHLORIDE	0.4GM	W3152
PHOSPHATE BUFFER	0.5ML	WP110498
HEX. DIGESTION SOLN.	50.0ML	WP111052
5M HNO3	5-7ML	WP110381
5N H2SO4	1-3ML	WP110380
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A

LAB SAMPLE ID	CLIENT SAMPLE ID	Vol(ml)	Comment
CAL1	CAL1	2.5ML	W3112
CAL2	CAL2	0.2ML	WP111163
CAL3	CAL3	0.5ML	WP111163
CAL4	CAL4	1ML	WP111163
CAL5	CAL5	0.2ML	WP108658
CAL6	CAL6	1ML	WP108658
CAL7	CAL7	2.0ML	WP108658
ICV	ICV	1ML	WP108659
ICB	ICB	2.5ML	W3112
CCV	CCV	1ML	WP108658
CCB	CCB	2.5ML	W3112

Extraction Conformance/Non-Conformance Comments: 12/20/2024 RM

N/A

Date / Time	Prepped Sample Relinquished By/Location	Received By/Location
	Preparation Group	Analysis Group

Alliance TECHNICAL GROUP

Soil/Sludge Hexavalent Chromium Preparation Sheet

PB165729

Lab Sample ID	Client Sample ID	Initial Weight (g)	Final Vol (ml)	pH	Sulfide	Oxidizing	Nitrate/ Nitrite	Comment	Prep Pos
P5299-01	SB-01	2.55	100	N/A	N/A	N/A	N/A	N/A	N/A
P5299-02	SB-02	2.57	100	N/A	N/A	N/A	N/A	N/A	N/A
P5299-03	SB-01	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P5299-04	SB-02	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P5330-01	TP-5	2.55	100	N/A	N/A	N/A	N/A	N/A	N/A
P5339-01	TR-06-12182024	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P5339-01DUP	TR-06-12182024DUP	2.23	100	N/A	N/A	N/A	N/A	N/A	N/A
P5339-01MSPre	TR-06-12182024MSPRE	2.54	100	N/A	N/A	N/A	N/A	N/A	N/A
P5339-01MS2Ins	TR-06-12182024MS2INS	2.53	100	N/A	N/A	N/A	N/A	N/A	N/A
P5339-01MS3Post	TR-06-12182024MS3POST	2.52	100	N/A	N/A	N/A	N/A	N/A	N/A
P5355-01	RBR251688	2.55	100	N/A	N/A	N/A	N/A	N/A	N/A
PB165729BL	PBS729	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A
PB165729BS	LCS729	2.50	100	N/A	N/A	N/A	N/A	N/A	N/A

WORKLIST(Hardcopy Internal Chain)

WorkList Name : hex-12-20 **WorkList ID :** 186522 **Department :** Distillation **Date :** 12-20-2024 08:18:57

Sample	Customer Sample	Matrix	Test	Preservative	Customer	Raw Sample Storage Location	Collect Date	Method
P5299-01	SB-01	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	L41	12/14/2024	7196A
P5299-02	SB-02	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	L41	12/15/2024	7196A
P5299-03	SB-01	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	L41	12/15/2024	7196A
P5299-04	SB-02	Solid	Hexavalent Chromium	Cool 4 deg C	PORT06	L41	12/18/2024	7196A
P5330-01	TP-5	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	L51	12/18/2024	7196A
P5339-01	TR-06-12182024	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG05	N12	12/19/2024	7196A
P5355-01	RBR251688	Solid	Hexavalent Chromium	Cool 4 deg C	PSEG03	N13		

Date/Time 12/20/2024 10:05
Raw Sample Received by: RM (CWC)
Raw Sample Relinquished by: [signature] (CWC)

Date/Time 12/20/2024 17:15
Raw Sample Received by: [signature] (CWC)
Raw Sample Relinquished by: RM (CWC)

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

Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB134045

Review By	rubina	Review On	12/20/2024 2:26:57 PM
Supervise By	Iwona	Supervise On	12/20/2024 3:44:23 PM
SubDirectory	LB134045	Test	Hexavalent Chromium

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	WP111113,WP110380,WP110381,WP108645

Sr#	SampleId	ClientID	QcType	Date	Comment	Operator	Status
1	CAL1	CAL1	CAL	12/20/24 13:40		rubina	OK
2	CAL2	CAL2	CAL	12/20/24 13:41		rubina	OK
3	CAL3	CAL3	CAL	12/20/24 13:42		rubina	OK
4	CAL4	CAL4	CAL	12/20/24 13:43		rubina	OK
5	CAL5	CAL5	CAL	12/20/24 13:44		rubina	OK
6	CAL6	CAL6	CAL	12/20/24 13:45		rubina	OK
7	CAL7	CAL7	CAL	12/20/24 13:46		rubina	OK
8	ICV	ICV	ICV	12/20/24 13:47		rubina	OK
9	ICB	ICB	ICB	12/20/24 13:48		rubina	OK
10	CCV1	CCV1	CCV	12/20/24 13:49		rubina	OK
11	CCB1	CCB1	CCB	12/20/24 13:50		rubina	OK
12	RL Check	RL Check	SAM	12/20/24 13:51		rubina	OK
13	PB165729BL	PB165729BL	MB	12/20/24 13:52		rubina	OK
14	PB165729BS	PB165729BS	LCS	12/20/24 13:53		rubina	OK
15	P5299-01	SB-01	SAM	12/20/24 13:54		rubina	OK
16	P5299-02	SB-02	SAM	12/20/24 13:55		rubina	OK
17	P5299-03	SB-01	SAM	12/20/24 13:56		rubina	OK
18	P5299-04	SB-02	SAM	12/20/24 13:57		rubina	OK

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Instrument ID: SPECTROPHOTOMETER-1

Daily Analysis Runlog For Sequence/QCBatch ID # LB134045

Review By	rubina	Review On	12/20/2024 2:26:57 PM
Supervise By	Iwona	Supervise On	12/20/2024 3:44:23 PM
SubDirectory	LB134045	Test	Hexavalent Chromium

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	WP111113,WP110380,WP110381,WP108645

19	P5330-01	TP-5	SAM	12/20/24 13:58		rubina	OK
20	P5339-01	TR-06-12182024	SAM	12/20/24 13:59		rubina	OK
21	P5339-01DUP	TR-06-12182024DUP	DUP	12/20/24 14:00		rubina	OK
22	P5339-01MSPre	TR-06-12182024MS	MS	12/20/24 14:01		rubina	OK
23	CCV2	CCV2	CCV	12/20/24 14:02		rubina	OK
24	CCB2	CCB2	CCB	12/20/24 14:03		rubina	OK
25	P5339-01MS2Ins	TR-06-12182024MS	MS	12/20/24 14:04		rubina	OK
26	P5339-01MS3Post	TR-06-12182024MS	MS	12/20/24 14:05		rubina	OK
27	P5355-01	RBR251688	SAM	12/20/24 14:06		rubina	OK
28	CCV3	CCV3	CCV	12/20/24 14:07		rubina	OK
29	CCB3	CCB3	CCB	12/20/24 14:08		rubina	OK

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Prep Standard - Chemical Standard Summary

Order ID : P5299

Test : Hexavalent Chromium,Percent Solids,Trivalent Chromium

Prepbatch ID : PB165729,

Sequence ID/Qc Batch ID: LB134045,LB134064,

Standard ID :
WP108645,WP108658,WP108659,WP110380,WP110381,WP110498,WP111052,WP111113,

Chemical ID :
E3843,M5673,M5947,M5954,M6096,W2202,W2511,W2651,W2652,W2708,W2979,W3058,W3112,W3113,W3152,

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Wet Chemistry STANDARD PREPARATION LOG

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
3354	Hexchrome Cleaning Solution	WP108645	07/05/2024	12/27/2024	Rubina Mughal	None	None	Iwona Zarych 07/08/2024

FROM 182.00000ml of M5947 + 727.00000ml of W3112 + 91.00000ml of M5954 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
1993	HEXAVALENTCHROMIUM STOCK STD 1, 50PPM	WP108658	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/09/2024

FROM 0.14140gram of W2651 + 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
1994	HEXAVALENTCHROMIUM STOCK STD 2, 50PPM	WP108659	07/09/2024	01/09/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 07/09/2024

FROM 0.14140gram of W2652 + 1000.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
126	5N sulfuric acid	WP110380	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych 10/24/2024

FROM 140.00000ml of M5673 + 860.00000ml of W3112 = 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
1836	HNO3 Hex-Chrome, 5M	WP110381	10/24/2024	04/24/2025	Rubina Mughal	None	None	Iwona Zarych 10/24/2024

FROM 320.00000ml of M6096 + 680.00000ml of W3112 = Final Quantity: 1000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
190	HEX CHROME PHOSPHATE BUFFER	WP110498	10/31/2024	04/29/2025	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 10/31/2024

FROM 0.84500L of W3112 + 68.04000gram of W2708 + 87.09000gram of W2511 = 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
148	hexchrome digestion fluid	WP111052	12/11/2024	01/11/2025	Rubina Mughal	WETCHEM_SCALE_8 (WCSC-7)	None	Iwona Zarych 12/11/2024

FROM 120.00000gram of W3058 + 4.00000L of W3112 + 80.00000gram of W3113 = Final Quantity: 4000.000 ml

Recipe ID	NAME	NO.	Prep Date	Expiration Date	Prepared By	ScaleID	PipetteID	Supervised By
114	hexavalent chromium color reagent	WP111113	12/17/2024	12/24/2024	Rubina Mughal	WETCHEM_SCALE_5 (WCSC-5)	None	Iwona Zarych 12/18/2024

FROM 0.25000gram of W2979 + 50.00000ml of E3843 = Final Quantity: 50.000 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 #
Seidler Chemical	BA-9254-03 / Acetone, Ultra Resi (cs/4x4L)	24H2762008	06/05/2025	12/05/2024 / Rajesh	12/05/2024 / Rajesh	E3843

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	12/27/2024	06/27/2024 / Al-Terek	06/23/2024 / Al-Terek	M5947

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	01/02/2025	07/01/2024 / Al-Terek	06/25/2024 / Al-Terek	M5954

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
Seidler Chemical	BA-9598-34 / Nitric Acid, Instra-Analyzed (cs/4x2.5L)	24D1062002	03/25/2029	10/22/2024 / Janvi	09/21/2024 / Janvi	M6096

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA14125-36 / LEAD (II) CHROMATE, ACS, 500G	U19B018	01/23/2027	01/23/2017 / apatel	01/23/2017 / apatel	W2202

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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.	J3252-1 / POTAS PHOSPHATE, DIBASIC PWD, ACS, 500G	0000207436	04/29/2025	05/22/2019 / AMANDEEP	03/21/2019 / apatel	W2511

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	AA13450-36 / Potassium Dichromate, 500g(NEW)	T15F019	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2651

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	P188-500 / Potassium Dichromate, 500g(new-2nd lot)	194664	01/24/2030	01/24/2020 / apatel	01/24/2020 / apatel	W2652

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	J3246-1 / POTAS PHOSPHATE, MONO, CRYS, ACS, 500G	99/2019-20	05/05/2025	05/05/2020 / apatel	05/05/2020 / apatel	W2708

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	31390 / 1,5-Diphenylcarbazide	MKCR6636	12/09/2027	12/09/2022 / Iwona	12/09/2022 / Iwona	W2979

Supplier	ItemCode / ItemName	Lot #	Expiration Date	Date Opened / Opened By	Received Date / Received By	Chemtech Lot #
PCI Scientific Supply, Inc.	EM-SX0395-3 / SODIUM CARBONATE ANHYDR 2.5KG	2023012653	10/19/2028	09/03/2024 / jignesh	10/19/2023 / Iwona	W3058

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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 #
PCI Scientific Supply, Inc.	01237-10KG / Megnasium Chloride Hexahydrate ACS 10KG	002126-2019-201	11/25/2029	11/25/2024 / Iwona	11/25/2024 / Iwona	W3152

Alfa Aesar

Certificate of analysis

Product No.	14125
Product:	Lead(II) chromate, ACS, 98%
Lot No.:	U19B018

Test	Limits	Results
Assay	98.0 % min	99.3 %
Soluble matter	0.15 % max	< 0.02 %
Carbon compounds	0.01 % max	< 0.01 %

Traceable to NIST? Yes

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ThermoFisher SCIENTIFIC

Certificate of Analysis

Product No.: 13450

Product: Potassium dichromate, ACS, 99.0% min

Lot No.: T15F019

Test	Limits	Results
Appearance	Orange-red crystals	Orange-red crystals
Identification	To Pass	Passes
Purity	99.0 % min	99.67 %
Insoluble matter	0.005 % max	0.004 %
Loss on drying	0.05 % max	0.03 %
Chloride	0.001 % max	< 0.001 %
Sulfate	0.005 % max	< 0.005 %
Iron	0.001 % max	< 0.001 %
Calcium	0.003 % max	0.0012 %
Sodium	0.02 % max	0.0047 %

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W2511 Received on 3/26/2019 by AP

Potassium Phosphate, Dibasic, Powder
BAKER ANALYZED® A.C.S. Reagent

(dipotassium hydrogen phosphate)

Material No.: 3252-01
Batch No.: 0000207436
Manufactured Date: 2018/05/01
Retest Date: 2025/04/29
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay (K_2HPO_4) (by acidimetry)	>= 98.0 %	99.2
Insoluble Matter	<= 0.01 %	< 0.01
Loss on Drying at 105°C	<= 1.0 %	< 1.0
pH of 5% Solution at 25°C	8.5 - 9.6	9.1
Chloride (Cl)	<= 0.003 %	< 0.003
Fluoride (F)	<= 0.001 %	< 0.001
Nitrogen Compounds (as N)	<= 0.001 %	< 0.001
Sulfate (SO_4)	<= 0.005 %	< 0.005
Trace Impurities - Iron (Fe)	<= 0.001 %	< 0.001
Sodium (Na)	<= 0.05 %	< 0.05
Trace Impurities - Arsenic (As)	<= 1.000 ppm	< 1.000
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	< 5
Trace Impurities - Lead (Pb)	<= 5.000 ppm	< 5.000
Color (APHA), For Information Only		5

For Laboratory, Research or Manufacturing Use
Meets Reagent Specifications for testing USP/NF monographs

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

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

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

Certificate Of Analysis

W 3058
Rec. 10/19/23 12

Date of Release: 1/27/2023

Name: **Sodium Carbonate, Anhydrous**
Powder, ACS
Item No: **SX0395 All Sizes**
Lot / Batch No: **2023012653**
Country of Origin: **India**

Item	Specifications	Analysis
Assay (calculated on dried substance)	99.5% min.	100.2%
Calcium (Ca)	0.03% max.	0.004%
Chloride (Cl)	0.001% max.	<0.001%
Color	White	Passes Test
Form	Powder	Passes Test
Heavy metals (by ICP-OES)	5 ppm max.	<5 ppm
Insoluble Matter	0.01% max.	0.003%
Iron (Fe)	5 ppm max.	<5 ppm
Loss on heating at 285C	1.0% max.	0.1%
Magnesium (Mg)	0.005% max.	0.0008%
Phosphate (PO4)	0.001% max.	<0.001%
Potassium (K)	0.005% max.	0.003%
Silica (SiO2)	0.005% max.	<0.005%
Sulfur compounds (as SO4)	0.003% max.	<0.003%

Joe Schoellkopff

Quality Control Manager

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EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMD Millipore Corporation
400 Summit Drive
Burlington, MA 01803
U.S.A.

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

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Catalog Number	P188	Quality Test / Release Date	08/12/2019
Lot Number	194664		
Description	POTASSIUM DICHROMATE, A.C.S.		
Country of Origin	United States	Suggested Retest Date	Aug/2024
Chemical Origin	Inorganic-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.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	Fine, orange-red crystals
ASSAY	%	>= 99	99.2
CALCIUM	%	<= 0.003	<0.003
CHLORIDE	%	<= 0.001	<0.001
LOSS ON DRYING @ 105 C	%	<= 0.05	<0.05
SULFATE (SO4)	%	<= 0.005	<0.005
INSOLUBLE MATTER	%	<= 0.005	0.003
IRON (Fe)	%	<= 0.001	<0.001
SODIUM (Na)	%	<= 0.02	<0.02
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST

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.

Acetone
BAKER RESI-ANALYZED® Reagent
For Organic Residue Analysis

avantor™ | J.T.Baker

Material No.: 9254-03
Batch No.: 24H2762008
Manufactured Date: 2024-04-18
Expiration Date:2027-04-18
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay ($(CH_3)_2CO$) (by GC, corrected forwater)	>= 99.4 %	100.0 %
Color (APHA)	<= 10	5
Residue after Evaporation	<= 1.0 ppm	0.0 ppm
Substances Reducing Permanganate	Passes Test	Passes Test
Titrable Acid (µeq/g)	<= 0.3	0.2
Titrable Base (µeq/g)	<= 0.6	<0.1
Water (H_2O)	<= 0.5 %	<0.1 %
FID-Sensitive Impurities (as 2-Octanol)Single Impurity Peak (ng/mL)	<= 5	1
ECD Sensitive Impurities (as HeptachlorEpoxide) Single Peak (pg/mL)	<= 10	1

For Laboratory,Research,or Manufacturing Use
MEETS SPECIFICATIONS WITHIN THE EXPIRATION PERIOD

Country of Origin: United States
Packaging Site: Phillipsburg Mfg Ctr & DC

Recd. by RP on 12/5/24

E 3843

J Croak

Jamie Croak
Director Quality Operations, Bioscience Production

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®

MS947 MS948 MS949
MS950 MS951 MS952

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

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

MS954 MS955 MS956
MS957 MS958

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

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

Jamie Croak
Director Quality Operations, Bioscience Production

Nitric Acid 69%
CMOS

M6096
M6097
M6098
M6099
M6100

Mtdl 9/21/24

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002
Manufactured Date: 2024-03-26
Retest Date: 2029-03-25
Revision No.: 0

Certificate of Analysis

Test	Specification	Result
Assay (HNO_3)	69.0 - 70.0 %	69.7 %
Appearance	Passes Test	Passes Test
Color (APHA)	≤ 10	5
Residue after Ignition	≤ 2 ppm	1 ppm
Chloride (Cl)	≤ 0.08 ppm	< 0.03 ppm
Phosphate (PO_4)	≤ 0.10 ppm	< 0.03 ppm
Sulfate (SO_4)	≤ 0.2 ppm	< 0.2 ppm
Trace Impurities - Aluminum (Al)	≤ 40.0 ppb	< 1.0 ppb
Arsenic and Antimony (as As)	≤ 5.0 ppb	< 2.0 ppb
Trace Impurities - Barium (Ba)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Beryllium (Be)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Bismuth (Bi)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Boron (B)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities - Cadmium (Cd)	≤ 50 ppb	< 1 ppb
Trace Impurities - Calcium (Ca)	≤ 50.0 ppb	2.3 ppb
Trace Impurities - Chromium (Cr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities - Cobalt (Co)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Copper (Cu)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Gallium (Ga)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Germanium (Ge)	≤ 20 ppb	< 10 ppb
Trace Impurities - Gold (Au)	≤ 20 ppb	< 5 ppb
Heavy Metals (as Pb)	≤ 100 ppb	100 ppb
Trace Impurities - Iron (Fe)	≤ 40.0 ppb	< 1.0 ppb
Trace Impurities - Lead (Pb)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities - Lithium (Li)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Magnesium (Mg)	≤ 20 ppb	< 1 ppb
Trace Impurities - Manganese (Mn)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities - Nickel (Ni)	≤ 20.0 ppb	< 5.0 ppb

>>> Continued on page 2 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result
Trace Impurities – Niobium (Nb)	≤ 50.0 ppb	< 1.0 ppb
Trace Impurities – Potassium (K)	≤ 50 ppb	16 ppb
Trace Impurities – Silicon (Si)	≤ 50 ppb	< 10 ppb
Trace Impurities – Silver (Ag)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Sodium (Na)	≤ 150.0 ppb	< 5.0 ppb
Trace Impurities – Strontium (Sr)	≤ 30.0 ppb	< 1.0 ppb
Trace Impurities – Tantalum (Ta)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Thallium (Tl)	≤ 10.0 ppb	< 5.0 ppb
Trace Impurities – Tin (Sn)	≤ 20.0 ppb	< 10.0 ppb
Trace Impurities – Titanium (Ti)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Vanadium (V)	≤ 10.0 ppb	< 1.0 ppb
Trace Impurities – Zinc (Zn)	≤ 20.0 ppb	< 1.0 ppb
Trace Impurities – Zirconium (Zr)	≤ 10.0 ppb	< 1.0 ppb
Particle Count – 0.5 µm and greater	≤ 60 par/ml	10 par/ml
Particle Count – 1.0 µm and greater	≤ 10 par/ml	3 par/ml

>>> Continued on page 3 >>>

Nitric Acid 69%
CMOS

avantor™ | J.T.Baker®

Material No.: 9606-03
Batch No.: 24D1062002

Test	Specification	Result

For Microelectronic Use

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

J Croak

Jamie Croak
Director Quality Operations, Bioscience Production

Subject to Vadodara Jurisdiction

CHAMPA PURIE-CHEM INDUSTRIES

ISO 9001 : 2015 CERTIFIED COMPANY

Importers Exporters Manufacturers & Marketing of Fine Chemicals & Pharmaceuticals

262-263, G.I.D.C. Estate,
Makarpura,
Vadodara - 390 010.
Gujarat - INDIA.

Phone : (F) +91-265-2633314 / 2643723
Fax : (F) +91-265-2638036
E-mail : info@cpcindia.com
Web : www.cpcindia.com

W2708 Received on 05/05/20 by AP

CERTIFICATE OF ANALYSIS

PRODUCT : **POTASSIUM PHOSPHATE MONOBASIC Anhy. - ACS**

CERTIFICATE NO : 99/2019- 20 DATE 26-08-2019

Date of receipt of sample : 22.08.2019 Quantity : 1000 KGS

Batch No. /Lot No : 99/2019- 20

Mfg. Date : Aug-2019

1. Characteristic : A White powder

2. Identification : Positive

	RESULT OBTAINED	LIMITS
3. Clearity and colour of solution	: 10% solution is clear and colourless	
4. Assay (on dry basis)	: 99.27%	Min.99.00%
5. PH (5% solution)	: 4.4	4.1-4.5
6. Loss on Drying	: 0.1%	Max 0.2%
7. Heavy Metals	: 0.0003%	Max.0.001%
8. Iron	: 0.001%	Max 0.002%
9. Sulphate	: 0.001%	Max. 0.003%
10. Chloride	: 0.0005%	Max.0.001%
11. Insoluble Matter	: 0.003%	Max. 0.01%
12. Sodium	: 0.004%	Max. 0.005%

The sample does comply with specification as per Above.

Analysed by J.A.PATHAK

Quality Control Department

Sigma-Aldrich.

W 2979

Rec: 12/08/22

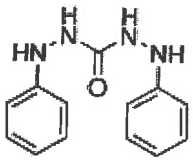
exp. 12/08/27

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:
1,5-Diphenylcarbazide - ACS reagent

Product Number:	**259225**
Batch Number:	**MKCR6636**
Brand:	SIAL
CAS Number:	140-22-7
MDL Number:	MFCD00003013
Formula:	C13H14N4O
Formula Weight:	242.28 g/mol
Quality Release Date:	02 JUN 2022



Test	Specification	Result
Appearance (Color) Off-White to Pink, Light Purple or Tan	Conforms to Requirements	Pink
Appearance (Form)	Powder or Chunks	Powder
Melting Point	173.0 - 176.0 °C	173.0 °C
Infrared Spectrum	Conforms to Structure	Conforms
Residue on ignition (Ash) 15 minutes, 800 Degrees Celsius	≤ 0.05 %	0.01 %
Solubility	Pass	Pass
Sensitivity Test	Pass	Pass
Meets ACS Requirements	Current ACS Specification	Conforms

Larry Coers, Director
Quality Control
Milwaukee, WI US

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.

W3152 Received on 11/25/24 by IZ

Chem-Impex International, Inc.

Tel: (630) 766-2112
Fax: (630) 766-2218
E-mail: sales@chemimpex.com
Web site: www.chemimpex.com
Shipping and Correspondence:
935 Dillon Drive
Wood Dale, IL 60191
Manufacturing site:
825 Dillon Drive
Wood Dale, IL 60191

Certificate of Analysis

Catalogue Number	01237
Lot Number	002126-2019-201
Product	**Magnesium chloride hexahydrate**
	Magnesium chloride•$6H_2O$
CAS Number	7791-18-6
Molecular Formula	$MgCl_2$•$6H_2O$
Molecular Weight	203.3

Appearance	White crystals
Solubility	167 g in 100 mL water
Melting Point	~ 115 °C
Heavy Metals	4.393 ppm
Anion	Nitrate (NO_3) : < 0.001% Phosphate (PO_4) : < 5 ppm Sulfate (SO_4) : < 0.002%
Cation	Ammonium (NH_4) : < 0.002% Barium (Ba) : 0.005% Calcium (Ca) : 0.01% Iron (Fe) : 4.5 ppm Manganese (Mn) : 0.624 ppm Potassium (K) : 0.004% Sodium (Na) : 0.000003% Strontium (Sr) : 0.005%
Insoluble material	0.0021%
Assay by titration	100.83%
Grade	ACS reagent
Storage	Store at RT

Certificate of Analysis

Catalog Number: 01237 **Lot Number: 002126-2019-201**

Remarks	See material safety data sheet for additional information
	For laboratory use only

The foregoing is a copy of the Certificate of Analysis as provided by our supplier

Bala Kumar
Quality Control Manager

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 12/18/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 17:00
In Date: 12/17/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:12
Out Date: 12/18/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB133976

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P5245-03	72-12016	1	1.15	8.37	9.52	8.99	93.7	
P5299-01	SB-01	2	1.15	8.40	9.55	7.74	78.5	
P5299-02	SB-02	3	1.16	8.70	9.86	7.73	75.5	
P5299-03	SB-01	33	1.13	8.61	9.74	7.05	68.8	
P5299-04	SB-02	4	1.15	8.75	9.9	8.08	79.2	
P5306-01	OU4-VSL-07-121224	5	1.16	8.52	9.68	8.9	90.8	
P5306-03	OU4-VSL-08-121224	6	1.17	8.73	9.9	9.1	90.8	
P5306-05	OU4-VSL-09-121224	7	1.19	8.45	9.64	8.8	90.1	
P5306-07	OU4-VSL-10-121224	8	1.15	8.65	9.8	9.37	95.0	
P5306-09	OU4-VSL-11-121224	9	1.11	8.77	9.88	9.32	93.6	
P5306-11	OU4-VSL-12-121224	10	1.12	8.65	9.77	8.97	90.8	
P5306-13	OU4-VSL-13-121224	11	1.13	8.72	9.85	8.98	90.0	
P5306-15	OU4-VSL-14-121224	12	1.18	8.46	9.64	9.29	95.9	
P5306-17	OU4-VSL-06R-121224	13	1.15	8.80	9.95	9.22	91.7	
P5307-01	1A-1B-1C-ROOF-2	14	1.00	1.00	2.00	2.00	100.0	caluk
P5307-02	2A-2B-2C-ROOF-2	15	1.00	1.00	2.00	2.00	100.0	caluk
P5307-03	3A-3B-3C-1907	16	1.00	1.00	2.00	2.00	100.0	caluk
P5307-04	4A-4B-4C-1907	17	1.00	1.00	2.00	2.00	100.0	caluk
P5307-05	5A-5B-5C-1907	18	1.00	1.00	2.00	2.00	100.0	caluk
P5307-06	6A-6B-6C-1952	19	1.00	1.00	2.00	2.00	100.0	caluk
P5307-07	1907-BLDG-GRAY	20	1.00	1.00	2.00	2.00	100.0	caluk
P5307-08	1952-BLDG	21	1.00	1.00	2.00	2.00	100.0	caluk
P5307-09	9A-9B-9C-1907	22	1.00	1.00	2.00	2.00	100.0	caluk
P5307-10	1907-BLDG-OFF-WHITE	23	1.00	1.00	2.00	2.00	100.0	caluk
P5307-11	11A-11B-11C-1952-BLDG	24	1.00	1.00	2.00	2.00	100.0	caluk
P5307-12	12A-12B-12C-1952	25	1.00	1.00	2.00	2.00	100.0	caluk
P5307-13	13A-13B-13C-1952	26	1.00	1.00	2.00	2.00	100.0	caluk
P5307-14	14A-14B-14C-1907	27	1.00	1.00	2.00	2.00	100.0	caluk

PERCENT SOLID

Supervisor: Iwona
Analyst: jignesh
Date: 12/18/2024

OVENTEMP IN Celsius(°C): 107
Time IN: 17:00
In Date: 12/17/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
OvenID: M OVEN#1

OVENTEMP OUT Celsius(°C): 103
Time OUT: 08:12
Out Date: 12/18/2024
Weight Check 1.0g: 1.00
Weight Check 10g: 10.00
BalanceID: M SC-4
Thermometer ID: % SOLID- OVEN

QC: LB133976

Lab ID	Client SampleID	Dish #	Dish Wt(g) (A)	Sample Wt(g)	Dish + Sample Wt(g) (B)	Dish+Dry Sample Wt(g) (C)	% Solid	Comments
P5307-15	15A-15B-15C-ROOF-7	28	1.00	1.00	2.00	2.00	100.0	caluk
P5312-01	SOIL-VNJ-222	29	1.15	8.43	9.58	8.55	87.8	
P5312-02	SOIL-VNJ-222	30	1.12	8.66	9.78	9.35	95.0	
P5312-03	CONCRETE-VNJ-222	31	1.00	1.00	2.00	2.00	100.0	CONCRETE sample
P5312-04	CONCRETE-VNJ-222	32	1.00	1.00	2.00	2.00	100.0	CONCRETE sample

$$\% \text{ Solid} = \frac{(C-A) * 100}{(B-A)}$$

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.
QUOTE NO. P5299
COC Number 2041521

CLIENT INFORMATION

REPORT TO BE SENT TO:
COMPANY: Gannet Fleming
ADDRESS: 1010 Adams Ave
CITY Audobon STATE: PA ZIP: 19405
ATTENTION: Joe Krupansky
PHONE: 610-301-8342 FAX:

CLIENT PROJECT INFORMATION

PROJECT NAME: Amtrak Relacement of SB
PROJECT NO: 15000318 LOCATION: Kearny NJ
PROJECT MANAGER: Joe Krupansky
e-mail: QAQC@PEMSYS.COM
PHONE: 610-301-8342 FAX:

CLIENT BILLING INFORMATION

BILL TO: Alliance PO#:
ADDRESS: 284 Sheffield st
CITY Mountainside STATE: NJ ZIP: 07093
ATTENTION: Samantha Beasley PHONE: 908-788-3148

DATA TURNAROUND INFORMATION

FAX (RUSH) _____ DAYS*
HARDCOPY (DATA PACKAGE): 10 DAYS*
EDD: 10 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)
- ☐ Level 4 (QC + Full Raw Data)
- ☒ NJ Reduced
- ☐ US EPA CLP
- ☐ NYS ASP A
- ☐ NYS ASP B
- ☐ Other
- ☐ EDD FORMAT BEM EDD

ANALYSIS

1 TCL VOC's + TICs
2 TCL SVOCs + TICs
3 ~~TAL Metals~~ PCBs
4 TAL metals
5 Cr (III)
6 Cr (VI)
7 EDH
8
9

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	PRESERVATIVES A	1	2	3	4	5	6	7	8	9	COMMENTS
1. B-124	SB-01	S		X	12/14	9:14 PM	5		X	X	X	X	X	X	X			
2. B-124	SB02				12/15	10:17AM	6		X	X	X	X	X	X	X			
3. B-134	SB-01				12/15	4:02 PM	6		X	X	X	X	X	X	X			
4. B-134	SB-02				12/15	5:27 PM	6		X	X	X	X	X	X	X			
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

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

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

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. Dylan Grama	1100 12-16-24	1. 1100 12-16-24
2.		2.
3.	1700 12-16-24	3.

Conditions of bottles or coolers at receipt: ☐ COMPLIANT ☐ NON COMPLIANT ☐ COOLER TEMP 3.5 °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

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

LOGIN REPORT/SAMPLE TRANSFER

Order ID : P5299 PORT06
Client Name : Portal Partners Tri-Venture
Client Contact : Joseph Krupansky
Invoice Name : Portal Partners Tri-Venture
Invoice Contact : Joseph Krupansky

Order Date : 12/16/2024 12:24:00 PM
Project Name : Amtrak Sawtooth Bridges 2
Receive DateTime : 12/16/2024 11:00:00 AM
Purchase Order :

Project Mgr :
Report Type : NJ Reduced
EDD Type : EXCEL NJCLEANUP
Hard Copy Date :
Date Signoff :

LAB ID	CLIENT ID	MATRIX	SAMPLE DATE	SAMPLE TIME	TEST	TEST GROUP	METHOD	FAX DATE	DUE DATES
P5299-01	SB-01	Solid	12/14/2024	16:14					
					VOC-TCLVOA-10		8260D		10 Bus. Days
P5299-02	SB-02	Solid	12/15/2024	10:17					
					VOC-TCLVOA-10		8260D		10 Bus. Days
P5299-03	SB-01	Solid	12/15/2024	16:02					
					VOC-TCLVOA-10		8260D		10 Bus. Days
P5299-04	SB-02	Solid	12/15/2024	17:27					
					VOC-TCLVOA-10		8260D		10 Bus. Days

Relinguished By :
Date / Time : 12/17/24 0900

Received By :
Date / Time : 12.17.24 09:00

Storage Area : VOA Refridgerator Room